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SYNTHETIC ORGANIC CHEMICALS

United States Production
and Sales, 1985

(Investigation No. 332-135)



USITC PUBLICATION 1892

SEPTEMBER 1986

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UNITED STATES INTERNATIONAL TRADE COMMISSION

SYNTHETIC ORGANIC CHEMICALS

**United States Production
And Sales, 1985**

**U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 1986**

USITC PUBLICATION 1892

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INTRODUCTION

This is the 69th annual report of the U.S. International Trade Commission on domestic production and sales of synthetic organic chemicals and the raw materials from which they are made. The report consists of 15 sections, each covering a specified group (based principally on use) of organic chemicals as follows: Tar and tar crudes; primary products from petroleum and natural gas for chemical conversion; cyclic intermediates; dyes; organic pigments; medicinal chemicals; flavor and perfume materials; plastics and resin materials; rubber-processing chemicals; elastomers; plasticizers; surface-active agents; pesticides and related products; miscellaneous end-use chemicals and chemical products; and miscellaneous cyclic and acyclic chemicals. Data have been supplied by approximately 752 producers.

Each of the 15 sections is headed by a summary of the statistical data. The first table in each section gives statistics on products and groups of products in as great detail as is possible without revealing the operations of individual producers. Statistics for an individual chemical or group of chemicals are given only when there are three or more producers, no one or two of which may be predominant. Moreover, even when there are three or more producers, statistics are not given if there is any possibility that their publication would violate the statutory provisions relating to unlawful disclosure of information accepted in confidence by the Commission.¹

Data are reported by producers for only those items where the volume of production or sales or value of sales exceeds certain minimums. Those minimums for all sections are 5,000 pounds of production or sales or \$5,000 of value of sales with the following exceptions: Plastics and resin materials—50,000 pounds or \$50,000; pigments, medicinal chemicals, flavor and perfume materials, and rubber-processing chemicals—1,000 pounds or \$1,000. They are usually given in terms of undiluted materials; however, products of 95 percent or greater purity are considered to be 100 percent pure. Commercial concentrations are applicable for dyes, certain plastics and resins, and a few solvents; such concentrations are specifically noted.

The statistics given in this report include data from all known domestic producers of the items covered and include the total output of each company's plants, i.e., the quantities produced for consumption within the producing plant, as well as the quantities produced for domestic and foreign sale. The quantities reported as produced, therefore, generally exceed the quantities reported as sold. Some of these differences, however, are attributable to changes in inventory.

The second table in each section lists all items for which data on production or sales have been reported, by primary manufacturers, identified by manufacturers' codes. Each code consists of not more than three capital letters and is assigned on a permanent basis.

The third table in each section is a directory, alphabetized by the codes of the manufacturers reporting in that section.

Table 1 of the Appendix is a directory, alphabetized by the names of the manufacturers reporting in all sections and which includes their general corporate phone numbers and office addresses.

Table 2 of the Appendix lists synonymous names for cyclic intermediates. Information on synonymous names of the organic chemicals included in this report may be found in the *SOCMA Handbook: Commercial Organic Chemical Names*, published by the Chemical Abstracts Service of the American Chemical Society, or the *Colour Index (Revised Third Edition)*, published jointly by the Society of Dyes and Colourists and the American Association of Textile Chemists and Colorists.

Table 3 of the Appendix presents the data in this report aggregated in the format of the Harmonized System (HS) nomenclature on a 6-digit HS basis.

Table 4 of the Appendix is an alphabetical index of all the products in this edition of the report.

Data contained in this report are compiled primarily from Commission's questionnaires sent to domestic producers and represent the best data available to the Commission. While the data supplied in the questionnaires are checked against data previously supplied by the submitting firm and with data

¹ 18 U.S.C. § 1905 and 44 U.S.C. § 3508.

INTRODUCTION

supplied by other domestic producers, data are not independently verified by direct Commission examination of the books of companies furnishing information. Data contained in this report should not be used for investment and other purposes without independent verification.

As specified in the reporting instructions sent to manufacturers, production and sales (unless otherwise specified) are defined as follows:

PRODUCTION is the total quantity of a commodity made available by **Original Manufacturers Only** within the customs territory of the United States (includes the 50 states, the District of Columbia, and Puerto Rico). It covers synthetic organic chemicals, specified crudes from petroleum and coal tar, and certain chemically described natural products, such as, alkaloids, enzymes, and perfume isolates. It is the sum—expressed in terms of 100% active ingredient unless otherwise specified in the reporting instructions—of the quantities:

- Produced, separated, and consumed in the same plant or establishment. A commodity is considered separated either when it is isolated from the reactive system or when it is not isolated, but weighed, analyzed, or otherwise measured. This includes by-products and co-products that are not classifiable as waste materials;
- Produced and not isolated, but directly converted to a finished or semifinished item not included in this report (e.g., polyester film, polyurethane tires, nylon fiber, bar soap, etc.). (See specific instructions in individual sections);
- Produced and transferred to other plants or establishments of the same firm or 100% owned subsidiaries or affiliates;
- Produced and sold to, or bartered with, other firms (including less than 100% owned subsidiaries);
- Produced *for others* under toll agreements (see general instructions);
- Produced and held in stock.

PRODUCTION EXCLUDES:

- Purification of a commodity, which is purchased by, or transferred from within, the company, unless inclusion of such processing is specifically requested in the reporting instructions for individual sections;
- Intermediate products which are formed in the manufacturing process, but are not isolated from the reaction system—that is, not weighed, analyzed, or otherwise measured; except such products as described above as being produced and not isolated, but directly converted to a finished or semifinished item.
- Materials that are used in the process but which are recovered for re-use or sale;
- Waste products having no economic significance.

SALES are actual quantities of commodities sold by **Original Manufacturers Only**. Sales include the quantity and value of:

- Shipments of a commodity for domestic use or for export, or segregation in a warehouse when title has passed to the purchaser in a bona fide sale;
- Shipments of a commodity produced for you *by others* under toll agreement;
- Shipments to subsidiary or affiliated companies, provided the ownership is less than 100%.

SALES EXCLUDES:

- All intra-company transfers within a corporate entity;
- All shipments to 100% owned subsidiary or affiliated companies;
- All resales of imported or purchased material, including materials obtained by barter;
- All shipments of commodity produced *for others* under toll agreements.

VALUE OF SALES is the net dollar receipts of sales f.o.b. plant or warehouse, or delivered. F.o.b. values are preferred, but if they are not readily available from your records, delivered values are acceptable.

SUMMARY

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Combined production of all synthetic organic chemicals and primary products from petroleum and natural gas in 1985 was 329,186 million pounds—an decrease of 2.6 percent from the output in 1984 (which also included data on tars) (table 1). Sales of these materials in 1985, which totaled 173,077 million pounds, valued at \$63,783 million, were 3.3 percent smaller than in 1984 in terms of quantity and 2.6 percent less in terms of value. These figures include data on production and sales of chemicals measured at several successive steps in the manufacturing process, and, therefore, they necessarily reflect some duplication. The total output of these products declined from 331,147 million pounds in 1981 to 299,125 million pounds in 1982, then rose each year until 1985 (figure 1). During that period the output of these products generally followed the trend of the Federal Reserve Board Index of U.S. Production.

In 1985, production of all synthetic organic chemicals, including cyclic intermediates and finished products totaled 224,702 million pounds, or 0.2 percent less than the output in 1984. Only three sections showed an increase in production in 1985 over 1984. Pesticides and related products (1,235 million pounds) increased by 3.8 percent; plastics and resin materials (49,998 million pounds) increased by 3.6 percent; miscellaneous cyclic and acyclic chemicals (93,927 million pounds) increased by 2.1 percent; Of the remaining sections, medicinal chemicals (225 million pounds) showed a decrease in 1985 of 19.4 percent from that in 1984; elastomer (synthetic rubber) (3,828 million pounds) decreased 17.0 percent; flavor and perfume materials (152 million pounds) decreased 15.0 percent; rubber-processing chemicals (260 million pounds) decreased 9.5 percent; miscellaneous end-use chemicals and chemical products (22,214 million pounds) decreased 6.4 percent; organic pigments (81 million pounds) decreased 5.6 percent; dyes (222 million pounds) decreased 4.5 percent; plasticizers (1,710 million pounds) decreased 4.3 percent; cyclic intermediates (45,487 million pounds) decreased 3.3 percent; and surface-active agents (5,363 million pounds) decreased 2.8 percent.

Table 1.—Synthetic organic chemicals and their raw materials: U.S. production and sales, 1984 and 1985

Chemical	Production			Sales					
			Increase or decrease (-), 1985 over 1984 ¹	Quantity			Value		
	1984	1985		1984	1985	(-), 1985 over 1984 ¹	1984	1985	(-), 1985 over 1984 ¹
	<i>Million pounds</i>	<i>Million pounds</i>	<i>Percent</i>	<i>Million pounds</i>	<i>Million pounds</i>	<i>Percent</i>	<i>Million dollars</i>	<i>Million dollars</i>	<i>Percent</i>
Grand total²	338,025	329,186	-2.6	179,061	173,077	-3.3	65,493	63,783	-2.6
Tar	4,144	(3)	...	2,223	(3)	...	311	(3)	...
Primary products from petroleum and natural gas	108,666	104,484	-3.8	51,178	49,885	-2.5	8,256	7,810	-5.4
Synthetic organic chemicals, total ²	225,215	224,702	-0.2	125,659	123,193	-2.0	56,925	55,973	-1.7
Cyclic intermediates	47,052	45,487	-3.3	19,957	19,585	-1.9	6,930	6,337	-8.6
Dyes	233	222	-4.5	221	267	21.2	691	651	-5.8
Organic pigments	86	81	-5.6	76	69	-9.3	493	448	-9.2
Medicinal chemicals	279	225	-19.4	152	145	-5.1	1,369	1,339	-2.2
Flavor and perfume materials	179	152	-15.0	115	86	-25.0	637	587	-7.9
Plastics and resin materials	48,255	49,998	3.6	40,751	42,171	3.5	20,923	20,168	-3.6
Rubber-processing chemicals	288	260	-9.5	176	174	-0.9	287	281	-2.0
Plasticizers	1,788	1,710	-4.3	1,685	1,470	-12.8	849	741	-12.7
Surface-active agents	5,519	5,363	-2.8	3,433	3,328	-3.1	1,874	1,574	-16.0
Pesticides and related product	1,189	1,235	3.8	1,108	1,022	-7.8	4,730	4,437	-6.2
Miscellaneous end-use chemicals and chemical products	23,731	22,214	-6.4	14,931	16,217	8.6	3,834	6,178	61.1
Miscellaneous cyclic and acyclic chemicals	92,009	93,927	2.1	40,386	36,431	-9.8	12,043	11,179	-7.2

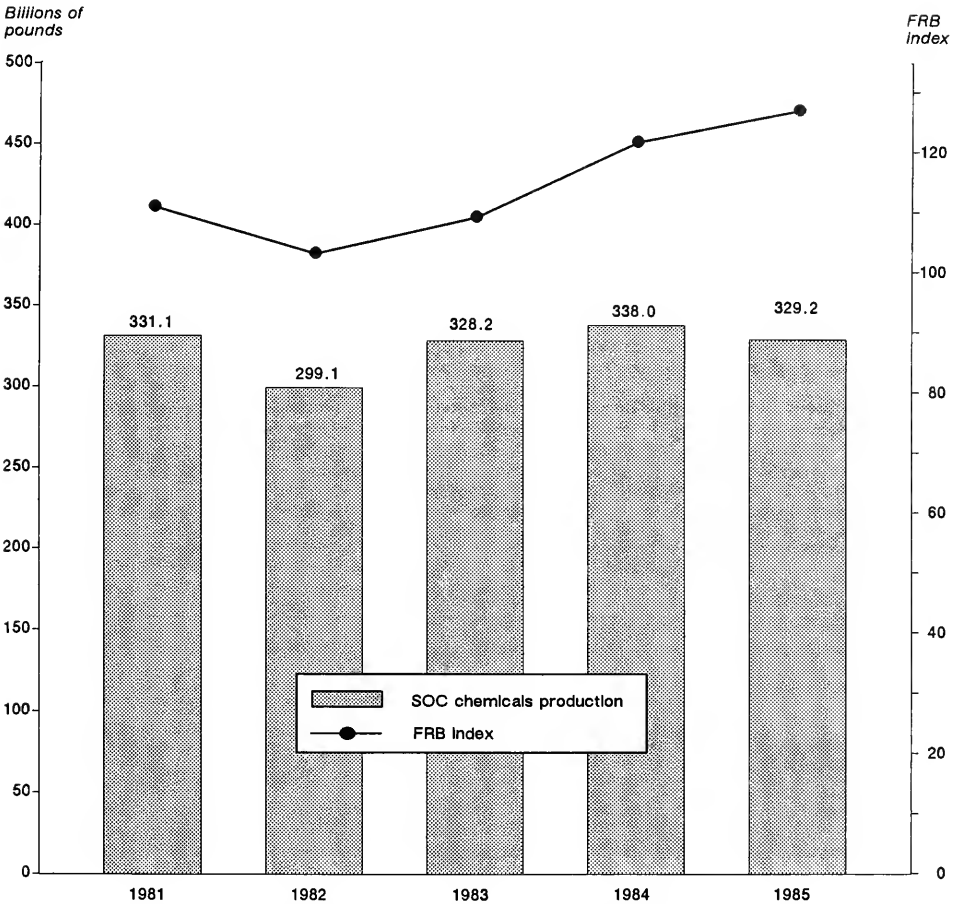
¹ Percentage calculated from figures rounded to thousands.

² Because of rounding, figures may not add to the totals shown.

³ Not available

SYNTHETIC ORGANIC CHEMICALS, 1985

Figure 1.—Synthetic organic chemicals and their raw materials, total, vs FRB Index.



Source: Production, U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*; FRB Index, The Board of Governors of the Federal Reserve System.

In this report, synthetic organic chemicals are classified on the basis of their principal use as follows: Cyclic intermediates, dyes, organic pigments, medicinal chemicals, flavor and perfume materials, plastics and resin materials, rubber-processing chemicals, elastomers (synthetic rubber), plasticizers, surface-active agents, pesticides and related products, miscellaneous end-use chemicals and chemical products, and miscellaneous cyclic and acyclic chemicals. Most of these groups are further subdivided either by use or by chemical composition. As intermediates, chemicals are used in the manufacture of finished products, aggregate figures that cover both intermediates and finished products necessarily include considerable duplication.

Total production of synthetic organic chemicals (intermediates and finished products combined) in 1985 was 224,702 million pounds, or 0.2 percent less than the output of 225,215 million pounds reported for 1984, and 114.6 percent more than the output of 104,711 million pounds reported in 1967 (see table 2). Sales of synthetic organic chemicals in 1985 amounted to 123,193 million pounds, valued at \$55,973 million, compared with 125,677 million pounds, valued at \$56,926 million, in 1984, and 55,177 million pounds, valued at \$10,438 million, in 1967. Production of all cyclic products (intermediates and finished products combined) in 1985 totaled 72,131 million pounds, or 1.1 percent less than the 72,927 million pounds reported for 1984, and 131.3 percent more than the 31,182 million pounds reported for 1967; however, the transfer of eight items, in 1979 from the primary products from petroleum and natural gas section to the section on cyclic intermediates has caused the output of cyclic products to appear much higher in relation to 1967 than would otherwise have resulted. Production of all acyclic products in 1985 totaled 148,743 million pounds, or 0.7 percent more than the 147,678 million pounds reported for 1984, and 113.4 percent more than the 69,707 million pounds reported for 1967.

Table 2.— Synthetic organic chemicals: Summary of U.S. production and sales of Intermediates and finished products, 1967, 1984, and 1985

(Production and sales in thousands of pounds; sales value in thousands of dollars)

Chemical	1967 ¹	1984	1985	Increase or decrease (-)	
				1985 over 1967	1985 over 1984
Organic chemicals, cyclic and acyclic, grand total:					
Production	104,711,357	225,214,940	224,702,075	114.6	-0.2
Sales	55,176,823	125,676,661	123,193,035	123.3	-2.0
Sales value	10,438,453	56,925,687	55,972,673	436.2	-1.7
Cyclic, total: ²					
Production	31,181,832	72,927,149	72,130,700	131.3	-1.1
Sales	17,388,529	38,791,816	39,408,923	126.6	1.6
Sales value	4,170,713	25,608,446	25,093,594	501.7	-2.0
Acyclic, total: ²					
Production	69,706,980	147,678,486	148,743,434	113.4	0.7
Sales	34,526,250	84,199,037	81,556,256	136.2	-3.1
Sales value	5,393,503	29,050,916	28,825,019	434.4	-0.8
1. Cyclic Intermediates					
Production	20,793,132	47,051,869	45,487,054	118.8	-3.3
Sales	9,461,180	19,956,652	19,585,150	107.0	-1.9
Sales value	1,000,359	6,930,243	6,336,524	533.4	-8.6
2. Dyes					
Production	206,240	232,615	222,127	7.7	-4.5
Sales	198,592	220,520	267,283	34.6	21.2
Sales value	332,049	690,808	650,580	95.9	-5.8
3. Organic Pigments					
Production	53,322	85,664	80,857	51.6	-5.6
Sales	42,867	76,154	69,034	61.0	-9.3
Sales value	108,354	492,954	447,704	313.2	-9.2

See footnotes at end of table.

SYNTHETIC ORGANIC CHEMICALS, 1985

Table 2.— Synthetic organic chemicals: Summary of U.S. production and sales of intermediates and finished products, 1967, 1984, and 1985 —Continued

(Production and sales in thousands of pounds; sales value in thousands of dollars)

Chemical	1967 ¹	1984	1985	Increase or decrease (-)	
				1985 over 1967	1985 over 1984
4. Medicinal Chemicals					
Cyclic:					
Production	110,129	223,730	175,931	59.7	-21.4
Sales	70,120	108,357	100,923	43.9	-6.9
Sales value	348,873	1,240,696	1,199,304	243.8	-3.3
Acyclic:					
Production	69,941	54,910	48,729	-30.3	-11.3
Sales	56,804	44,091	43,695	-23.1	-0.9
Sales value	36,402	128,739	140,018	284.6	8.8
5. Flavors and Perfume Materials					
Cyclic:					
Production	57,978	113,913	101,217	74.6	-11.1
Sales	47,285	83,287	70,464	49.0	-15.4
Sales value	52,866	581,613	546,937	934.6	-6.0
Acyclic:					
Production	53,558	64,806	50,654	-5.4	-21.8
Sales	49,311	31,422	15,611	-68.3	-50.3
Sales value	40,495	55,189	39,623	-2.2	-28.2
6. Plastics and Resin Materials					
Cyclic:					
Production	5,033,497	14,331,668	14,849,367	195.0	3.6
Sales	4,224,121	11,899,168	12,313,993	191.5	3.5
Sales value	1,036,940	8,494,591	8,188,127	689.6	-3.6
Acyclic:					
Production	8,759,452	33,923,108	35,148,502	301.3	3.6
Sales	7,753,242	28,851,408	29,857,216	285.1	3.5
Sales value	1,635,690	12,428,047	11,979,673	632.4	-3.6
7. Rubber-Processing Chemicals					
Cyclic:					
Production	220,139	259,777	237,224	7.8	-8.7
Sales	169,970	153,960	154,709	-9.0	0.5
Sales value	116,318	260,701	258,438	122.2	-0.9
Acyclic:					
Production	43,994	27,802	22,940	-47.9	-17.5
Sales	30,878	21,949	19,564	-36.6	-10.9
Sales value	15,477	25,808	22,242	43.7	-13.8
8. Elastomers (Synthetic Rubber)					
Production	3,822,545	4,609,305	3,827,941	0.1	-17.0
Sales	3,262,044	2,685,808	2,227,856	-31.7	-17.1
Sales value	874,237	2,266,325	2,054,060	135.0	-9.4
9. Plasticizers					
Cyclic:					
Production	929,871	1,338,362	1,285,753	38.3	-3.9
Sales	865,084	1,307,210	1,118,334	29.3	-14.4
Sales value	167,827	577,694	498,761	197.2	-13.7
Acyclic:					
Production	332,908	449,166	424,106	27.4	-5.6
Sales	296,767	377,997	351,414	18.4	-7.0
Sales value	93,142	271,083	242,586	160.4	-10.5
10. Surface-Active Agents					
Cyclic: ²					
Production	1,418,444	2,409,849	2,350,782	(*)	-2.5
Sales	852,238	1,843,375	1,814,388	(*)	-1.6
Sales value	95,810	790,721	565,176	(*)	-28.5

See footnotes at end of table.

GENERAL

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Table 2.— Synthetic organic chemicals: Summary of U.S. production and sales of intermediates and finished products, 1967, 1984, and 1985 —Continued

(Production and sales in thousands of pounds; sales value in thousands of dollars)

Chemical	1967 ¹	1984	1985	Increase or decrease (-)	
				1985 over 1967	1985 over 1984
<i>10. Surface-Active Agents-Continued</i>					
Acyclic:					
Production	2,060,851	3,109,332	3,012,401	(*)	-3.1
Sales	897,786	1,589,835	1,513,440	(*)	-4.8
Sales value	220,877	1,083,626	1,009,134	(*)	-6.9
<i>11. Pesticides and Related Products</i>					
Cyclic:					
Production	823,158	842,703	876,212	6.4	4.0
Sales	681,532	809,033	712,722	4.6	-11.9
Sales value	627,742	3,556,700	3,266,051	420.3	-8.2
Acyclic:					
Production	226,505	346,466	358,702	58.4	3.5
Sales	215,831	298,873	308,993	43.2	3.4
Sale value	159,301	1,173,611	1,170,784	635.0	-0.2
<i>12. Miscellaneous End-Use Chemicals and Chemical Product</i>					
Cyclic:					
Production	(1,535,922)	3,484,611	3,772,190	(5)	8.3
Sales	(775,540)	1,089,144	1,948,643	(5)	78.9
Sales value	(283,575)	901,196	2,039,900	(5)	126.4
Acyclic:					
Production	(58,159,771)	20,246,332	18,442,061	(5)	-8.9
Sales	(25,225,631)	13,842,307	14,268,507	(5)	3.1
Sales value	(3,192,119)	2,932,471	4,137,780	(5)	41.1
<i>13. Miscellaneous Cyclic and Acyclic Chemicals</i>					
Cyclic:					
Production	(5)	2,552,388	2,691,986	(5)	5.5
Sales	(5)	1,244,956	1,253,280	(5)	0.7
Sales value	(5)	1,090,529	1,096,092	(5)	0.5
Acyclic:					
Production	(5)	89,456,564	91,235,339	(5)	2.0
Sales	(5)	39,141,155	35,177,816	(5)	-10.1
Sales value	(5)	10,952,342	10,083,179	(5)	-7.9

¹ Standard reference base period for Federal Government general-purpose index numbers.

² Does not include data for elastomers.

³ Includes ligninsulfonates.

⁴ The data for 1967 are not comparable with current data as a result of a change in accounting procedures.

⁵ Items in these two sections were previously included in the section named miscellaneous chemicals.

The following tabulation shows, by chemical groups, the number of companies that reported production in 1984 of one or more of the chemicals included in the groups listed in table 2:

Chemical Group	Number of Companies	Chemical Group	Number of Companies
Cyclic Intermediates	182	Elastomers (synthetic rubber)	28
Dyes	37	Plasticizers	45
Organic pigments	35	Surface-active agents	170
Medicinal chemicals	91	Pesticides and related products	82
Flavor and perfume materials	32	Miscellaneous end-use chemicals and chemicals products	156
Plastics and resins materials	273	Miscellaneous cyclic and acyclic chemicals	274
Rubber-processing chemicals	23		

SYNTHETIC ORGANIC CHEMICALS, 1985

SECTION I -- TAR AND TAR CRUDES

STATISTICAL HIGHLIGHTS

Cynthia B. Foreso

202-523-1230

TAR

Coal tar is produced chiefly by the steel industry as a by-product of the manufacture of coke; water-gas tar and oil-gas tar are produced by the fuel-gas industry. Production of coal tar, therefore, depends on the demand for steel; production of water-gas tar and oil-gas tar reflects the consumption of manufactured gas for industrial and household use. Water-gas and oil-gas tars have properties intermediate between those of petroleum asphalts and coal tar. Petroleum asphalts are not usually considered to be raw materials for chemicals.

Collection of data on coal tar by the Energy Information Administration, U.S. Department of Energy was discontinued; however, the U.S. International Trade Commission will begin collection of these data for the 1986 reporting year.

TAR CRUDES

Tar crudes are obtained from coke-oven gas and by distilling coal tar, water-gas tar, and oil-gas tar. The most important tar crudes are benzene, toluene, xylene, creosote oil, and pitch of tar. Some of these products are identical with those obtained from petroleum. Data for materials obtained from petroleum are included, for the most part, with the statistics for like materials obtained from coke-oven gas and tars, and are shown in table 1 (see figure 1).

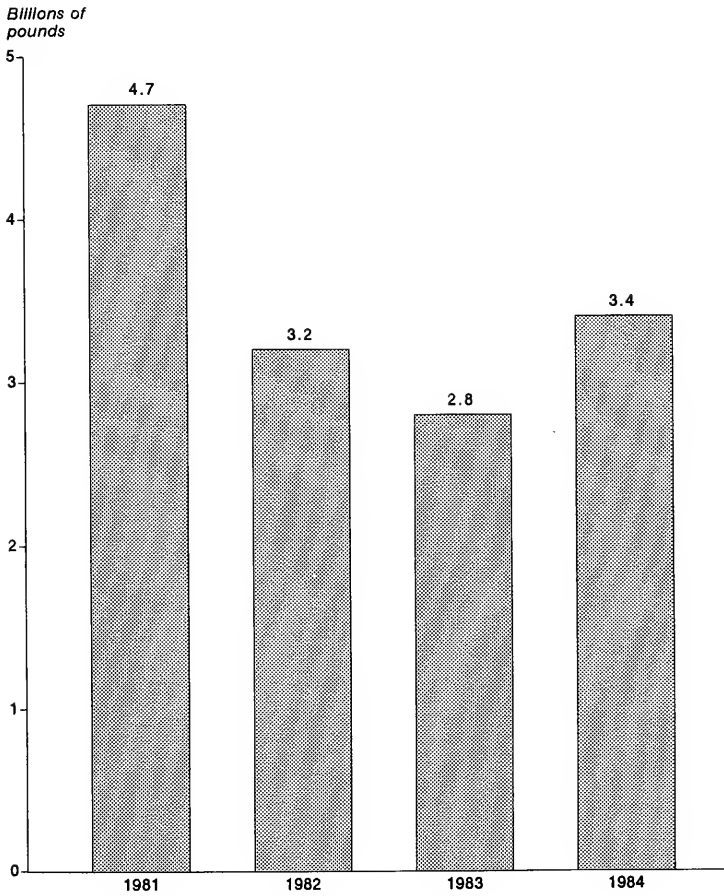
The domestic production by coke-oven operators of industrial and specification grades of benzene, toluene, and xylene cannot be published since to do so would disclose the operations of individual companies. However, the 1985 benzene production by petroleum refiners amounted to 1.3 billion gallons. The output of toluene from petroleum refiners (including material used for blending in aviation fuel) totaled 704 million gallons in 1985; and the refiners' output of xylene (including that produced for blending in motor fuels) was not publishable.

Production figures for road tar for 1985 cannot be published; however, production of tar for use other than as a road tar was 145 million gallons in 1985.

Some of the products obtained from tar and included in the statistics in table 1 are obtained from other products for which data are also included in the table. The statistics, therefore, involve considerable duplication, and for this reason no group totals or grand totals are given.

Data for 1985 tar crudes were supplied by 25 companies and company divisions.

Figure 1.—Crude coal tar.



Note.—Data for 1985 are not available.

Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

I -- TAR AND TAR CRUDES

TABLE 1.--TAR AND TAR CRUDES; U.S. PRODUCTION AND SALES, 1985

[Listed below are all tar crudes for which any reported data on production or sales may be published. Table 2 lists all products for which data on production and/or sales were reported and identifies the manufacturers of each]

TAR AND TAR CRUDES	UNIT OF QUANTITY	PRODUCTION	SALES		
			QUANTITY	VALUE	UNIT VALUE ¹
				<u>1,000</u>	
				<u>dollars</u>	
Coal tar: Coke-oven operators-----	1,000 gal--	(²)	(²)	(²)	(²)
Crude light oil: ³ Coke-oven operators--	1,000 gal :	72,394 :	54,744 :	42,739 :	\$0.78
Intermediate light oil: Coke-oven operators-----	1,000 gal--	(⁴)	(⁴)	(⁴)	(⁴)
Light-oil distillates:					
Benzene, all grades, total ⁵ -----	1,000 gal--	(⁴)	(⁴)	(⁴)	(⁴)
Coke-oven operators-----	1,000 gal--	(⁴)	(⁴)	(⁴)	(⁴)
Petroleum refiners ⁶ -----	1,000 gal--	1,282,760 :	(⁴)	(⁴)	(⁴)
Toluene, all grades, total-----	1,000 gal--	(⁴)	(⁴)	(⁴)	(⁴)
Coke-oven operator-----	1,000 gal--	(⁴)	(⁴)	(⁴)	(⁴)
Petroleum refiners ⁷ -----	1,000 gal--	703,740 :	(⁴)	(⁴)	(⁴)
Xylene, all grades, total ⁵ -----	1,000 gal--	(⁴)	(⁴)	(⁴)	(⁴)
Coke-oven operators-----	1,000 gal--	(⁴)	(⁴)	(⁴)	(⁴)
Petroleum refiners-----	1,000 gal--	(⁴)	(⁴)	(⁴)	(⁴)
Naphthalene, crude-----	1,000 lbs--	(⁴)	(⁴)	(⁴)	(⁴)
Creosote oil (Dead oil) (100% creosote basis):					
Distillate as such (100% creosote basis)-----	1,000 gal--	64,339 :	40,015 :	38,051 :	.95
Creosote in coal tar solution (100% solution basis)-----	1,000 gal--	66,587 :	42,311 :	38,152 :	.90
Tar, for uses other than road tar-----	1,000 gal--	145,347 :	154,719 :	111,698 :	.72
Pitch of tar: hard-----	1,000 tons-	515 :	473 :	125,441 :	265.04

¹Unit value per gallon pound, or ton as specified.

²Collection of data on coal tar by the Energy Information Administration, U.S. Department of Energy (Quarterly Coal Report) was discontinued. The U.S. International Trade Commission will begin collection of these data for the 1986 reporting year.

³Data reported by tar distillers are not included because publication would disclose the operations of individual companies.

⁴Statistics cannot be published; to do so would disclose the operations of individual companies.

⁵Includes data for material produced for use in blending motor fuels. The annual production statistics for petroleum refiners on benzene, toluene, and xylene are not comparable with the combined monthly production figures because of fiscal year revisions.

⁶Benzene, specification grades (1¹, 2²).

⁷Sales data for toluene produced by petroleum refiners includes only high purity (98-100%) toluene.

Note 1.--Statistics for materials produced in coke and gas-retort ovens are compiled by the Energy Information Administration, U.S. Department of Energy. Statistics for materials produced in tar and petroleum refineries are compiled by the U.S. International Trade Commission.

Note 2.--Data for all other tars and tar crudes are not included in the 1985 report because publication would disclose the operations of individual companies.

TABLE 2.--TAR AND TAR CRUDES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

TAR AND TAR CRUDES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
<p> LIGHT OIL, LIGHT OIL DISTILLATES, AND TAR BASES: CRUDE LIGHT OIL: *Crude light oil----- </p> <p> Intermediate light oil: coke-oven operators----- </p> <p> PYRIDINE, TAR BASES: BENZENE (BENZOL): Tar bases: crude bases (dry basis)----- </p> <p> Benzene (Benzol) 90-100%----- </p> <p> TOLUENE (TOLUOL): Tar bases: semirefined or denaturing grade----- </p> <p> Toluene (Toluol) 90-100%----- </p> <p> XYLENE (XYLOL): Xylene (Xylo): 90-100%----- </p> <p> SOLVENT NAPHTHA: Solvent naphtha----- </p> <p> ALL OTHER: Light-oil distillates, all other----- </p> <p> OTHER TAR DISTILLATES: NAPHTHALENE, CRUDE: Methylinaphthalene----- </p> <p> Naphthalene, crude, solidifying at less than 7^o C----- </p> <p> Naphthalene, crude, solidifying at 7^o C to less than 7^o C----- </p> <p> CRUDE TAR ACID OILS: Crude tar acid oils having a tar acid content of: 5 percent to less than 24 percent----- </p> <p> CREOSOTE OIL (DEAD OIL): Creosote oil (Dead oil): creosote content in solution (100 Percent basis)----- </p> <p> *Creosote oil (Dead oil): creosote in coal tar solution (100 Percent solution basis)----- </p> <p> *Creosote oil (Dead oil): distillate as such (100 Percent creosote basis)----- </p>	<p> ABF, ALS, BVS, CHA, EKO, IGC, ILI, INL, LTV, NTS, SGO, USS, WPS. EKO, X. INL, NTS, USS, WPS. BTS, USS. USS. BTS, USS. USS. IGC. BTS, USS. KPT. BTS, IGC, LTV. ACS, KPT. ACS, X. KPT, RIL. ACS, KPT, RIL, USS, WTC. ACS, COP, KPT, RIL, USS, WTC. </p>

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT]

TABLE 2.--TAR AND TAR CRUDES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

TAR AND TAR CRUDES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
OTHER TAR DISTILLATES--CONTINUED	
ALL OTHER DISTILLATE PRODUCTS:	
Carbon black oil-----	ACS, KPT.
Creosote tar acid oil-----	ACS.
Crude coal tar solvent-----	KPT, ILI.
Priming and refractory oil-----	BTS.
Sodium phenate or carbolate-----	NFS.
Tetralin, crude (Tetrahydrophthalene)-----	KPT.
Tar distillates, all other-----	GIV, KPT, LYP.
TAR AND TAR PITCHES:	
Tar, Road-----	ACS, RIL.
Tar, Road-----	ACS, RIL.
TAR FOR OTHER USES:	
*Tar for other uses: crude-----	ABP, ALS, BTS, HUS, IGC, LTV, SGO, USS.
*Tar for other uses: refined-----	ACS, RIL, X.
PITCH OF TAR:	
*Pitch of tar: hard (M.P. 161° F and Over)-----	ACS, KPT, RIL, WTC.
*Pitch of tar: medium (M.P. 110° To 160° F)-----	ACS, COP, KPT, RIL, USS.
*Pitch of tar: soft (M.P. 80° To 109° F)-----	KPT, USS.



TABLE 3.--TAR AND TAR CRUDES: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of tar and tar crudes to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE :	NAME OF COMPANY	CODE :	NAME OF COMPANY
ABP :	Alabama By-Products Corp.	KPT :	Koppers Co., Inc.
ACS :	Allied Corp., Chemicals Sector	LSS :	Lone Star Steel Co.
ALS :	Armco, Inc.	LTV :	LTV Steel Company
BTS :	Bethlehem Steel Corp.	LYP :	Lyondell Petrochemical Co.
CHA :	Chattanooga Coke & Chemicals Co., Inc.	NTS :	National Steel Corp., Great Lakes Plant
COP :	Coopers Creek Chemical Corp.	RIL :	Reilly Tar & Chemical Corp.
EKO :	Empire Coke Co.	SGO :	Shenango, Inc.
GIV :	Givaudan Corp.	USS :	U.S. Steel Corp.: Clairton Plant
HUS :	Husky Industries, Inc.		Gary Works Geneva Plant
IGC :	Indiana Gas & Chemical Corp.		USS Chemicals Div.
ILI :	Interlake, Inc.		
INL :	Inland Steel Co.	WPS :	Wheeling-Pittsburg Steel Corp.
		WTC :	Witco Chemical Corp.

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION II -- PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL
GAS FOR CHEMICAL CONVERSION

STATISTICAL HIGHLIGHTS

James Raftery

202-523-0453

Primary products that are derived from petroleum and natural gas are related to the intermediates and finished products made from such primary materials in much the same way that crude products derived from the distillation of coal tar¹ are related to their intermediates and finished products. Many of the primary products derived from petroleum are identical with those derived from coal tar (e.g., benzene, toluene, and xylene). Considerable duplication exists in the statistics on the production and sales of primary petroleum products because some of these primary chemicals are converted to other primary products derived from petroleum and because data on some production and sales are reported at successive stages in the conversion process. The statistics are sufficiently accurate, however, to indicate trends in the industry. Many of the primary products for which data are included in the statistics may be used either as fuel or as basic materials from which other chemicals are derived. In this report every effort has been made to exclude data on materials that are used as fuel; however, data are included on toluene and xylene, which are used in blending aviation and motor fuel.

The total production of primary products derived from petroleum and natural gas during 1981-85 is shown in figure 1. Production decreased 16,465 million pounds or by 15 percent from 1981-82 as a result of economic conditions. Between 1984-85 production also decreased 4 percent from 108,666 million pounds to 104,484 million pounds.

The output of primary products derived from petroleum and natural gas as a group amounted to 104,484 million pounds in 1985. Production in 1984 was 108,666 million pounds. The output of aromatic and naphthenic products from petroleum amounted to 23,453 million pounds in 1985, compared with 24,563 million pounds in 1984. Sales amounted to \$1,973 million in 1985 and \$2,162 million in 1984. In 1985, production of benzene was 9,390 million pounds; production of toluene was 5,074 million pounds; and production of high purity mixed xylenes were 4,464 million pounds (table 1).

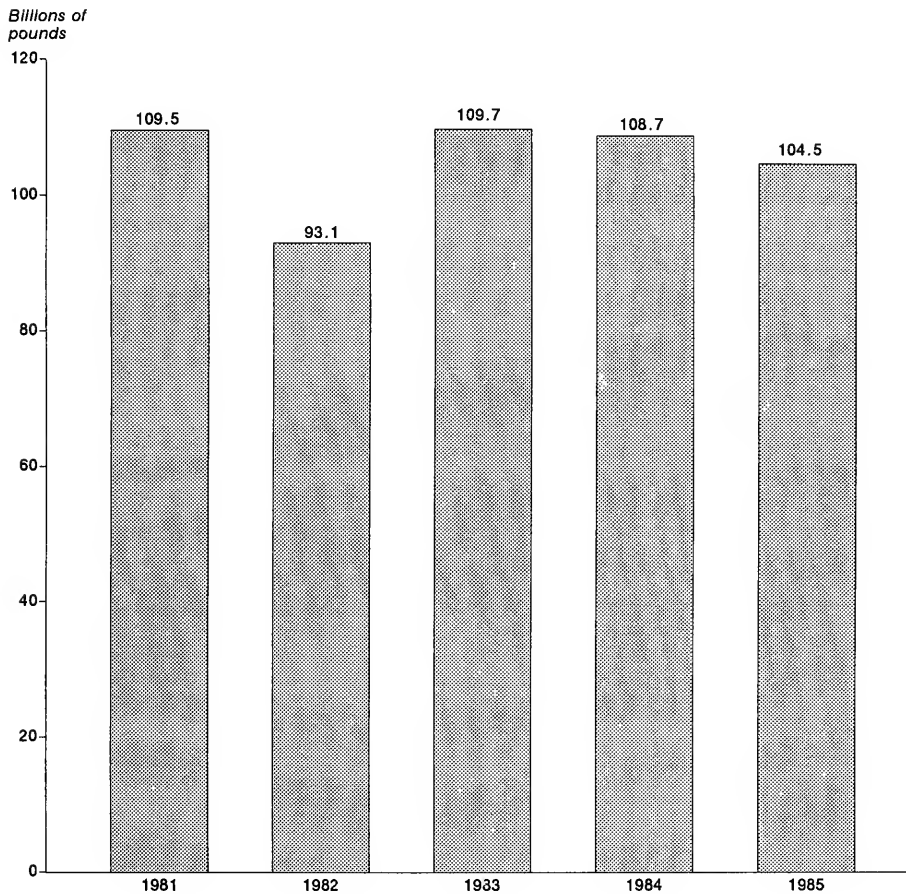
Production of all aliphatic hydrocarbons and derivatives from petroleum and natural gas was 81,031 million pounds in 1985, compared with 84,103 million pounds in 1984. Sales of these products were valued at \$5,837 million in 1985, compared with \$6,094 million in 1984. Production of ethylene was 29,847 million pounds in 1985. The output of 1,3-butadiene in 1985 was 2,340 million pounds. Production of propylene in 1985 was 14,887 million pounds (table 1).

Data for 1985 primary products from petroleum and natural gas for chemical conversion were supplied by 70 companies or company divisions.

¹ Statistics on chemicals from coal tar are given in Section I (Tar and Tar Crudes) of this report.

II -- PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION

Figure 1.—Primary products from petroleum and natural gas.



Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

TABLE 1.--PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION: U.S. PRODUCTION AND SALES, 1985

[Listed below are the primary products from petroleum and natural gas for chemical conversion for which any reported data on production or sales may be published. (Leaders (...)) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all primary products from petroleum and natural gas for chemical conversion for which data on production and/or sales were reported and identifies the manufacturers of each]

PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION	SALES			
	PRODUCTION	QUANTITY	VALUE	UNIT VALUE ¹
Grand total-----	104,483,734	49,885,047	7,810,050	\$0.16
AROMATICS AND NAPHTHENES ²				
Total-----	23,452,681	13,266,929	1,973,405	.15
Benzene, all grades, total-----	9,389,805	...	...	...
High purity (98-100%)-----	8,251,465	4,051,856	718,904	.18
Other (90-97.9%)-----	1,138,340	...	...	...
Toluene, all grades, total-----	5,073,965	...	...	...
High purity (98-100%)-----	4,008,129	3,658,709	565,335	.15
Other (90-97.9%) ⁴ -----	1,065,836	...	...	...
Xylene, mixed, total-----	...	...	...	...
High purity (98-100%)-----	4,463,807	2,416,928	355,840	.15
Other (90-97.9%) ⁴-----	...	...	...	...
All other aromatics and naphthenes ⁵ -----	4,525,104	3,139,436	333,326	.11
ALIPHATIC HYDROCARBONS				
Total-----	81,031,053	36,618,118	5,836,645	.16
C ₂ Hydrocarbons, total-----				
Acetylene ⁶ (For chemical use only)-----	277,558	102,781	43,842	.43
Ethane-----	5,631,262	2,769,057	185,231	.07
Ethylene-----	29,846,726	9,728,703	1,527,216	.16
C ₃ Hydrocarbons, total-----				
Propane-----	25,191,952	13,918,244	1,869,516	.13
Propylene ⁷ -----	10,305,103	6,240,393	685,713	.11
Propylene ⁷ -----	14,886,849	7,677,851	1,183,803	.15
C ₄ Hydrocarbons, total-----				
Butadiene and butylene fractions-----	11,650,935	5,957,062	1,272,215	.21
1,3-Butadiene, grade for rubber (elastomers)-----	1,017,666	972,754	159,274	.16
n-Butane-----	2,340,484	2,039,338	682,789	.33
1-Butene-----	2,214,392	1,332,556	153,004	.11
1-Butene-----	414,248	198,186	45,629	.23
1-Butene and 2-Butene mixed ⁸ -----	639,775	242,814	31,793	.13
Isobutane-----	1,638,820	686,096	87,837	.13
Isobutylene-----	...	303,384	66,057	.22
All other ⁹ -----	3,385,550	181,934	45,832	.25
C ₅ Hydrocarbons, total-----				
Isoprene (2-Methyl-1,3-butadiene)-----	2,045,709	557,907	102,737	.18
Isoprene (2-Methyl-1,3-butadiene)-----	65,577	44,904	10,679	.24
n-Pentane-----	107,108	...	...	...
Pentenes, mixed-----	973,397	286,297	43,806	.15
All other ^{10 11} -----	899,627	226,706	48,252	.21
All other aliphatic hydrocarbons, derivatives and mixtures, total-----				
Alpha olefins, C ₆ -C ₁₀ -----	6,386,911	3,584,364	835,888	.23
Alpha olefins, C ₆ -C ₁₀ -----	517,474	336,445	93,810	.28

See footnotes at end of table.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION: U.S. PRODUCTION AND SALES, 1985--CONTINUED

PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
ALIPHATIC HYDROCARBONS--Continued				
All other aliphatic hydrocarbons, derivatives and mixtures--Continued				
Alpha olefins, C ₁₁ and higher-----	785,336	482,550	121,501	\$0.25
Dodecene (Tetrapropylene)-----	349,989	118,189	25,397	.21
n-Heptane-----	123,948	121,660	26,099	.21
Hexane-----	482,457	306,577	63,505	.21
Nonene (Tripropylene)-----	..	160,672	40,338	.25
n-Paraffins ² -----	1,295,557	913,618	178,908	.20
All other ^{1,3} -----	2,832,150	1,144,653	286,330	.25

¹Calculated from rounded figures.

²The chemical raw materials designated as aromatics are in some cases identical with those obtained from the distillation of coal tar; however, the statistics given in the table above relate only to such materials as are derived from petroleum and natural gas. Statistics on production and/or sales of benzene, toluene, and xylene from all sources are given in table 1 of the report on "Tar and Tar Crudes."

³Includes toluene, solvent grade, 90 percent.

⁴Includes toluene and xylene used as solvents; may include that which is blended in aviation and motor gasolines.

⁵Includes data for alkyl aromatics, crude cresylic acid, cyclopentane, naphthalene, naphthenic acid, carbon black feedstock, distillates, solvents and miscellaneous cyclic hydrocarbons. Includes sales data only for the other than high purity grades of benzene, toluene, and mixed xylenes.

⁶Production figures on acetylene from calcium carbide for chemical synthesis are collected by the U.S. Bureau of the Census.

⁷Includes data for refinery propylene.

⁸The statistics represent principally the butene content of crude refinery gases from which butadiene is manufactured.

⁹Includes production and/or sales data for mixed C₄ streams, and 2-butene. Includes production data only for isobutylene.

¹⁰Includes data for mixtures of C₅ hydrocarbons, isopentane, 1-pentene, 2-pentene, and piperylene.

¹¹Includes sales data only for n-pentane and isoamylene.

¹²Includes data for the following chain lengths: C₆-C₉, C₉-C₅, C₁₀-C₁₄, C₁₀-C₁₆, C₁₂-C₁₆ and others.

¹³Includes production and/or sales data for methane, methylcyclopentadiene, isoheptanes, isohexane, iso-octane, mixed hexenes, mixed heptenes, mixed octenes, n-octane, di-isobutylene, eicosane, nonene, mixtures of C₂ and C₃, C₅-C₆, C₆-C₇, C₆-C₇ hydrocarbons, hydrocarbon derivatives, and other hydrocarbons.

TABLE 2.--PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985
 [CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3.]

PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
AROMATICS AND NAPHTHEMS	
ALKYL AROMATICS:	
Cycloisols-----	CXL
Alkyl aromatics, all other-----	SHC
*BENZENE:	
*Benzene, High purity (98-100%)-----	AMO, APR, ASH, CRF, CSD, DOM, EKK, ENJ, GRS, HES, LYP, MOC, PLC, PPR, SHC, SIO, SM, SOC, SUN, SMR, TOC, TX, UCC, UOC, USI, VEL.
*Benzene, Other-----	ACU, AMO, DUP, KHI, KLM.
Cresylic acid (Less than 75 percent distilling over 215° C)-----	FER, KHI.
Cyclopentane-----	PLC.
Naphthalene-----	CXL, DUP, YK.
NAPHTHENIC ACID:	
Naphthenic acid, acid number 150-199-----	OPS, HEC, HER, SUN.
Naphthenic acid, acid number 200-224-----	FER, MER.
Naphthenic acid, acid number less than 150-----	ATR, FER, HEC, SHC, SUN.
*TOLUENE:	
*Toluene, High purity (98-100%)-----	APR, ASH, CSD, DOM, EKK, ENJ, GRS, HES, HST, KHI, LYP, MOC, MOW, PLC, PPR, SHC, SIO, SM, SUN, SMR, TOC, TX, UCC, UOC.
*Toluene, Other-----	DUP, PPR, SHC, SOC.
*XYLENES, MIXED:	
*Xylene, High purity (98-100%)-----	AMO, ASH, CSD, EKK, ENJ, HES, MOC, PLC, PPR, SHC, SUN, SMR, UCC, UOC.
Xylene, Other-----	AMO, DUP, TOC.
*ALL OTHER AROMATICS AND NAPHTHEMS:	
Aromatics, C ₉ -----	KHI, MOC.
Benzene, toluene, xylene, mixtures-----	ELP.
Carbon black feedstock-----	ENJ.
All other products from petroleum and natural gas, cyclic-----	AMO, ASH, BAS, BFG, EKK, ELP, ENJ, KHI, LYP, NWP, SHC, SMR, UCC, VST.
ALIPHATIC HYDROCARBONS	
C₁ HYDROCARBONS:	
Methane-----	NWP, SHO.

TABLE 2.--PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ALIPHATIC HYDROCARBONS--CONTINUED	
*C ₂ HYDROCARBONS:	
*Acetylene (For chemical use only)-----	BAS, BOR, RH, UCC.
*Ethane-----	ACU, AMO, CGO, ENJ, OMC, PLC, SHO, USI.
*Ethylene-----	ACU, AMO, BAS, BFG, CRF, DOM, DUP, EKI, ELP, ENJ, GOC, LYP, MCB, NWP, OMC, PLC, SHC, SM, SNO, TX, UCC, USI, USS, VST.
C ₃ HYDROCARBONS:	
*Hydrocarbons, C ₃ -C ₄ , mixtures-----	GLK, TU.
*Propane (Commercial and hd-5)-----	AMO, ASH, CCP, CGO, GSD, CSP, ENJ, EPC, GRS, KHI, MOC, OMC, PLC, SHO, SM, SOG, SUN, TCR, TUS, UCC, USI.
*Propylene-----	ACU, AMO, ASH, BAS, BFG, CCP, CGO, GLK, CRP, GSD, DOM, DUP, EKI, ELP, ENJ, EPC, GOC, KHI, LYP, MCB, MOC, NWP, PLC, SHC, SIO, SM, SOG, SOG, SUN, TCR, TX, UCC, USS, VST.
*C ₄ HYDROCARBONS:	
*Butadiene and butylene fractions-----	ACU, BAS, CRF, DOM, EKI, ELP, ENJ, GOC, NWP, PLC, TUS, UCC, VST.
*1,3-Butadiene, grade for rubber (Elastomers)-----	AMO, DOM, DUP, ELP, ENJ, LYP, SHC, SH, TFC, TUS.
*n-Butane-----	AMO, ASH, CSD, CSP, EPC, KHI, OMC, PLC, SHO, SM, SUN, TNA, TUS, USI.
*1-Butene-----	ENJ, GOC, SHC, THA, TFC.
2-Butene-----	PLC, TFC.
*1-Butene and 2-butene, mixed-----	ATR, DOM, ENJ, LYP, SHC, SM, SOG, TNA.
Hydrocarbons, C ₄ , fraction-----	KHI, TX, USS.
Hydrocarbons, C ₄ , mixtures-----	EPC, KHI, MCB, PPR.
*Isobutane (2-Methylpropane)-----	AMO, CSP, ENJ, EPC, KHI, OMC, PLC, SHO, SUN, TUS, USI.
*Isobutylene (2-Methylpropene)-----	ATR, ENJ, SHC, TFC, TUS.
Hydrocarbons, C ₅ , all other-----	ENJ, LYP, TX, USI.
*C ₅ HYDROCARBONS:	
Hydrocarbons, C ₅ mixtures-----	LYP.
Isobutylene-----	ENJ.
Isopentane (2-Methylbutane)-----	PLC, SHO.
*Isoprene (2-Methyl-1,3-butadiene)-----	DOM, ENJ, GOC, LYP.
*n-Pentane-----	ASH, PLC, SHO, SOH.
1-Pentene-----	PLC, SOC.
2-Pentene-----	BFG, DOM.
*Pentenes, mixed-----	CSP, ENJ, PLC, SHC, SHO, SM, TUS, USS.

TABLE 2.--PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ALIPHATIC HYDROCARBONS--CONTINUED	
C₄ HYDROCARBONS--Continued	
Piperylene (1,3-Pentadiene).....	DOM.
Hydrocarbons, C ₅ , all other.....	ENJ, TX, UCC.
*ALL OTHER ALIPHATIC HYDROCARBONS, DERIVATIVES, AND MIXTURES:	
C₄ HYDROCARBONS:	
Di-isopropane (2,3-Dimethylbutane).....	PLC.
Hexanes.....	ASH, ENJ, HMY, PLC, SHO, TX, UOC VST.
Hexanes, mixed.....	ENJ.
Hydrocarbons, C ₅ -C ₆ , mixtures.....	PLC.
Hydrocarbons, C ₅ -C ₇ , mixtures.....	ENJ.
Isobexanes.....	PLC.
Methylcyclopentadiene.....	ENJ.
Neohexane (2,2-Dimethylbutane).....	PLC.
Hydrocarbons, C ₆ , all other.....	SHC, SM, TX.
C₇ HYDROCARBONS:	
*n-Heptane.....	ENJ, PLC, TX, UOC.
Heptenes, mixed.....	ENJ, TX.
Hydrocarbons, C ₅ -C ₇ , mixtures.....	PPR, TX.
Isoheptanes.....	PLC.
Hydrocarbons, C ₇ , all other.....	EKK.
C₈ HYDROCARBONS:	
Di-isobutylene (Di-isobutene).....	EKT, TPC.
Octenes, mixed.....	ENJ, TX.
2,2,4-Trimethylpentane (Iso-octane).....	PLC.
Hydrocarbons, C ₈ , all other.....	SHC.
C₈ AND ABOVE HYDROCARBONS (EXCEPT ALPHA OLEFINS):	
*Dodecene.....	ENJ, SOC, SUN, UOC.
Eicosane.....	HRI.
*Nonene (Tripropylene).....	CSP, ENJ, TX, UOC.
ALPHA OLEFINS:	
*Alpha olefins, C ₆ -C ₁₀	GOC, PLC, SHC, SOC, TMA, USL.
*Alpha olefins, C ₁₁ and higher.....	FER, GOC, SHC, SOC, TMA.
*N-PARAFFINS - CARBON CHAIN LENGTH:	
n-Paraffins, C ₁₀ -C ₁₄	ENJ, SHC, UOC.
n-Paraffins, C ₁₀ -C ₁₆	VST.
n-Paraffins, C ₁₂ -C ₁₈	VST.
n-Paraffins, C ₆ -C ₉	UOC.
n-Paraffins, C ₉ -C ₁₅	SHC, TX, UOC.
n-Paraffins, other.....	ENJ, UOC.

TABLE 2.--PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ALIPHATIC HYDROCARBONS--CONTINUED	
ALL OTHER ALIPHATIC HYDROCARBONS, DERIVATIVES, AND MIXTURES, TOTAL--Continued	
Hydrocarbons, C ₅ -C ₈ , mixtures	ELP.
Polybutene	AMO, CSD, SOC.
HYDROCARBON DERIVATIVES:	
n-Butyl mercaptan (1-Butanethiol)	PAS, PLC.
sec-Butyl mercaptan (2-Butanethiol)	HAP, PLC.
tert-Butyl mercaptan (2-Methyl-2-propanethiol)	HAP, PAS, PLC.
Di-tert-butyl disulfide	PLC.
Diethyl sulfide (ethyl sulfide)	HAP, PAS.
Dimethyl sulfide	PAS.
Ethyl mercaptan (ethanethiol)	HAP, PAS.
Ethylthioethanol	HAP.
Isopropyl mercaptan (2-Propanethiol)	HAP, PAS, PLC.
Methyl ethyl sulfide	HAP.
Methyl mercaptan (methanethiol)	PAS.
Octyl mercaptans	PAS.
n-Propyl mercaptan (1-Propanethiol)	PAS, PLC.
Thiophane (Tetrahydrothiophene)	HAP.
Hydrocarbon derivatives: all other hydrocarbon derivatives	PAS, PLC, SHC, TX.
Hydrocarbons, C ₆ and above, all other, including mixtures	GOC, NES, PLC, TNA.

II -- PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CONVERSION

TABLE 3.--PRIMARY PRODUCTS FROM PETROLEUM AND NATURAL GAS FOR CHEMICAL CONVERSION:
 DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

Names of manufacturers that reported production and/or sales of crude products from petroleum and natural gas for chemical conversion to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

Code	Name of Company	Code	Name of Company
ACU	Allied Corp., Union Texas Petroleum Corp.	MCB	Borg-Warner Corp., Borg-Warner Chemicals
AMO	Amoco Corp.	MER	Merichem Co.
APR	Atlas Processing Co.	MOC	Marathon Petroleum Co., Texas Refining Div.
ASH	Ashland Oil, Inc., Ashland Petroleum Co.	MON	Monsanto Co.
ATR	Atlantic Richfield Co., Arco Chemical Co.	NES	Ruetgers Nease Chemical Co.
BAS	BASF Wyandotte Corp.	NWP	Norchem, Inc.
BFG	B. F. Goodrich Co., B. F. Goodrich Chemical Group	OMC	Olin Corp.
BOR	Borden, Inc., Borden Chemical Div.	PAS	Pennwalt Corp.
CCP	Crown Central Petroleum Corp.	PLC	Phillips Petroleum Co.
CGO	Citgo Petroleum Corp.	PPR	Phillips Puerto Rico Core, Inc.
CLK	Clark Oil & Refining Corp.	RH	Rohm & Haas Co.
CPS	CPS Chemical Co., Inc.	SHC	Shell Oil Co., Shell Chemical Co. Div.
CRP	Corpus Christi Petrochemical Co.	SHO	Shell Oil Co.
CSD	Fina Oil & Chemical Co., Cosden Chemical Div.	SIO	Standard Oil Co. (Ohio)
CSP	Coastal Refining & Marketing, Inc.	SKO	Texaco Refining & Marketing, Inc.
CXI	Chemical Exchange Industries, Inc.	SM	Mobil Oil Corp.:
DOW	Dow Chemical Co.	:	Gas Liquids Dept.
DUP	E. I. duPont de Nemours & Co., Inc. Petrochemicals Dept.	:	Mobil Chemical Co., Petrochemicals Div.
EKT	Eastman Kodak Co.:	SNO	SunOlin Chemical Co.
EKK	Tennessee Eastman Co. Div.	SOC	Chevron Corp., Chevron Chemical Co.
ELP	Texas Eastmen Co. Div.	SOG	Charter International Oil Co.
ENJ	El Paso Products Co.	SOH	Standard Oil Chemical Co.
EPC	Exxon Chemical Americas	SUN	Sun Company, Inc.
FER	Enterprise Products Co. of Mississippi	SWR	Southwestern Refining Co., Inc.
FER	Ferro Corp., Productol Chemical Div.	TCR	Texas City Refining, Inc.
GOC	Chevron Chemical Corp.	TID	Texaco Refining & Marketing, Inc., Delaware Refinery
GRS	Champlin Petroleum Co.	TNA	Ethyl Corp.
HAP	Helmerich & Payne, Inc., National Gas Odorizing Div.	TOC	Tenneco Oil Co.
HEC	Hewchem	TPC	Texas Petrochemicals Corp.
HES	Amerada Hess Corp. (Hess Oil Virgin Islands Corp.)	TU	Tenn-USS Chemicals Co.
HMY	Humphrey Chemical Co.	TUS	Texaco Butadiene Co.
HST	American Hoehst Corp., Petrochemical/Plastics Group	TX	Texaco, Inc., Texaco Chemical Co.
KHI	Koch Refining Co.	UCC	Union Carbide Corp.
KLM	Kalama Chemical, Inc.	UOC	Union Oil Co. of California
LYP	Lyondell Petrochemical Co.	USI	National Distillers & Chemicals Corp., U.S. Industrial Chemicals Co.
		USS	U.S. Steel Corp., USS Chemicals Div.
		VEL	Velsicol Chemical Corp.
		VST	Vista Chemical Co.

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985

SECTION III -- CYCLIC INTERMEDIATES

STATISTICAL HIGHLIGHTS

Ed Matusik

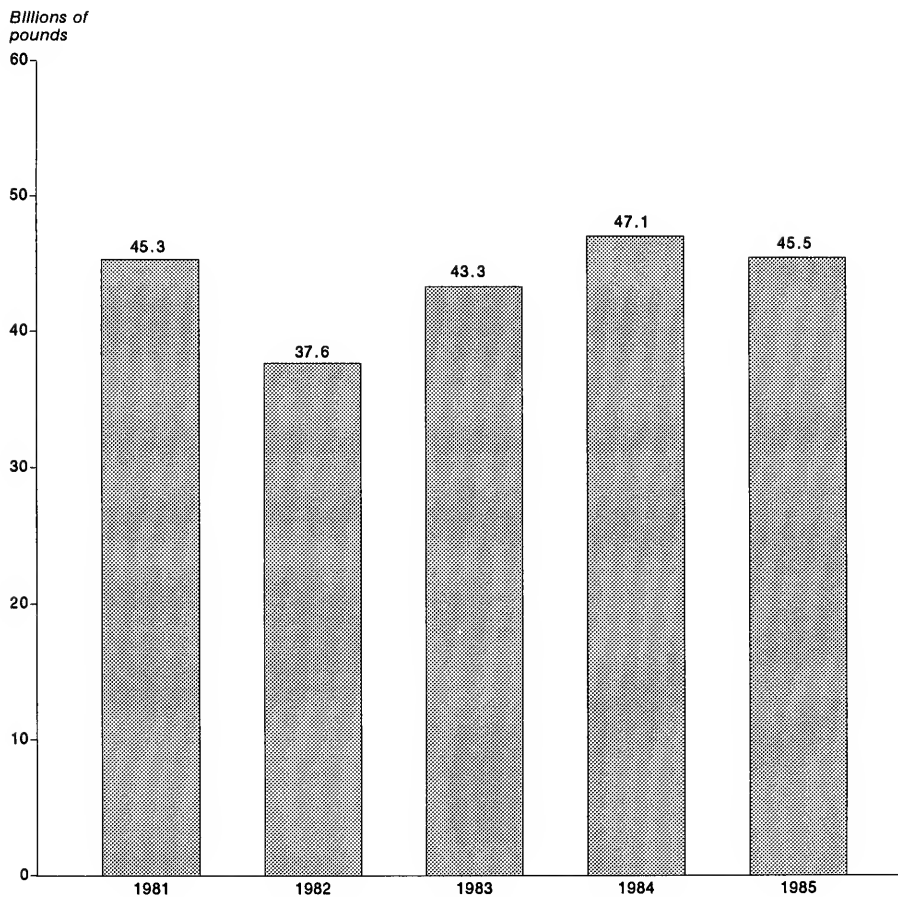
202-523-0492

Cyclic intermediates are synthetic organic chemicals derived principally from petroleum and natural gas and from coal-tar crudes produced by destructive distillation (pyrolysis) of coal. Most cyclic intermediates are used in the manufacture of more advanced synthetic organic chemicals and finished products, such as dyes, medicinal chemicals, elastomers (synthetic rubber), pesticides, and plastics and resin materials. Some intermediates, however, are sold as end products without further processing. For example, refined naphthalene may be used as a raw material in the manufacture of 2-naphthol or of other more advanced intermediates, or may be packaged and sold as a moth repellent or as a deodorant. In 1985, about 43 percent of the total output of cyclic intermediates was sold; the rest was consumed chiefly in the producing plants in the manufacture of more advanced intermediates and finished products.

The total annual production of cyclic intermediates during 1981-85 is shown in figure 1. Total production of cyclic intermediates in 1985 amounted to 45,487 million pounds, a decrease of 3 percent compared with production in 1984. Sales of cyclic intermediates in 1985 were 19,585 million pounds, valued at \$6,337 million, compared with 19,957 million pounds, valued at \$6,930 million, in 1984.

Intermediates that were produced in excess of 1 billion pounds in 1985 were styrene (7,622 million pounds), ethylbenzene (7,386 million pounds), terephthalic acid, dimethyl ester (6,490 million pounds), p-xylene (4,779 million pounds), phenol (2,841 million pounds), cumene (2,627 million pounds), and cyclohexane (1,657 million pounds). These intermediate chemicals produced in excess of 1 billion pounds accounted for about 84 percent of the total output of cyclic intermediates production in 1985.

Figure 1.—Cyclic Intermediates.



Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

III -- CYCLIC INTERMEDIATES

TABLE 1.--CYCLIC INTERMEDIATES: U.S. PRODUCTION AND SALES, 1985

[Listed below are all cyclic intermediates for which any reported data on production and sales may be published. (Leaders (...)) are used where the reported data are accepted in confidence and may not be published, or where no data were reported.) Table 2 lists all cyclic intermediates for which data on production and/or sales were reported and identifies the manufacturer of each].

CYCLIC INTERMEDIATES	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000	1,000	1,000	Per
	pounds	pounds	dollars	pound
Grand total-----	45,487,054	19,585,150	6,336,524	\$0.34
Acetoacetanilide-----	14,279	10,677	11,211	1.05
o-Acetoacetanilide-----	518	487	1,089	2.24
o-Acetoacetotoluidide-----	1,707	1,659	2,222	1.34
Alkylbenzenes ² -----	546,711	516,417	218,862	.42
4-Amino-5-methoxy-2-methylbenzenesulfonic acid (5-Methyl-o-anisidinesulfonic acid)-----	1,411	...	...	...
Aniline (Aniline oil)-----	716,036	309,442	98,132	.32
Biphenyl-----	33,018	6,953	3,283	.47
Butylphenols, mixed-----	19,382	12,496	10,781	.86
Cresols and cresylic acid, total ³ -----	60,413	52,775	34,153	.65
o-Cresol-----	24,014	20,344	11,882	.58
All other ⁴ -----	36,399	32,431	22,271	.69
Cumene-----	2,626,549	1,228,012	253,970	.21
Cyclohexane-----	1,657,169	1,264,449	317,681	.25
Cyclohexanone-----	790,825	...	...	...
Dicyclopentadiene (including cyclopentadiene)-----	63,607	...	...	...
p-Dodecylphenol-----	13,660	8,712	4,022	.46
Ethylbenzene-----	7,386,037	185,809	32,962	.18
Isocyanic acid derivatives, total-----	1,353,754	1,226,660	948,572	.77
Diphenylmethane-4,4'-diisocyanate (MDI)-----	179,070	151,178	138,438	.92
Polymethylene polyphenylisocyanate-----	544,997	489,475	333,228	.68
Toluene-2,4- and 2,6-diisocyanate (80/20 mixture)-----	615,931	575,190	461,812	.80
Other isocyanic acid derivatives-----	13,756	10,817	15,094	1.40
4,4'-Isopropylidenediphenol (Bisphenol A)-----	949,253	329,739	158,439	.48
Nitrobenzene-----	913,450	...	...	...
Nonylphenol-----	185,027	64,154	23,782	.37
Phenol, total ³ -----	2,840,712	1,431,310	403,389	.28
From cumene-----	2,673,387	1,269,785	356,150	.28
All other-----	167,325	161,525	47,239	.29
Phthalic anhydride-----	820,222	523,569	134,447	.26
Salicylic acid, tech-----	29,075	...	...	...
Styrene-----	7,622,245	3,842,582	930,288	.24
Terephthalic acid, dimethyl ester ⁵ -----	6,490,144	...	...	...
Tetrahydrofuran-----	120,209	46,251	43,279	.94
p-Toluenesulfonic acid-----	11,056	10,800	3,608	.33
o-Xylene-----	674,994	472,702	78,543	.17
p-Xylene-----	4,778,757	2,905,061	642,290	.22
All other cyclic intermediates-----	4,766,834	5,134,434	1,981,519	.39

¹Calculated from unrounded figures.

²Includes straight-chain dodecylbenzene, tridecylbenzene, and other straight-chain alkylbenzenes. Branched-chain alkylbenzenes are included in "All other cyclic intermediates."

³Does not include data for coke oven and gas-retort ovens, reported to the Office of Energy Data and Interpretation, Energy Information Administration, Department of Energy.

⁴Figures include (o,m,p)-cresol from coal tar, m-cresol, p-cresol, cresylic acid refined from petroleum and coal tar, and (m,p)-cresol from petroleum.

⁵The figure for terephthalic acid, dimethyl ester (DMT) includes both the acid itself and the dimethyl ester without double counting. The acid production figure was multiplied by the factor 1.16 to convert it to equivalent DMT.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT]

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
3-Acetamido-N-(2-succinimidoethyl)-N-ethylaniline	EKT.
Acetanilide, tech.	SAL.
Acetic acid, phenyl ester	BKH.
*Acetoacetanilide	BRD, EKT, HST.
*o-Acetoacetanilide	BRD, EKT, HST.
*o-Acetoacetotoluidide	BRD, EKT, HST.
p-Acetoacetotoluidide	HST.
2,4,4'-Acetoacetoxylidide	EKT, HST.
Acetoacet-m-xylylidide	BRD.
1-Acetomaphthone	GVY.
Acetophenone, tech.	CLK.
p-Acetotoluidide	EK.
2-Acetylpyridine	RIL.
5-Acetylsaicylamide	X.
*ALKYLBENZENES:	
Alkylbenzene straight-chain (Except dodecyl and tridecyl)	MON, WTC.
DODECYLBENZENE (INCLUDING TRIDECYLBENZENE):	
Dodecylbenzene, straight-chain	MON, VST, WTC.
Dodecylbenzene, other	SOC, WTC.
Alkylbenzene all other (except dodecyl, tridecyl and straight-chain)	PLC.
Alkylphenols, mixed	FER.
Alkylpyridines, mixed	RIL, X.
3-Aminoacetanilide	GGI.
4-Aminoacetanilide (Acetyl-p-phenylenedimine)	HST.
3'-Amino-p-acetanilide	HST, SDC.
2-(p-Aminoanilino)-5-nitrobenzenesulfonic acid	CGY.
3-Amino-p-anisanilide	PGW.
1-Aminoanthraquinone and salt	SDC.
6-Amino-3,4'-azodibenzesulfonic acid (C.I. Acid Yellow 9)	CGY.
p-Aminobenzamide	NSC.
3'-Aminobenzanilide	HST.
o-Aminobenzethiol	FMT.
p-Aminobenzoic acid, tech.	NSC, WVK.
2-Amino-6-benzothiazolesulfonic acid	VFC.
1-Amino-4-bromo-9,10-dioxo-2-anthracenesulfonic acid and sodium salt	VFC.

TABLE 2.---CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985---CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
1-Amino-2-bromo-4-hydroxyanthraquinone	VFC.
7-Aminocephalosporanic acid	BRS.
2-Amino-5-chlorobenzophenone	GNW.
7-Amino-5-chloro-p-toluenesulfonic acid (SO ₂ H=1)	BAS.
6-Amino-5-chloro-m-toluenesulfonic acid (SO ₂ H=1) (2B Acid)	DUP.
4-Amino-N,N-di(8-hydroxyethyl)aniline sulfate	WAY.
2-Amino-4,5-dimethoxybenzoic acid, methyl ester	PFZ.
5-Amino-2,3-dimethylbenzenesulfethanamide	CGY.
3-Amino-9-ethylcarbazole	SDC.
N-Aminohexamethyleneimine	X.
4-Amino-3-hydroxy-1-naphthalenesulfonic acid	CGY.
2-(2-Amino-5-hydroxy-7-sulfo-1-naphthylazo)-5-nitrobenzoic acid	CGY.
3-Amino-4-methoxyacetanilide	CGY.
*4-Amino-5-methoxy-2-methylbenzenesulfonic acid (5-methyl-0-anisidinesulfonic acid)	PSG, VFC, X.
m-[(4-Amino-3-methoxyphenyl)azo]benzenesulfonic acid	CGY, VFC.
2-Amino-2-methylpropyl 8-bromothioethylamine	CHT.
2-Amino-3-methylpyridine	RIL.
2-Amino-4-methylpyridine	RIL.
2-Amino-5-methylpyridine	RIL.
2-Amino-6-methylpyridine	RIL.
7-Amino-1,3-naphthalenedisulfonic acid (Amino G acid)	CGY.
6-Amino-2-naphthalenesulfonic acid (Broemmer's acid)	CGY.
5-(and 8)-Amino-2-naphthol	BUC.
8-Amino-2-naphthol	BUC.
2-(4-Amino-2-nitroanilino)ethanol	SOL.
2-Amino-6-nitrobenzothiazole	VFC.
2-Amino-4-nitrophenol	SOL.
2-[(2-Amino-4-nitrophenyl)amino]-2-hydroxymethyl-1,3-propanediol	SOL.
4-Amino-4'-nitro-2,2'-stilbenedisulfonic acid	CGY.
2-Amino-5-nitrothiazole	PCM.
2-Amino-4-nitrotoluene hydrochloride	PCM.
3-Amino-2-oxazolidinone	PFZ.
6-Aminopenicillanic acid	BRS.
p-(p-Aminophenyl)azo]benzenesulfonic acid	MAL, SCN.
2-(4-Aminophenylazo)-4-methylphenol	CGY, VFC.
7-[(4-Aminophenyl)azo]-1,3-naphthalenedisulfonic acid	VFC.
2,2'-(m-Aminophenylimino)diethanol, diacetate ester	CGY, ACY.
2-(p-Aminophenyl)-6-methyl-7-benzothiazolesulfonic acid and salt	CGY.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
2-Aminopyridine	REL.
4-Aminopyridine	REL.
2-Aminothiazole nitrate	FCW.
4-Amino-m-toluenesulfonic acid (SO ₃ H-l)	DUP.
6-Amino-m-toluenesulfonic acid (SO ₃ H-l)	CFH, DUP.
m-(4-Amino-3-tolyl)azobenzene sulfonic acid	CGY.
5-Amino-2,4-xylene sulfonic acid	USS.
*Aniline (Aniline oil)	DUP, FST, ICI, MAL, RUC, USR, USS.
2-Anilinoethanol	TCH.
7-Anilino-4-hydroxy-2-naphthalenesulfonic acid	CGY.
Anilinomethanesulfonic acid and salt	AGY, CGY, VFC.
o-Anisidinomethanesulfonic acid	CGY, VFC.
Anisole, tech.	CHF.
Anisoyl chloride	SD.
M W-(1,5-Anthraquinonylene)dianthranilic acid	CGY.
Benzaldehyde, tech.	KLM.
Benzamide hydrochloride	EK.
7-Benzamide-4-hydroxy-2-naphthalenesulfonic acid	CGY.
Benzamide	EK.
7H-Benz[de]anthracen-7-one (Benzanthrone)	SDC.
Benzeneamine, 4,4'-[(2-chlorophenyl)-methylene]bis[M, M-dimethyl]	X.
Benzenesulfonic acid	UPF.
Benzenesulfonic acid, 2-formyl-, sodium salt	X.
Benzenesulfonyl chloride	SFS, UPF, USR.
1,2,4-Benzenetricarboxylic acid, 1,2-dianhydride (Trimellitic anhydride)	AMO.
Benzhydrol (Diphenylmethanol)	PD.
Benzil	LEM.
Benzimidazole	EK.
1,3-Benzodioxole	AMB.
Benzoic acid, 2-(4-(dimethylamino)-benzoyl)	X.
Benzoic acid, methyl ester	HGF.
Benzoic acid, tech.	KLM, PFZ, VEL.
Benzoin	SFS.
Benzoin isobutyl ether	SFS.
Benzonitrile	SFS.
2-Benzothiazolethiol, sodium salt	BFG, BKM, GYR, USR.
1H-Benzotriazole	SM.
2-Benzoxazolethiol	EK.
Benzoyl chloride	HK, KLM, VEL.
Benzylamine	HKL, KLM.
2-(Benzylamino)ethanol	HKL.

TABLE 2. --CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
1-Dimethyl-3,4-dimethyl-2-(p-methoxybenzyl)-1,2,5,6-tetrahydropyridine oxalate	SD.
3-(Benzylisethylamino)acetamide	EK.
2-Benzyl-2'-hydroxy-5,9-dimethyl-6,7-benzomorphanhydrobromide	SD.
p-(Benzyloxy)phenol	FKE.
1-Benzyl-4-phenylisonicotinitrile	SDM.
Benzyltriethylammonium chloride	HKL.
Benzyltrimethylammonium hydroxide	HKL.
Benzyltrimethylammonium methoxide	HKL.
*Biphenyl	DOM, KHI, MON, TCC.
4,4'-Biphenyldisulfonylazide	PAH.
Bis(p-aminocyclohexyl)methane	ABB, AIP, DUP.
2,6-Bis(p-azidobenzylidene)-4-methylcyclohexanone	X.
4,4'-Bis[(dimethylamino)benzylidene]cyclohexanone (Michler's hydrocol)	X.
Bis(4-dimethylaminocethyl)phenylacetamitrile	WYT.
1,5-Bis(2,4-dinitrophenoxyl)-4,8-dinitrothraquinone	VPC.
Bis(diphenylsulfonophenyl) sulfide	SOL.
H, H Bis(4-methylphenyl)sulfonylamine, potassium salt	EK.
1,2-Bis(4-tropomphenoxyl)ethane	GTL.
p-Bromoaniline	EK.
Bromobenzaldehyde	TMA.
Bromobenzene, mono	DAZ, GTL.
o-Bromobenzoic acid	PD.
4-Bromo-3,5-dihydroxybenzamide	FCM.
4-Bromo-3,5-dihydroxybenzoic acid	FCM.
2-Bromo-4,6-dinitroaniline	CGY, HST, SDC.
2-(2-Bromo-4,6-dinitrophenylazo)-5-diethylaminoacetanilide	CGY.
1-Bromo-4-ethoxy-2-methylbenzene	TMA, X.
1-Bromonaphthalene	RSA.
4-Bromo-p-nitrotoluene (p-Nitrobenzyl bromide)	SDM.
Bromopheniramine base	HEX.
2-Bromopyridine	DAZ.
5-Bromopyrimidine	LIL.
p-Butoxyphenol	ABB.
p-Butylaniline	TMA.
n-Butylaniline	TMA.
p-tert-Butylbenzaldehyde	GIV.
2-tert-Butyl-p-cresol	FER, PSG.
6-tert-Butyl-m-cresol	FER, KPT.
2-[(1-Butyl-2-methylindol-3-yl)carbonyl]benzoic acid	X.
o-sec-Butylphenol	SCN, TMA.

TABLE 2. --CYCLIC INTERMEDIATES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
o-tert-Butylphenol	TNA.
p-sec-Butylphenol	SCN.
p-tert-Butylphenol	FER, SCN.
xylylenols, m,xed	FER, SCN, TNA, X.
p-tert-Butyltoluene	GIV.
5-tert-Butyl-1,2,3-trimethylbenzene	GIV.
5-tert-Butyl-m-xylene	GIV.
6-tert-Butyl-2,4-xylene	FER.
1-(Carboethoxy)ethyl-3-(2-chloro-4-(trifluoromethyl)-phenoxy)benzoate	DAZ.
N-Carboxy-N-methylanthranilic anhydride	X.
Cephalosporin D	BMS.
4'-Chloroacetophenone	LLL.
o-Chloroaniline	CWN, DUP.
m-Chloroaniline	FST.
p-Chloroaniline	DUP, HOM.
2-Chloroanthraquinone	AGY.
p-Chlorobenzaldehyde	PD.
Chloro-7H-benz[de]anthracen-7-one (Chlorobenzanthrone)	SCC.
Chlorobenzene, mono	DOM, PPG, SCC.
p-Chlorobenzenesulfonic acid	UPF.
4-Chloro-2-benzothiazylamine	SDC.
2-Chloro-N,N-disopropylethylamine hydrochloride	SOL.
1-Chloro-1,4-dibutoxybenzene	ALL.
1-Chloro-2,5-dibutoxy-4-nitrobenzene	ALL.
2-Chloro-1,4-dieethoxybenzene	ALL.
1-Chloro-2,5-dieethoxy-4-nitrobenzene	HST.
4-Chloro-2',5'-dimethoxyacetanilide	ALL.
5-Chloro-2,4-dimethoxyaniline	SK.
2-[p-chloro- α -(2-dimethylaminoethyl)benzyl]pyridine	SK.
2-Chloro-10-[3-(dimethylamino)propyl]phenothiazine	SK.
1-Chloro-2,4-dinitrobenzene (Dinitrochlorobenzene)	SDC.
3-Chlorodiphenylamine	SK.
p-[(2-chloroethyl)methylamino]benzaldehyde	VFC.
2-Chloroethylphenyl sulfone	PAH.
5-Chloromethyl-1,3-benzodioxole	X.
4-Chloro-N-methyl-3-nitrobenzenesulfonamide	CGY, LAK.
2-Chloro-10-[3(4-methyl-1-piperazinyl)propyl]-phenothiazine	SK.
2-[(Chloromethyl)thio]benzothiazole	BKM.
1-Chloro-2-nitrobenzene (Chloro-o-nitrobenzene)	DUP, MON.
1-Chloro-4-nitrobenzene (Chloro-p-nitrobenzene)	DUP, MON.
4-Chloro-3-nitrobenzenesulfonamide	CGY.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
4-Chloro-3-nitrobenzenesulfonamide	CGY.
2-Chloro-4-nitrobenzoic acid	SAL.
2-Chloro-5-nitrobenzoic acid	CGY.
2-Chloro-4-nitrobenzoic acid, potassium salt	SAL.
4-Chloro-3-nitrobenzotrifluoride	DAZ.
2-Chloro-4-nitrotoluene	DUP, PCW.
2-Chlorophenothiazine	SK.
o-Chlorophenylcyclopentyl ketone	PD.
4-Chloro-o-phenylenediamine	FMT.
4-Chlorophthalic acid	PSG.
2-Chloropyridine	NES, ONC.
4-Chlorosorcinol	PCW.
7-Chloro-1,2,3,4-tetrahydro-2-methyl-3-(2-methylphenyl)- 4-oxo-6-quinolinesulfonamide	X.
o-Chlorotoluene	HK.
m-Chlorotoluene	HK.
p-Chlorotoluene	HK.
α -Chlorotoluene (Benzyl chloride)	MON, SFS, VEL.
3-Chloro-p-toluidine [NH ₂ =1]	DUP.
3-(2-Chloro-4-trifluoromethylphenoxy)toluene	DAZ.
4-Chloro- α,α,α -trifluoro-3-nitrotoluene	PCW.
p-Chloro- α,α,α -trifluorotoluene	HK.
6-Chloro- α,α,α -trifluoro-m-toluidine	PCW.
4-Chloro-3,5-xyleneol	FER.
Copper, [2, 2', 2'', 2''',-[29H, 31H- phthalocyanine]pentakis(methylene)]pentakis[1H- isoindole-1,3(2H)-dionato]]	X.
*CRESOLS:	
m-Cresol	KFT, MER.
*o-CRESOL:	
o-Cresol, from petroleum	FER, GE, KFT, MER, PSG.
p-Cresol	MER, PSG.
(H, P)-CREMOL:	
CRESOLS, MIXED:	
(m, p)-Cresol, from petroleum	FER, MER, NPC.
(o, H, P)-CREMOL:	
(o, m, p)-Cresol, from coal tar	KFT.
CRESYLIC ACID, REFINED:	
m-Cresylglycidyl ether	X.
Cresylic acid, refined, from petroleum	FER.
*Cumene (Isopropyl benzene)	ASH, BTL, CLK, GGC, GRS, KHT, SHC, TK.
2-[p-(Cyanacetamido)phenyl]-6-methyl-7- benzothiazolesulfonic acid	VFC.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
4-(Cyanooctyl)morpholine	DUP.
Cyanoethyl cellulose	FKE.
N-Cyano-s-methyl-N-2(4-methyl-5-imidazolyl)- methylthioethylisothiourea	SK.
*Cyclohexene	DUP, GRS, PLC, PPR, SUN, TX, VUC.
1,2-Cyclohexanedicarboxylic acid anhydride	BGC.
1,3-Cyclohexanedione	PD.
Cyclohexanol	AGS, DBC, DUP, MON.
*Cyclohexanone	AGS, CMP, DBC, DUP, MON.
Cyclohexanone oxime	CMP.
Cyclohexene	USR.
3-Cyclohexene-1-carboxaldehyde	UCC.
4-Cyclohexene-1,2-dicarboxylic anhydride	DKA.
Cyclohexene oxide	USR.
8-(1-Cyclohexenyl)ethylamine	HKL, X.
Cyclohexylamine	VGC.
Cyclooctadiene	DUP.
Cyclopentane	ALD.
p-Cymene	HFC.
Diacephtho[1,2-j:1',2'-1]fluoranthene (Decacycene)	SDC.
3-Diacetoxystyrylamino benzamide	STC.
Dialkylbenzene	VST.
1,5-Diaminanthraquinone	SDC.
2,4-Diaminobenzenesulfonic acid SO ₃ H-1	CGY.
1,3-Diaminocyclohexane	DUP.
1,5-Diamino-4,8-dihydroxyanthraquinone	VPC.
2,6-Diaminopyridine	RIL.
3,4-Diaminopyridine	RIL.
4,4'-Diamino-2,2'-stilbenedisulfonic acid	CGY.
2,5-Dianilino-terephthalic acid	SDC.
4-Diazo-2,5-dimethoxyphenolmorpholine	HST.
2-Diazo-1-naphthol-5-sulfonic acid, sodium salt	HST.
N-(4-Diazo phenyl) aniline 1/2 sulfate	HST.
Dibenzylazodicarboxylate	X.
1,3-Dibenzylglycerol	X.
m-Dibromobenzene	DAZ.
p-Dibromobenzene	DAZ.
(1,2-Dibromoethyl)benzene	DAZ.
2,6-Dibromo-4-nitroaniline	HST, SDC.
2,6-Dibromophenol	EK.
3,5-Dibromo-3'-trifluoromethylsalicylamide (fluorophene)	PCM.
p-Butoxybenzene (DBB)	ALL.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
2,5-Dibutoxy-4-morpholinobenzenediazonium sulfate salt (DBB Sulfate)-----	ALL.
2,5-Dibutoxy-4-morpholinonitrobenzene-----	ALL.
2,6-Di-tert-butyl-4-nonylphenol-----	GNF.
2,4-Di-tert-butylphenol-----	FER.
2,6-Di-sec-butylphenol-----	TMA.
2,6-Di-tert-butylphenol-----	TMA.
2,6-Di-tert-4-sec-butylphenol-----	VTC.
3,4-Dichloroaniline-----	DUP, MON.
o-Dichlorobenzene-----	MON, PPG, SCC, SOL.
m-Dichlorobenzene-----	MON.
p-Dichlorobenzene-----	MON, PPG, SCC, SOL.
3,3'-Dichlorobenzidine base and salts-----	CWN, LAK.
2,4-Dichlorobenzotrifluoride-----	DAZ.
3,4-Dichlorobenzotrifluoride-----	DAZ, HK.
3,5-Dichlorobenzoyl chloride-----	HK.
Dichlorobenzyl chloride-----	SFS.
Dichlorodiphenylsilane-----	DGC.
4,4'-Dichlorodiphenyl sulfone-----	UGC.
3,3'-Dichloro-4,4'-(2-hydroxy-3-amido-1-naphthazo)- biphenyl-----	LAK.
2,6-Dichloro-3-methylaniline-----	LAK.
2,5-Dichloro-4-(3-methyl-5-oxo-2-pyrazolin-1-yl)- benzenesulfonic acid-----	SDC.
Dichloromethylphenylsilane-----	GGY.
Dichloromethylphenylsilane-----	DGC.
2,6-Dichloro-4-nitroaniline-----	CWN.
1,2-Dichloro-4-nitrobenzene-----	DUP, MON.
2,4-Dichloro-5-nitrotrifluoromethylbenzene-----	DAZ.
2,4-Dichlorophenol-----	VTC.
2,5-Dichlorosulfanilic acid [SO ₂ H=1]-----	VPC.
p-a-Dichlorotoluene-----	HK.
Dicyclohexylamine-----	ABB, VGC.
Dicyclohexylamine, nitrate salt-----	OMC.
Dicyclopentadiene (includes Cyclopentadiene)-----	DOM, ENJ, SHC.
α,α-Diethoxyacetophenone-----	CHN.
p-Diethoxybenzene-----	ALL.
p-(Diethylamino)benzaldehyde-----	HGK.
[2-(Diethylamino)-2-hydroxybenzyl]benzoic acid-----	X.
m-(Diethylamino)phenol (N,N-Diethyl-3-aminophenol)-----	AGY.
N,N-Diethylaniline-----	BCC, DUP.
2,6-Diethylaniline-----	TMA.
Diethylbenzene-----	DOM, UPH.
N,N-Diethylcyclohexylamine-----	ABB.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1965--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
N,N-Diethyl-3-ethoxyaniline	X.
3,5-Diethyltoluene	TMA.
N,N-Diethyl-m-toluidine	DUP.
N,N-Diethyl-p-toluidine	RSA.
6,11-Dihydrodi-benz(b,e)oxepin-11-one	PFZ, SK.
2,3-Dihydro-2,4-dimethyl-7-benzofuranol	DAZ.
2,3-Dihydro-2,4-dimethyl-7-benzofuranol	FHM.
2-[2-(2,3-Dihydro-1,3-dioxo-1H-inden-2-yl)-(quinolinyl)]-6-methylbenzothiazole-7-sulfonic acid	VPC.
2,3-Dihydro-2-[6-methyl-7-sulfo-2-benzochazoly]-2-quinolinyl-1,3-dioxo-1H-indene-5-carboxylic acid	VPC.
Dihydrophenylglycine dene salt	SK.
Dihydrophenylglycine sodium methyl dene salt	KAN.
1,2-Dihydro 2,4,7-tetramethylquinoline	EKT.
1,4-Dihydroxyanthraquinone	CGX, EKT.
1,4-Dihydroxybenzaldehyde	EK.
2,4-Dihydroxybenzaldehyde	EK.
2,5-Dihydroxy-p-benzenedisulfonic acid, dipotassium salt	X.
3,4-Dihydroxybenzoic acid, methyl ester	PCW.
2,4-Dihydroxybenzophenone	ACV.
1,5-Dihydroxy-4,8-dinitroanthraquinone	VPC.
1,8-Dihydroxy-4,5-dinitroanthraquinone	ACV.
N,N-Di(8-hydroxyethyl)-m-chloroaniline	EKT, VPC.
Diisopropylamine	MIL.
TMA	TMA.
Diisopropylbenzene	CLK, GCG.
m-Dimethoxybenzene	CLK, GCG.
3,4-Dimethoxytoluene	ACV.
p-(Dimethylamino)benzaldehyde	HEX, TMA.
m-(Dimethylamino)benzoic acid	ATL, EK.
2-[4-(Dimethylamino)benzoyl]benzoic acid	SDH.
2-[[2-(Dimethylamino)ethyl](p-methoxybenzyl)amino]-pyridine	EK.
m-Dimethylaminophenol	HEX.
1-1-(3(Dimethylamino)propyl)-6H-hydroxydi-benz(b,e)oxepin	ACV.
4-Dimethylaminopyridine	PFZ, SK.
N,N-Dimethylamine	NEP.
N,N-Dimethylamine	BCC, DUP.
7,12-Dimethylbenz[9]anthracene	EK.
N,N-Dimethylbenzylamine	ARS, HML, PSG.
Dimethyl-1,4-cyclohexanedicarboxylate	EKT.
N,N-Dimethylcyclohexylamine	ABB.
5,5-Dimethylhydantoin	GXI.
2,5-Dimethyl-4(2)-morpholinylmethyphenol, hydrochloride	CGI.
2,6-Dimethylnaphthalene	UPH.
N,N-Dimethyl-p-nitrosaniline	ALD.

TABLE 2. --CYCLIC INTERMEDIATES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
N, N-Dimethyl-o-toluidine	RSA.
N,N-Dimethyl-p-toluidine	FST, RSA.
2,4-Dinitroaniline	HST, SDC.
1,5-(and 1,8)-Dinitroanthraquinone	SDC.
m-Dinitrobenzene	DUP.
3,5-Dinitrobenzoyl chloride	ALD.
2,6-Dinitro-4-isopropylphenol	SDC.
2,4-Dinitrophenol, tech.	HML, SDC, VPC.
2,4-Dinitrophenoxyethanol	SDC.
Dinitrophenylacetic acid (mixture)	SOL.
3,5-Dinitrosalicylic acid	SAL.
p-Dinitrosalicylic acid, methyl ester	SAL.
p-Dinitrosobenzene	LC.
4,4'-Dinitrostilbene-2,2'-disulfonic acid	GGY.
2,4-Dinitrotoluene	DUP, RUC.
2,4-(and 2,6)-Dinitrotoluene	DUP, RUC, X.
3,5-Dinitro-o-toluic acid	SAL.
Dinonylhydroxybenzenesulfonic acid	X.
Di-para-benzoquinone dioxime	GAF, TX.
2,4-DI-tert-pentylphenol	LC.
1,5-Diphenoxyanthraquinone	FER, PAS.
1,4-Diphenoxybenzene	VPC.
Diphenylalkane (Mixture)	TMA.
Diphenylamine	VST.
Diphenyldisulfide	RUC, USR, USS.
Diphenylmethane	PAH.
Diphenylsulfide	CMN.
1,3-DI-4-piperidylpropane	PAH.
1,5-Diureidodisophthalene	RIL.
Divinylbenzene	SOI.
Dodecylaniline	DOM.
Dodecylmethylbenzyl chloride	MON.
*p-Dodecylphenol	RH.
Doxepin base	GAF, MCB, MON, SOC.
2-Ethanolpiperidine	SK.
5-Ethoxy-3-trichloromethyl-1,2,4-thiadiazole	RIL.
2-(1,1,2-Ethenyl)bis(5[[4-chloro-6-(phenylamino)-1,3,5-triazin-2-yl]amino]benzenesulfonic acid, disodium salt	OMC.
4(5)-Ethoxycarbonyl-5(4)-methylimidazole	X.
1-Ethoxy-3-methylbenzene	SK.
4-Ethoxy-2-methyl-N-phenylaniline	X.
	X.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
2-Ethoxy-1-naphthoic acid	WYT.
2-Ethoxy-1-naphthyl chloride	WYT.
3'-(Ethylamino)acetanilide	EKT.
o-Ethylaniline	TMA.
N-Ethylaniline, refined	BCC, FST.
2-(N-Ethylamino)ethanol	MIL, TCH.
3-(N-Ethylamino)propionitrile	MIL, TCH.
α -(N-Ethylamino)-m-toluenesulfonic acid	SDH.
2-Ethylanthraquinone	ELP.
*Ethylbenzene	AMO, ATR, GSD, DOW, DUP, GOC, KHI, KPT, MCB, MON.
Ethylbenzyl chloride	SFS.
2-(N-Ethyl-N, β -cyanoethyl)-4-acetaminoanisole	GGI, TCH.
N-Ethyl-N-(2,3-dihydroxypropyl)-m-toluidine	EKT.
N-Ethylmaleimide	REC.
1-Ethyl-3-methylpiperidine	GLY.
6-Ethyl-2-methylindole	TNA.
1-Ethyl-2-methylindole	X.
1-Ethyl-3-nitrocarbazole	SDC.
N-Ethyl-N-phenylbenzylamine	SDH.
N-Ethyl-N-(3'-sulfobenzyl)aniline	VPC.
N-Ethyl-m-toluidine	DUP, FST.
3-(N-Ethyl-m-toluidino)propionitrile	TCH.
4-Fluoro-3-nitroaniline	OMC.
4-Fluoro-3-nitrobenzotrifluoride	DAZ.
4-Fluorobiphenol, sodium salt	PAH.
1-Formylpiperidine	RIL.
Furan	QKO.
Furfuryl alcohol	QKO.
Hexachlorocyclopentadiene	VEL.
1,4,5,6,7,7-Hexachloro-5-norbornene-2,3-dicarboxylic anhydride (Chlorendic anhydride)	VEL.
Hexamethyleneimine	VEL.
Hydroquinone, tech.	CXI, DUP.
p-Hydroxybenzenesulfonic acid	EKT, GYR.
4-Hydroxy-2H-1,2-benzothiazine-3-carboxylic acid, methyl ester, 1,1-dioxide	FEB, UPF.
4-Hydroxybenzylbenzene	PFZ.
2-Hydroxyacetone	TNA.
2-Hydroxy-5,9-dimethyl-6,7-benzomorphan	X.
2'-[4-(2-Hydroxyethylamino)-3-nitrophenyl]imino]diethanol	SD.
3-[8-(2-Hydroxyethyl)amino]propionitrile	SOL.
	TCH.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
N-B-Hydroxyethyl-2,4-dihydroxybenzamide	PCW.
N-B-Hydroxyethyl-N-methyl-m-toluidine	RTL.
4-Hydroxymetanilamide	GGY.
4-Hydroxy-2-methyl-2H-1,2-benzothiazine-3-carboxylic acid, methyl ester, 1,1-dioxide	PFZ.
2-Hydroxymethylene-17 α -ethinylandrosta-17 β -ol-4-en-3-one	SD.
4-Hydroxy-N-methylmetanilamide	GGY.
4(5)-Hydroxymethyl-5(4)-methylimidazole hydrochloride	SK.
3-Hydroxy-N-(3-N-morpholino- γ -propyl)-2-naphthamide	PCW.
7-Hydroxy-1,3-naphthalenedisulfonic acid, disodium salt	SDH.
3-Hydroxy-2-naphthoic acid (B.O.N.)	PCW.
3-Hydroxy-2-naphthoic acid, aminopropylmorpholide	HST.
1-Hydroxy-2-naphthoic acid, ethanolamide	PCW.
1-Hydroxynaphthoic acid, methyl ester	PCW.
3-Hydroxy-2-naphthoic acid, methyl ester	PCW.
3-Hydroxy-1,4-naphthoquinone	SAL.
1-(2-Hydroxy-1-naphthylazo)-6-nitro-2-hydroxynaphthalene-4-sulfonic acid	GGY.
p-Hydroxyphenyl-3-methylbutyric acid	HEX.
Isatoic anhydride	FSG.
Isobutylbenzene	PLC, TMA.
*ISOCYANIC ACID DERIVATIVES:	
Bis(ethylene diisocyanate (TODI))	CWN.
*Diphenylmethane-4,4'-diisocyanate (MDI)	BAS, DOM, MOB, RUC, UPJ.
Isocyanic acid,p-chlorophenyl ester	MOB.
Isocyanic acid, cyclohexyl ester	MOB.
Phenylisocyanate	MOB.
*Polymethylene polyphenylisocyanate	BAS, MOB, RUC, UPJ.
Toluene 2,4-diisocyanate	MOB.
*Toluene 2,4-and 2,6-diisocyanate (80/20 Mixture)	MOB, OHC, RUC.
Toluene 2,4-and 2,6-diisocyanate (65/35 Mixture)	BAS, DOM, MOB.
p-Toluenesulfonyl isocyanate	CWN.
Isocyanic acid derivatives, all other	UCC.
Isonicotinamide	RTL.
Isonicotinic acid	RTL.
Isonicotinitrile	RTL.
Isophthalic acid (Benzene-1,3-dicarboxylic acid)	ARO.
Isophthalonitrile	FSG.
Isophthaloyl chloride	DUP, TLC.
Isopropylbiphenyl	TCC.
4,4'-Isopropylidenebis[2,6-dibromophenol] (Tetrabromo-bisphenol A)	DOM.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
5,5'-Isopropylidenebis(2-hydroxy-m-xylene- α,α' -diol)	ARK.
*4,4'-Isopropylidenediphenol (Bisphenol A)	DOM, GE, SHC, USS.
4,4'-Isopropylidenediphenol, ethoxylated	ICI.
4,4'-Isopropylidenediphenol, propoxylated	ICI.
o-Isopropylphenol	FER, FMC.
p-Isopropylphenol	FER.
Isopropylphenol, mixed	TNA.
Isothiocyanic acid, phenyl ester	EK.
Leuco quinizarin (1,4,9,10-Anthratretrol)	CGV.
3,5-Lutidine	RIL.
Malonanilide	PCM.
d-Mandelic acid	HXL.
Melamine	ACY, MLC.
d,l-P-Mentha-1,8-diene (Limonene)	ARZ, NCI.
4-Methoxyacetanilide	CGV.
2-[(Methoxycarbonylamino)-(2-nitro-5-M-propylthio)-phenyl]iminoethylaminoethanesulfonic acid	X.
2-Methoxyethylpiperidine	RIL.
N-Methoxymethylmorpholine	TK.
N-(4-Methoxy-3-nitrophenyl)acetamide	SDC.
(p-Methoxyphenyl)acetic acid	HEX.
N[4]1-[(2-Methoxyphenylamino)carbonyl]-2-oxopropylazophenyl]-4-[1]-(2-methoxyphenylamino)-carbonyl]-2-oxopropylazo]-benzamide]	X.
2-Methyl-5-acetylpyridine	RIL.
2-(N-Methylamino)ethanol	TCH.
3-(N-Methylamino)propionitrile	TCH.
2-Methylanthraquinone	ACY.
3-Methylbenzof[quinoxaline]	OMC.
2-Methylbenzothiazole	FMT.
N-Methylbenzylamine	HLL.
o-Methylbenzyl chloride	SFS.
p-Methylbenzyl chloride	SFS.
Methyl benzyl ether	GRS.
Methyl N-(α -carboxyhydrobenzyl)-8-aminocrotonate, sodium salt	TRD.
1-Methyl-4-(3-chloropropyl)piperazine	SK.
1-Methyl-4-(3-chloropropyl)piperazine hydrochloride	SK.
Methylcyclohexane	PLC.
N-Methylcyclohexylamine	ABB.
Methyl 3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane carboxate	FMN.
N-Methylidicyclohexylamine	ABB.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-o-cresol)	CPS.
4-Methyl-2,6-dinitrophenol	PSG.
4-Methylenebis (2,6-di-tert-butylphenol)	TMA.
4,4'-Methylenebis[N,N-dimethylaniline]	ACY.
4,4'-Methylenebis[N,N-dimethylaniline] (Methane base)	ACY, SDH.
2,2'-Methylenebis(4-methyl-6-nonyl-p-cresol)	PSG.
4,4'-Methylene-bis-orthoethylaniline	TNA.
4,4'-Methylenedianiline	CRT, OHC, RUC, USR.
5-Methylenedisalicylic acid	KLM.
Methylcrotonone	EKT.
(2,4-Methyl-5-imidazolyl)methylthioethylamine dihydrochloride	SK.
4-Methyl-2-imino-1,3-dithiolane hydrochloride	LAK.
4-Methyl-N-(4-methylphenyl)sulfonylbenzenesulfonamide	EK.
N-Methyl-p-nitroaniline	ACY.
4-Methyl-2-nitroanisole	PSG.
3-Methyl-2-nitrobenzoic acid	SAL.
2-Methyl-5-norbornene-2,3-dicarboxylic anhydride	BCC.
m-(3-Methyl-5-oxo-2-pyrazolin-1-yl) benzenesulfonic acid	CGY.
2-Methyl-5-phenylbenzoxazole	EK.
1-Methyl-4-phenylisonipecotic acid	WYT.
1-Methyl-4-phenylisonipecotnitrile	WYT.
4-Methylphthalic acid	EK.
4-Methylphthalic anhydride	SFS.
α -Methylstyrene	GLK, GGC, USS.
ar-Methylstyrene (Vinyltoluene)	BTL, DOM.
Methylthiobenzoic acid	X.
1-Naphthaldehyde	X.
1,5-Naphthalenedisulfonic acid, 2-amino-, monosodium salt	GWM.
2-Naphthalenesulfonic acid	X.
1-Naphthalenesulfonic acid, 8-(phenylamino)-monosodium salt	ACY, SDC.
1-Naphthalenesulfonic acid, sodium salt	SDC.
2-Naphthalenesulfonic acid, sodium salt	CGY.
Naphthalimide	GWM.
Naphthalimide	SDC, VFC.
1-Naphthol (α -Naphthol)	UCG.
Naphth[1,2-d][1,2,3]oxadiazole-5-sulfonic acid	CGY.
1-Naphthylamine (α -Naphthylamine)	CGY.
p-(2-Naphthylamino)phenol (N-(p-Hydroxyphenyl)-2-naphthylamine)	DUP.
Nicotinitrile (3-Cyanopyridine)	SDC.
3-Miro-6-pyrrolodiny toluene	NEP, RIL.
	ALI.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
3'-Nitroacetamide	EKT.
o-Nitroaniline	BUC, DUP, MON.
p-Nitroaniline	DUP, MON.
5-Nitroanthranilic acid	CGI.
1-Nitroanthraquinone	SDC.
p-Nitrobenzamide	PD.
*Nitrobenzene	DUP, FST, ICI, MOB, RUC.
m-Nitrobenzenesulfonic acid, sodium salt	USM.
o-Nitrobenzoic acid	SAL.
m-Nitrobenzoic acid	SAL, SDH.
p-Nitrobenzoic acid	DUP.
n-Nitrobenzoic acid, sodium salt	SAL.
p-Nitro benzyl alcohol	SDM.
p-Nitrobenzylmalonate magnesium salt	X.
2-Nitro-p-cresol	PSG.
Nitrodiphenylamine	ACY, MON.
5-Nitrosophthalic acid	SAL.
4-Nitro-N-methylphthalimide	LAK.
1-Nitronaphthalene	DUP.
1-Nitronaphth[1,2-d][1,2,3]oxadiazole-5-sulfonic acid	CGY.
7(and 8)-Nitronaphth[1,2-d][1,2,3]oxadiazole-5-sulfonic acid	PCM.
p-Nitrophenethyl alcohol	MON.
o-Nitrophenol	DUP, MON.
p-Nitrophenol	DUP.
2-(o-Nitrophenylazo)-p-cresol (OH=1)	CGY.
2-(o-Nitrophenylazo)-4,6-di-tert-pentylphenol (OH=1)	CGY.
4-Nitro-o-phenylenediamine	FMT.
5-Nitrosalicylaldehyde	EK.
p-Nitrosophenol	LC, SDC, VPC.
4-Nitrosophenol, sodium salt	SDC.
o-Nitrotoluene	DUP, FST.
m-Nitrotoluene	DUP, FST.
p-Nitrotoluene	DUP, FST.
Nitrotoluene mixtures	FST.
p-Nitrotoluene-o-sulfonic acid	CGI.
Benzyl-dinonylphenol, mixture	USR.
*Nonylphenol	GAF, KUH, MCB, MON, RH, SCN, TX.
n-Octylglucamine	X.
Octylphenol	PSG, RH, SCN.
Octylphenoxydiethoxy chloride	RH.
3-Oxo-1,2-benzisothiazoline-2-acetic acid, methyl ester, 1,1-dioxide	PFZ.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
Oxaluminum benzoate	CHT.
4,4'-Oxydianiline	DUP.
Parahydroxyphenylglycine potassium methyl dane salt	KAN.
para-Pentylxyphenol	EK.
para-Phenoxy benzoyl chloride	OMC.
Pentabromochlorocyclohexane	DOW.
Pentamethoxybenzene	TRA.
Pentamethylamine	X.
1,1,3,3,5-Pentamethylindan	GIV.
o-Pentylphenol (o-Amylphenol)	PAS, X.
p-tert-Pentylphenol	PAS.
2(3-Pentyl)pyridine	RIL.
Permethrin acid chloride	VTC.
3,4,9,10-Perylenetetracarboxylic-3,4:9,10-dianhydride	VPC.
3,4,9,10-Perylenetetracarboxylic-3,4:9,10-diimide	SDC, VFC.
Perylo[3,4-cd:9,10-c'd']dipyracn-1,3,8,10-tetrone	SDC.
1,10-Phenanthroline	VNC.
α-Phenethylamine	HKL.
2-Phenethylamine	HKL.
p-Phenetidine	MON.
Phenetole	ESA.
*PHENOL:	
NATURAL:	
FROM PETROLEUM:	
Phenol, natural, from petroleum, U.S.P.	MER.
Phenol, natural, from petroleum, all other	FER.
SYNTHETIC:	
Phenol, benzylated	MIL.
Phenol, styrenated	MIL.
Phenol, synthetic, from chlorobenzene by vapor-phase hydrolysis, U.S.P.	BTL, TX.
*Phenol, synthetic, from cumene by oxidation, U.S.P.	ACS, CLK, DOW, GCC, GE, SHC, USS.
Phenol, synthetic, from toluene by oxidation, U.S.P.	KLM.
Phenolsulfonaphthalein, sodium salt	EK.
Phenolsulfonic acid	SAL.
Phenolsulfonic acid, sodium salt	SAL.
Phenoxyacetic acid, sodium salt	NCC.
3-Phenoxybenzaldehyde	TRA.
3-Phenoxybenzaldehyde acetal	TRA.
3-Phenoxybenzaldehyde cyanohydrin	TRA.
3-Phenoxybenzenemethanol	TRA.
2-(Phenoxyethyl)benzoic acid	PFZ, SOL.
m-Phenoxytoluene	MER.

TABLE 2. --CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
Phenylacetic acid, potassium salt	SFS.
4-(Phenylazo)diphenylamine	EK.
4-Phenyl-1-butene	X.
o-Phenylenediamine	DOP, PSG.
m-Phenylenediamine	DOP, FST.
p-Phenylenediamine	DOP, NES, SDC.
d-Phenylephrine	SDM.
dl-Phenylephrine base	SDM.
Phenyl ether (Diphenyl oxide)	DOM, MON.
d(+)-α-Phenylethylamine	HL.
dl-2-Phenylglycine (racemic)	KF.
d(-)-2-Phenylglycine potassium ethyl dane salt	KAN.
Phenylglycine, potassium salt	BCC.
Phenylglycine, sodium salt	BCC.
Phenylhydrazoquinone	EKT, LIL.
2,2'-(Phenyl)amino]diethanol (N-Phenyldiethanolamine)	EKT, TCH.
2,2'-(Phenyl)amino]diethanol, diacetate ester	MIL, TCH.
Phenylmalonic acid	X.
Phenylmercuric carboxylate	GOS.
3-Phenyl-5-methylisoxazole-4-carbonyl chloride	TCH.
Phenyl-α-naphthylamine	UGG.
o-Phenylphenol	DOM.
p-Phenylphenol	DOM.
o-Phenylphenol, sodium salt	DOM.
N-Phenyl-p-phenylenediamine	FER.
Phenylphosphinic acid	FER.
Phenylphosphorous dichloride	FER.
1-Phenyl-1,2-propanedione, 2-oxime	ORT.
4-Phenylpyrrolidine	RIL.
1-Phenyl-2-tetrazoline-5-thione	EK.
4-Phenylthiomorpholine-1,1-dioxide	EKT.
Phthalic acid	EK.
*Phthalic anhydride	DBC, ENJ, KFT, MON, STP, TU.
Phthalimide	PSG.
Phthalocyaninato(2-)copper	FHC.
Phthalocyaninebisulfonfyl chloride, copper derivative	VFC.
[Phthalocyaninetetramethanato]copper	X.
Phthalocyaninetetrafluoronyl chloride, copper derivative	VFC.
Phthaloyl chloride (Phthalyl chloride)	TLC.
PICOLINES:	
Picoline (3,4-mixture)	RIL.
2-Picoline (α-Picoline)	RIL.
3-Picoline (β-Picoline)	NEP, RIL.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
4-Picoline (γ-Picoline)	RIL.
3-Picoline-N-oxide	RIL.
4-Picoline-N-oxide	RIL.
Picolinic acid	NEP.
Picolinonitrile (2-Cyanopyridine)	NEP.
2-Picolylamine	RIL.
3-Picolylamine	RIL, SDC.
Picric acid (Trinitrophenol)	SDC.
2-Pipecoline	RIL.
Piperazine mixture, crude	TX.
Piperidine	ABB, RIL.
Polyethylbenzene (80 percent diethylbenzene)	ELP.
4-Propionylpyridine	RIL.
Propiophenone	HEX, ORT.
8,16-Pyranthrene-dione	HEX, ORT.
1,3,6,8-Pyrenetetrasulfonic acid	PCW.
1,3,6,8-Pyrenetetrasulfonic acid	X.
PYRIDINE, REFINED:	
2° Pyridine, refined	NEP, RIL.
Pyridine, refined all other grades	CGY, RIL.
Pyridine hydrochloride	RSA.
3-Pyridinemethanol	RIL.
2-Pyridinethiol-1-oxide, sodium salt	OMC.
2-Pyridinethiol-1-oxide, zinc salt	OMC.
4-Pyridylacetone	RIL.
N-(2-Pyridyl)-4-hydroxy-2-methyl-2H-1,2-benzothiazine-3-carboxamide, 1,1-dioxide	PFZ.
2-Pyrimidinol	CGY.
2-Pyrrolidinone (2-Pyrrolidone)	GAF.
Pyriminium pamoste	X.
Quinacridine	ACY.
QUINOLINE:	
Quinoline, 1° and 2°	KPT.
Quinoline-2,3-dicarboxylic acid	MES.
Quinoline, other grades	KPT.
8-Quinolinal	SOL.
8-Quinolinal zinc salt	SOL.
Quinone dioxime	LC.
Resorcinol, tech.	KPT.
8-Resorcylic acid, lead salt	KPT.
Salicylaldehyde	EDA.
Salicylaldehyde oxime	EK.
Salicylanilide	PCW.
*Salicylic acid, tech.	DOM, KLM, HON, SDH.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
Sodium p-sulfophenylmethyl ether	SAL.
Sodium trichlorobenzenesulfate	UPF.
*Styrene (Vinylbenzene)	AMO, ATR, GSD, DOM, ELP, GOC, HST, MCB, MON, PLC, SHC, USS.
Sulfaguanidine	SAL.
5-Sulfisophthalic acid, 1,3-dimethyl ester	PCM.
5-Sulfisophthalic acid, 1,3-dimethyl ester, sodium salt	DUP.
5-Sulfisophthalic acid, lithium salt	PCM.
5-Sulfisophthalic acid, sodium salt	PCM.
4,4'-Sulfonyldiphenol (4,4'-Dihydroxydiphenyl sulfone)	CRZ.
4-Sulfofthalic acid	CWN.
*Terephthalic acid	AMO, HCF.
*Terephthalic acid, dimethyl ester	DUP, EKT, HCF.
Terephthaloyl chloride	DUP.
Terephthaloyl diacetic acid, diethyl ester	PCM, TLC.
Terphenyl (Phenylbiphenyl) (m-, o-, and p-isomers)	MON.
Terpinene-4-ol	X.
Tetrabromophthalic anhydride	TMA.
2,4,4',5'-Tetrachlorophenylsulfone	SDH.
Tetrachlorophthalic anhydride	MOR.
Tetrahydrobenzyl alcohol	UCC.
*Tetrahydrofuran	UCC.
1,2,3,4-Tetrahydronaphthalene	BAS, DUP, GAF, QKO.
1,2,3,4-Tetrahydro-2,2,4,7-Tetramethylquinoline	UCC.
1,2,3,4-Tetrahydro-2,2,4,7-Tetramethylquinoline	EKT.
1,2,4,5-Tetramethylbenzene (Durene)	KHI.
p-(1,1,3,3-Tetramethylbutyl)phenol	GAF.
1,3,6,8-Tetrahydro-9H-carbazole	SDC.
Tetrahydrofurfurylamine	HLL.
Thiodiphenol	CRZ.
2-Thiophenacetic acid	SFS.
2-Thiophenacetamide	SFS.
2-Thiophenacetonyl chloride	SFS.
2-Thiophenecarboxaldehyde	TWA.
Thiophenol	SFA, SFS.
Toluene-2,3-(and 3,4)-diamine (35/65 Mixture)	OMC.
Toluene-2,4-diamine (4-m-Tolylenediamine)	RUC, UCC, X.
Toluene-2,4-(and 2,6)-diamine (80/20 Mixture)	OMC.
Toluene-3,4-diamine	X.
Toluenediamine-bis-malsimide	RES.
*p-Toluenesulfonic acid	RES, TEN, UPF.
p-Toluenesulfonic acid, aniline salt	RES.
p-Toluenesulfonic acid, copper salt	RES.
p-Toluenesulfonyl chloride	MON.
m-Toluic acid	WTC.
p-Toluic acid, methyl ester	HCF.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
o-Toluidine	DUP, FST.
m-Toluidine	DUP, FST.
p-Toluidine	DUP, FST.
2-o-Toluidinoethanol	TCH.
o-Toluidinemethanesulfonic acid	CGY.
2,2'-(m-Tolylimino)diethanol	MIL, TCH.
2,2'-(m-Tolylimino)diethanol, diacetate ester	SDC.
Tolytriazole	PGG.
Tolytriazine, sodium salt	DIX.
2,4,6-Trimino-5-nitrosopyrimidine	SK.
m,N,N-Tribenzylamine	HKL.
ar-Tribromoethyl benzene	DAZ.
2,4,6-Tribromophenol	GTL.
3,4',5-Tribromosalicylamide	PCM.
1,2,3(and 1,2,4)-Trichlorobenzene	PPG, SCC.
1,2,4-Trichlorobenzene	SCC.
3-Trichloromethyl-1,2,4-thiadiazole	OMC.
Trichlorophenylsilane	DGC.
α, α-Trichlorotoluene (Benzotrichloride)	HK, VEL.
2,4,6-Trichloro-s-triazine (Cyanuric chloride)	DGC.
Tri(dimethylammonomethyl)phenol	PEL.
Trimellitic trichloride	TLC.
Trimesic acid	ABB.
1,2,4-Trimethylbenzene (Pseudocumene)	ABB.
1,3,3-Trimethyl- <i>f</i> 2, α-indolineacetaldehyde	KHI.
Trimethylphenylammonium chloride	VFC.
Triphenylmethane	X.
Triphenylphosphine	EK.
Triphenylsulfonium chloride	X.
Triphenylsulfonium hexafluorophosphate	SOL.
α, α', α'', Tris(dimethylamino)mesitol	SOL.
Tris(2-methyl-1-aziridinyl)phosphine oxide	RH.
7,7'-Ureylenebis[4-hydroxy-2-naphthalenesulfonic acid] (J-Acid urea)	ABS.
Veratraldehyde (3,4-Dimethoxybenzaldehyde)	CGY.
Vinylcyclohexane	GIV.
Vinylcyclohexene monoxide	DUP.
2-Vinylpyridine	UCC.
4-Vinylpyridine	REL.
*o-Xylene (90-100% of o-xylene isomer)	ATL.
m-Xylene (90-100% of m-xylene isomer)	ATL, DUP, ENJ, KHI, PPR, SHC, TCH, TOC.
*p-Xylene (90-100% of p-xylene isomer)	AHO.
	AHO, ATR, ENJ, KHI, PPR, SOC, STX, TOC.

TABLE 2.--CYCLIC INTERMEDIATES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1965--CONTINUED

CYCLIC INTERMEDIATES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
2,4-Xylenesulfonic acid-----	UPE.
2,5-Xylenesulfonic acid-----	NES.
2,6-Xylenol-----	GE.
3,5-Xylenol-----	FER.
XYLENOIS:	
xylenol, low boiling point-----	NER.
XYLIDINES:	
Xylidine, original mixture-----	DUF.
Cyclic intermediates, all other-----	ACY, ANG, ARA, CCY, DUP, FER, HCF, HEX, HK, HST, HXL, LG, HCK, MIL, MET, NES, NOD, OMC, PAH, PCW, PD, PFZ, FSG, RIL, SCH, SDC, SD, SDM, SFS, SOL, SRL, STC, TGH, TMA, UCC, UFJ, VFC, WTC, X, X, X, X, X, X, X, X, X, X.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 3.--CYCLIC INTERMEDIATES: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of cyclic intermediates to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE :	NAME OF COMPANY	CODE :	NAME OF COMPANY
:	:	:	:
:	:	:	:
ABB :	Abbott Laboratories	GGC :	Georgia-Gulf Corp.:
ACY :	American Cyanamid Co.	:	Boundbrook Div.
ACS :	Allied Corp., Chemical Sector	:	Houston Div.
AIP :	Air Products & Chemicals, Inc.	:	Plaquemine Div.
ALD :	Aldrich Chemical Co., Inc.	GIV :	Givaudan Corp.
ALL :	Alliance Chemical, Inc.	GLY :	Glyco, Inc.
AMB :	American Bio-Synthetics Corp.	GNW :	Greenwood Chemical Co.
AMO :	Amoco Corp.	GOC :	Chevron Chemical Corp.
ANG :	Angus Chemical Co.	GP :	Georgia-Pacific Corp.:
ARA :	Syntex Chemicals, Inc.	:	Houston Div.
ARK :	Armstrong World Industries, Inc.	:	Plaquemine Div.
ARS :	Arsynco, Inc.	GRS :	Champlin Petroleum Co.
ARZ :	Arizona Chemical Co.	GTL :	Great Lakes Chemical Corp.
ASH :	Ashland Oil, Inc., Ashland Petroleum Co.	CYR :	Goodyear Tire & Rubber Co.
ATL :	Atlantic Industries, Inc.	:	:
ATR :	Atlantic Richfield Co., Arco Chemical Co.	:	:
:	:	HCF :	Cape Industries
BAS :	BASF Corp.	HEX :	Hexagon Laboratories, Inc.
BCC :	Buffalo Color Corp.	HK :	Occidental Chemical Corp., Industrial & Specialty
BFG :	B. F. Goodrich Co., B. F. Goodrich Chemical	:	Chemical Div.
:	Group	HML :	Hummel Chemical Co.
BKM :	Buckman Laboratories, Inc.	HPC :	Hercules, Inc.
BRD :	Lonza, Inc.	HST :	American Hoechst Corp.:
BRS :	Bristol-Myers Co.	:	Petrochemicals/Plastics Group
BTL :	BTL of Illinois, Inc.	:	Specialty Products Group, Rhode Island Works
:	:	HXL :	Hexcel Corp., Hexcel Chemical Products
:	:	:	:
CGY :	Ciba-Geigy Corp.	ICI :	ICI Americas, Inc., Chemicals Div.
CHF :	Kincoid Enterprises, Inc.	:	:
CHT :	Chettem, Inc.	KAN :	Kanasco, Ltd
CLK :	Clark Oil & Refining Corp.	KF :	Dynamit Nobel of America Dynamit Nobel
CNP :	Nipro, Inc.	:	Chemical Div.
COS :	Cosan Chemical Corp.	KHI :	Koch Refining Co.
CPS :	CPS Chemical Co., Inc.	KLM :	Kalama Chemical, Inc.
CRZ :	Crown Zellenback Corp., Chemical Products	KPT :	Koppers Co., Inc.
:	Div.	:	:
CSD :	Fina Oil & Chemicals Co., Cosden	LAK :	Bofors Nobel, Inc.
:	Chemical Div.	LC :	Lord Corp., Chemical Products Group
CWN :	Upjohn Co., Fine Chemical	LEM :	Napp Chemicals, Inc.
CXI :	Chemical Exchange Industries, Inc.	LTL :	Eli Lilly & Co.
CYH :	Cychem, Inc.	LYP :	Lyondell Petrochemical Co.
:	:	:	:
DAZ :	Diaz Chemical Corp.	MAL :	Mallinckrodt, Inc.
DBC :	Bedische Corp.	MCB :	Borg-Warner Corp., Borg-Warner Chemicals
DCC :	Dow Corning Corp.	MCK :	MacKenzie Chemical Works, Inc.
DGC :	Degussa Corp.	MER :	Merichem Co.
DIX :	Dixie Chemical Co., Inc.	MET :	M & T Chemical, Inc.
DKA :	Denka Chemical Corp.	MIL :	Milliken & Co., Milliken Chemical Co.
DOW :	Dow Chemical Co.	MLC :	Melamine Chemicals, Inc.
DUP :	E. I. duPont de Nemours & Co., Inc.	MOB :	Mobay Chemical Corp., Pittsburgh Div.
:	:	MON :	Monsanto Co.
EK :	Eastman Kodak Co.:	MRT :	Morton-Thiokol, Inc., Morton Chemical
EKT :	Tennessee Eastman Co. Div.	:	Div.
ELP :	El Paso Products Co.	:	:
ENJ :	Exxon Chemical Americas	NCC :	Nisacet, Inc.
:	:	NCI :	Union Camp Corp., Terpene & Aromatics Div.
FER :	Ferro Corp.:	NEP :	Nepera, Inc.
:	Ferro Chemical Div.	NES :	Ruetgers-Nease Chemical Co.
:	Grant Chemical Div.	NOD :	Nuodex, Inc.
:	Productol Chemical Div.	NPC :	Northwest Petrochemical Corp.
FKE :	Frank Enterprises, Inc.	NSC :	National Starch & Chemical Corp.
FMC :	FMC Corp.:	:	:
FMN :	Agricultural Chemical Group	OMC :	Olin Corp.
FMT :	Fairmount Chemical Co., Inc.	ORT :	Roehr Chemicals, Inc.
FST :	First Chemical Corp.	OSX :	Oxsynex, Inc.
:	:	:	:
GAF :	GAF Corp., Chemical Group	PAH :	Parish Chemical Co.
GE :	General Electric Co.	PAS :	Pennwalt Corp.
:	:	:	:

TABLE 3.--CYCLIC INTERMEDIATES: DIRECTORY OF MANUFACTURERS, 1985--Continued

CODE :	NAME OF COMPANY	CODE :	NAME OF COMPANY
PCW :	Pfister Chemical, Inc.	SRL :	G. D. Searle & Co.
PD :	Parke-Davis Div. of Warner-Lambert Co.	STC :	American Hoechst Corp., Sou-Tex Works
PEL :	Pelron Corp.	STP :	Stepan Chemical Co.
PFZ :	Pfizer, Inc., & Pfizer Pharmaceuticals, Inc.	STX :	St. Croix Petrochemical Corp.
PHC :	Phthalchem, Inc.	SUN :	Sun Company, Inc.
PLC :	Phillips Petroleum Co.		
PLN :	Disogrin Industries Corp.	TCC :	Sybron Chemical, Inc.
PPG :	PPG Industries, Inc.	TCH :	Emery Industries, Inc., Tylon Div.
PPR :	Phillips Puerto Rico Core, Inc.	TEN :	Tennessee Chemical Co.
PPX :	Phillips Paraxylene, Inc.	TIL :	Tillett Chemical Co.
PRL :	Petrolite Corp.	TLC :	Twin Lake Chemical, Inc.
PSG :	PMC Specialities Group Inc.	TNA :	Ethyl Corp.
		TOC :	Tenneco Oil Co.
QKO :	QO Chemicals, Inc.	TRD :	Squibb Manufacturing, Inc.
		TU :	Tenn-USS Chemicals Co.
RDA :	Rhone-Poulenc, Inc.	TX :	Texaco, Inc., Texaco Chemical Co.
REG :	Regis Chemical Co.		
RH :	Rohm & Haas Co.	UCC :	Union Carbide Corp.
RIL :	Reilly Tar & Chemical Corp.	UOC :	Union Oil Co., of California
RSA :	R.S.A. Corp.	UPF :	Jim Walter Resources, Inc., CIC Div.
RUC :	Rubicon, Inc.	UPJ :	Upjohn Co. & Polymer Chemical Div.
		UPM :	UDP, Inc., UOP Process Div.
SAL :	Salsbury Laboratories, Inc.	USM :	Crown Metro, Inc.
SCC :	Standard Chlorine of Delaware, Inc.	USR :	Uniroyal, Inc., Uniroyal Chemical Div.
SCH :	Schering Corp.	USS :	U.S. Steel Corp., USS Chemicals Div.
SCN :	Schenectady Chemicals, Inc.		
SD :	Sterling Drug, Inc., Sterling Pharmaceuticals, Inc.	VEL :	Velsicol Chemical Corp.
SDC :	Sandoz Chemicals Corp.	VGC :	Virginia Chemicals, Inc.
	Sterling Drug, Inc.:	VNC :	Vanderbilt Chemical Corp.
SDH :	Hilton Davis Chemical Co.	VPC :	Mobay Chemical Corp., Dyes & Pigments Div.
SDW :	Sterling Organics Div.	VST :	Vista Chemical Co.
	Stauffer Chemical Co.:	VTC :	Vertac Chemical Corp.
SFA :	Agricultural Products Div.		
SFS :	Specialty & Intermediates Div.	WAY :	Philip A. Hunt Chemical Corp., Organic Chemical Div.
SHC :	Shell Oil Co., Shell Chemical Co. Div.	WTC :	Witco Chemical Corp.
SK :	SmithKline Beckman Corp., SmithKline Chemicals Div.	WYK :	Wyckoff Chemical Co., Inc.
SOC :	Chevron Corp., Chevron Chemical Co.	WYT :	Wyeth Laboratories, Inc., Wyeth Laboratories Div. of American Home Products Corp.
SOI :	Specialty Organics, Inc.	ZOC :	Zoecon Corp. (Bosch)
SOL :	Southland Corp., Fine Chemical Div.		

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION IV -- DYES

STATISTICAL HIGHLIGHTS

Stephen Wanser

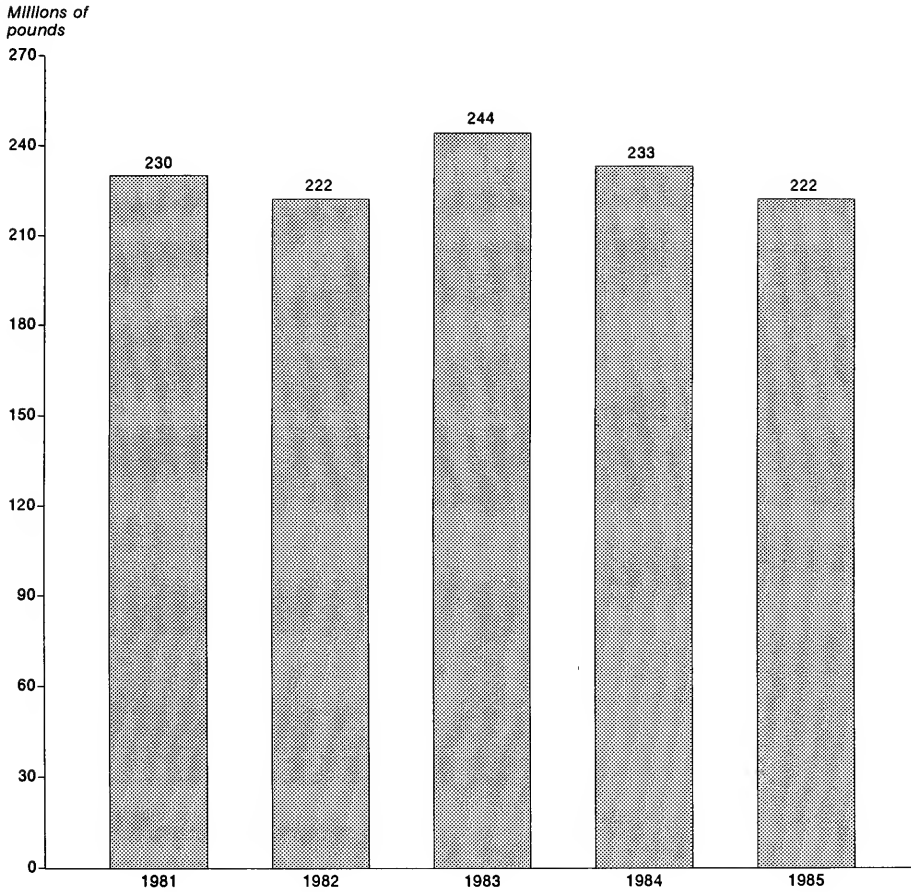
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Synthetic dyes are derived in whole or in part from cyclic intermediates. Approximately two-thirds of the dyes consumed in the United States are used by the textile industry to dye natural and synthetic fibers or fabrics; about one-sixth is used for coloring paper; and the rest is used chiefly in the production of organic pigments and in dyeing leather and plastics. Of the several thousand different synthetic dyes that are known, more than one thousand are manufactured by domestic producers, collectively. The large number of dyes results from the many different types of materials to which dyes are applied, the different conditions of service for which dyes are required, and the cost that a particular use can bear. Commercial dyes are formulated products which are sold in a variety of physical forms (e.g.) granular, powders, liquids, and pastes) containing concentrations of colorant ranging from 6 percent (approximately) to 100 percent. In the statistical tables, production and sales quantities are expressed in terms of a standard strength of product (based on dyeing performance) and not in terms of the amount of actual colorant.

Total domestic production of dyes in 1985 amounted to 222 million pounds, or 4.6 percent less than the 233 million pounds produced in 1984 (table 1). Sales of dyes in 1985 amounted to 267 million pounds, valued at \$651 million, compared with 221 million pounds, valued at \$691 million, in 1984. In terms of quantity, sales of dyes in 1985 were 21 percent more than in 1984 and in terms of value, 5.9 percent less. The average unit value of sales of all dyes in 1985 was \$2.43 per pound, compared with \$3.13 per pound in 1984.

Production of two classes of dyes increased in 1985, while the remaining eight major classes registered slight to moderate decreases in their production. Mordant dyes increased by 39 percent from 288 thousand pounds in 1984 to 339 thousand pounds in 1985; acid dyes decreased by 24.0 percent to 19.1 million pounds in 1985 from 25.1 million pounds in 1984. Changes in U.S. production of synthetic dyes followed overall changes in U.S. economic activity during 1981-85 (see figure 1).

Figure 1.—Dyes.



Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.



TABLE 1.--DYES: U.S. PRODUCTION AND SALES, 1985

[Listed below are all dyes for which any reported data on production or sales may be published. (Leaders (...) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all dyes for which data on production and/or sales were reported and identifies the manufacturers of each]

DYES	PRODUCTION		SALES	
	1,000 pounds	1,000 pounds	QUANTITY	UNIT VALUE ¹
			1,000 dollars	Per pound
Grand total-----	222,127	267,283	650,580	\$2.43
ACID DYES				
Total-----	19,116	32,916	83,438	2.53
Acid yellow dyes, total-----	3,114	7,775	10,424	1.34
Acid Yellow 17-----	97	105	609	5.81
Acid Yellow 23-----	46	79	338	4.26
Acid Yellow 36-----	...	40	232	5.72
Acid Yellow 49-----	...	190	517	2.72
Acid Yellow 151-----	902	...	...	...
All other-----	2,069	7,361	8,728	1.19
Acid orange dyes, total-----	4,322	6,899	8,855	1.28
Acid Orange 7-----	180	119	310	2.60
Acid Orange 156-----	2,252	...	...	...
All other-----	1,890	6,780	8,545	1.28
Acid red dyes, total-----	4,131	8,216	23,592	2.87
Acid Red 1-----	155	127	391	3.09
Acid Red 73-----	89	...	...	...
Acid Red 137-----	65	69	465	6.74
Acid Red 151-----	126	215	362	1.69
Acid Red 182-----	355	314	1,502	4.78
All other-----	3,341	7,491	20,872	2.79
Acid violet dyes-----	76	106	805	7.67
Acid blue dyes total-----	4,841	7,189	28,358	3.94
Acid Blue 145-----	...	25	299	11.96
Acid Blue 324-----	1,224	1,424	7,232	5.08
All other-----	3,617	5,740	20,827	3.63
Acid green dyes-----	107	153	1,355	8.83
Acid brown dyes-----	399	431	2,140	4.96
Acid black dyes, total-----	2,126	2,147	7,909	3.68
Acid Black 1-----	236	207	583	2.81
Acid Black 52-----	634	...	...	...
All other-----	1,256	1,940	7,326	3.78
BASIC DYES (CLASSICAL AND MODIFIED)				
Total-----	11,661	11,156	56,146	5.03
Basic yellow dyes-----	3,198	3,035	10,144	3.34
Basic orange dyes, total-----	628	622	2,822	4.54
Basic Orange 2-----	211	189	498	2.64
All other-----	417	433	2,324	5.35
Basic red dyes, total-----	1,550	1,520	6,466	\$4.26
Basic Red 12-----	242	245	1,302	5.31
Basic Red 15-----	444	421	1,122	2.67
All other-----	864	854	4,042	4.73

See footnotes at end of table.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--DYES: U.S. PRODUCTION AND SALES, 1985--CONTINUED

DYES	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
BASIC DYES (CLASSICAL AND MODIFIED)--Continued				
Basic violet dyes, total-----	3,393	3,089	10,208	3.30
Basic Violet 1-----	1,773	1,621	3,610	2.23
Basic Violet 3-----	1,117	953	3,566	3.74
All other-----	503	515	3,032	5.88
Basic blue dyes, total-----	1,641	1,524	12,006	7.88
Basic Blue 1-----	56	51	365	7.20
All other-----	1,585	1,473	11,641	7.90
All other basic dyes-----	1,251	1,366	14,500	10.69
DIRECT DYES				
Total-----	29,661	56,415	79,394	1.41
Direct yellow dyes, total-----	11,335	11,683	23,273	1.99
Direct Yellow 4-----	558	501	1,528	3.05
Direct Yellow 127-----	700	932	1,641	1.76
All other-----	10,077	10,250	20,104	1.96
Direct orange dyes, total-----	1,560	2,561	4,376	1.71
Direct Orange 15-----	...	733	662	.90
Direct Orange 102-----	458	...	...	...
All other-----	1,102	1,828	3,714	2.03
Direct red dyes, total-----	5,084	7,320	17,219	2.35
Direct Red 72-----	491	528	2,054	3.89
Direct Red 81-----	396	441	1,537	3.49
Direct Red 83-----	90	146	344	2.36
Direct Red 236-----	978	1,167	2,350	2.01
Direct Red 254-----	1,140	...	...	...
All other-----	1,989	5,038	10,934	2.17
Direct violet and green dyes-----	252	730	1,110	1.52
Direct blue dyes, total-----	5,317	13,198	19,216	1.46
Direct Blue 80-----	228	221	821	3.71
Direct Blue 86-----	497	736	2,600	3.53
Direct Blue 199-----	398	420	1,657	3.94
Direct Blue 218-----	734	1,676	3,089	1.84
All other-----	3,460	10,145	11,049	1.09
Direct brown dyes-----	194	419	1,715	4.10
Direct black dyes, total-----	5,919	20,504	12,485	.61
Direct Black 22-----	1,216	...	...	...
Direct Black 80-----	1,190	1,162	2,511	2.16
All other-----	3,513	19,342	9,974	.52

See footnotes at end of table

IV -- DYES

TABLE 1.--DYES: U.S. PRODUCTION AND SALES, 1985--CONTINUED

DYES	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
DISPERSE DYES				
Total-----	25,091	25,735	94,318	\$3.66
Disperse yellow dyes-----	1,666	2,129	6,195	2.91
Disperse orange dyes, total-----	3,742	3,226	8,152	2.47
Disperse Orange 25 and 25:1-----	253	237	563	2.38
Disperse Orange 30-----	1,991	1,599	3,505	2.19
Disperse Orange 37-----	191	165	449	2.72
Disperse Orange 44 and 44:1-----	300	184	523	2.84
All other-----	1,007	1,041	3,112	2.99
Disperse red dyes, total-----	4,705	4,932	25,889	5.25
Disperse Red 1-----	...	141	411	2.91
Disperse Red 5-----	39	48	135	2.83
Disperse Red 73-----	422	305	1,158	3.80
Disperse Red 133-----	...	172	1,574	9.17
Disperse Red 177-----	297	481	1,872	3.89
Disperse Red 179-----	204	188	727	3.86
All other-----	3,743	3,597	20,012	5.56
Disperse violet dyes-----	294	354	2,133	6.05
Disperse blue dyes, total-----	12,647	12,236	42,762	3.49
Disperse Blue 3-----	...	436	1,976	4.54
Disperse Blue 64-----	...	118	639	5.43
Disperse Blue 79 ² -----	6,316	6,008	7,757	1.29
All other-----	6,331	5,674	32,390	5.71
Disperse black, brown and green dyes, total-----	2,037	2,858	9,187	3.25
Disperse Brown 1-----	753	478	1,455	3.04
Disperse Black 9-----	542	...	...	...
All other-----	742	2,380	7,732	3.25
FIBER-REACTIVE DYES				
Total-----	6,839	7,166	51,357	7.17
FLUORESCENT BRIGHTENING AGENTS				
Total-----	58,028	61,370	73,884	1.20
FOOD, DRUG, AND COSMETIC COLORS				
Total-----	6,049	5,837	58,749	10.07
Food, Drug and Cosmetic Dyes, Total-----	5,681	5,484	50,774	10.06
FD&C Red No. 3-----	412	369	5,505	14.93
FD&C Yellow No. 5-----	1,308	1,294	6,639	5.13
FD&C Yellow No. 6-----	987	1,024	4,811	4.70
All other food, drug, and cosmetic, dyes-----	2,974	2,797	33,819	12.09

See footnotes at end of table.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--DYES: U.S. PRODUCTION AND SALES, 1985--CONTINUED

DYES	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
FOOD, DRUG, AND COSMETIC COLORS--Continued				
Drug and Cosmetic Dyes, Total-----	363	349	7,810	\$22.38
D&C Red No. 6-----	59	58	761	13.13
D&C Red No. 7-----	100	111	1,147	10.36
D&C Red No. 27-----	...	6	230	41.56
D&C Red No. 33-----	...	7	261	39.04
D&C Yellow No. 10-----	61	65	2,997	45.42
All other drug and cosmetic dyes-----	143	102	2,414	23.73
DRUG AND COSMETIC DYES EXTERNAL				
	5	4	165	37.79
MORDANT DYES				
Total-----	339	1,284	1,183	.92
SOLVENT DYES				
Total-----	10,740	7,505	32,019	4.27
Solvent yellow dyes-----	1,534	1,242	6,289	5.06
Solvent orange dyes-----	813	738	2,994	4.06
Solvent red dyes-----	2,768	2,391	11,293	4.72
Solvent blue dyes-----	2,901	625	4,160	6.65
All other solvent dyes-----	2,724	2,509	7,283	2.90
VAT DYES				
Total-----	36,330	39,091	84,095	2.15
Vat yellow dyes-----	48	182	1,357	7.46
Vat orange dyes-----	99	194	1,163	5.99
Vat red dyes-----	738	806	5,457	6.77
Vat blue dyes-----	33,554	34,070	58,329	1.71
Vat green dyes-----	504	832	3,401	4.09
Vat brown dyes-----	893	1,533	6,674	4.35
Vat black dyes-----	184	1,155	5,457	4.73
Vat violet dyes-----	310	319	2,257	7.06
All other dyes ³ -----	18,273	18,808	35,997	2.62

¹Calculated from unrounded figures.

²Several close chemical analogs are marketed as Disperse Blue 79 or Disperse Blue 79 similar products. All of these analogs are aggregated in the statistics under the heading Disperse Blue 79.

³The data include azoic compositions, azoic coupling components, azoic diazo components (bases and salts), sulfur dyes, and miscellaneous dyes. Statistics for those groups of dyes may not be published separately because publication would disclose information received in confidence.

TABLE 2.--DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT]

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACID DYES	
*ACID YELLOW DYES:	
Acid Yellow 3	ACX
*Acid Yellow 17	ATL, CGY, CK, SDH.
Acid Yellow 19	ATL, CK.
*Acid Yellow 23	BAS, CK, LVR, MRX, WJ.
Acid Yellow 34	ATL, FAB.
*Acid Yellow 36	ATL, CGY, VPC.
Acid Yellow 40	CGY.
*Acid Yellow 49	CK, FAB, S, VPC.
Acid Yellow 54	CGY.
Acid Yellow 59	BAS.
Acid Yellow 65	ATL.
Acid Yellow 73	SDH.
Acid Yellow 87	CK.
Acid Yellow 99	CGY.
Acid Yellow 119	BAS.
Acid Yellow 127	CK.
Acid Yellow 129	CGY, CK.
Acid Yellow 135	ICI.
*Acid Yellow 159	CGY, CK, S, VPC.
Acid Yellow 174	CGY, CK.
Acid Yellow 198	FAB.
Acid Yellow 200	CK.
Acid Yellow 216	VPC.
Acid Yellow 219	CGY, CK, S.
Acid Yellow 226	BAS.
Acid Yellow 239	DEO.
Acid yellow dyes, all other	ATL, CK.
*ACID ORANGE DYES:	
*Acid Orange 7	ATL, BAS, CK, VPC.
Acid Orange 8	ATL, CK.
*Acid Orange 10	ATL, BAS, CGY, CK.
*Acid Orange 24	CGY, CK, S.
Acid Orange 47	CGY.
Acid Orange 51	CGY.
Acid Orange 60	CGY, CK.
Acid Orange 64	ATL.

TABLE 2.--DYES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACID DYES--CONTINUED	
*ACID ORANGE DYES--CONTINUED	
Acid Orange 69	ATL, FAB.
Acid Orange 86	CGY.
Acid Orange 89	BAS.
Acid Orange 116	CGY, CK.
Acid Orange 128	CK.
Acid Orange 152	CK.
*Acid Orange 156	CGY, CK, S, VPC.
Acid Orange 161	ATL.
Acid orange dyes, all other	CK, VPC.
*ACID RED DYES:	
*Acid Red 1	ATL, BAS, CGY, CK, FAB.
Acid Red 4	ATL, CGY.
Acid Red 14	ATL, BAS, WJ.
Acid Red 18	ATL.
Acid Red 57	CGY, CK.
*Acid Red 73	ATL, CK, PSC.
Acid Red 85	FAB.
Acid Red 87	SDH.
Acid Red 88	ATL.
Acid Red 97	BAS, CGY, FAB.
Acid Red 114	ATL.
Acid Red 119	CGY, CK, VPC.
*Acid Red 137	CK.
*Acid Red 151	BAS, CGY, CK, VPC.
Acid Red 167	ATL, CGY, CK.
Acid Red 174	ATL, CGY.
*Acid Red 182	CGY.
Acid Red 186	VPC.
Acid Red 194	CGY.
Acid Red 213	CGY.
Acid Red 226	CGY.
Acid Red 257	BAS.
Acid Red 266	CGY.
Acid Red 296	CK, CK, ICI, VPC.
Acid Red 299	BAS.
Acid Red 317	ATL, CK, VPC.
Acid Red 361	CK, S, VPC.
Acid Red 364	CGY, CK.
Acid Red 392	CK.
Acid Red 396	VPC.
Acid Red 408	ICI.
*Acid red dyes, all other	CGY.
	ATL, CGY, CK, EKT.

TABLE 2.--DYES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACID DYES--CONTINUED	
*ACID VIOLET DYES:	
Acid Violet 3	ATL, FAB.
Acid Violet 7	ATL, FAB.
Acid Violet 12	ATL, FAB.
Acid Violet 17	SDH
Acid Violet 49	SDH.
*ACID BLUE DYES:	
Acid Blue 9	BAS, SDH, WJ.
Acid Blue 15	BAS.
Acid Blue 25	CGY, CK, VPC.
Acid Blue 27	ATL, FAB.
Acid Blue 29	FAB.
Acid Blue 40	CK, VPC.
Acid Blue 41	CK.
Acid Blue 45	BAS, CGY.
Acid Blue 80	CGY.
Acid Blue 104	ATL, BAS.
Acid Blue 113	CK.
Acid Blue 118	CGY.
Acid Blue 145	ATL, CK, VPC.
Acid Blue 158, 158:1, and 158:2	CGY.
Acid Blue 231	CK.
Acid Blue 277	CGY.
Acid Blue 283	S.
Acid Blue 298	CK.
Acid Blue 321	ATL.
Acid Blue 324	CK, S, VPC.
Acid Blue 330	ATL.
Acid Blue 336	ICI.
Acid Blue 595	VPC.
*Acid blue dyes, all other--	
*ACID GREEN DYES:	
Acid Green 1	LVR.
Acid Green 5	WJ.
Acid Green 20	ATL, FAB.
Acid Green 25	ATL, CGY, CK.
Acid green dyes, all other--	
CK.	
*ACID BROWN DYES:	
Acid Brown 14	ATL, CGY, CK, S.
Acid Brown 19	CK.
Acid Brown 45	CGY.
Acid Brown 50	BAS.

TABLE 2.--DYES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACID DYES--CONTINUED	
*ACID BROWN DYES--CONTINUED	
Acid Brown 97	BAS, FAB.
Acid Brown 98	CGY.
Acid Brown 147	CK.
Acid Brown 160	BAS.
Acid Brown 161	BAS.
Acid Brown 165	BAS.
Acid Brown 227	BAS.
Acid Brown 239	CGY, CK.
Acid Brown 264	BAS.
Acid brown dyes, all other	BAS, CK, FAB.
*ACID BLACK DYES:	
*Acid Black 1	ATL, BAS, CGY, CK.
*Acid Black 52	CGY, CK, FAB, S.
*Acid Black 58	CGY.
Acid Black 60	CGY, CK.
Acid Black 63	BAS.
Acid Black 92	FAB.
Acid Black 107	CGY, CK, VFC.
Acid Black 172	CGY, ICI, VFC.
Acid Black 194	BAS.
*Acid black dyes, all other	ATL, CGY, CK, VFC.
AZOIC DYES AND COMPONENTS	
AZOIC COMPOSITIONS:	
AZOIC RED COMPOSITIONS:	
Azoic Red 11	ALL.
AZOIC DIAZO COMPONENTS, BASES:	
Azoic Diazo Component 4, base	ALL.
Azoic Diazo Component 5, base	ALL.
Azoic Diazo Component 13, base	ALL.
Azoic Diazo Component 14, base	ALL.
Azoic Diazo Component 32, base	ALL.
AZOIC DIAZO COMPONENTS, SALTS:	
Azoic Diazo Component 1, salt	ALL.
Azoic Diazo Component 3, salt	ALL.
Azoic Diazo Component 5, salt	ALL.
Azoic Diazo Component 8, salt	ALL.
Azoic Diazo Component 9, salt	ALL.
Azoic Diazo Component 10, salt	ALL, ATL.
Azoic Diazo Component 11, salt	ALL.

TABLE 2.---DYES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1984---CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
AZOIC DYES AND COMPONENTS---CONTINUED	
AZOIC DIAZO COMPONENTS, SALTS---CONTINUED	
Azoic Diazo Component 12, salt	ALL.
Azoic Diazo Component 13, salt	ALL.
Azoic Diazo Component 14, salt	ALL.
Azoic Diazo Component 20, salt	ATL.
Azoic Diazo Component 32, salt	ALL.
Azoic Diazo Component 34, salt	ALL.
Azoic Diazo Component 35, salt	ALL.
Azoic Diazo Component 42, salt	ALL.
Azoic Diazo Component 48, salt	ATL.
Azoic Diazo Component 49, salt	ALL.
Azoic diazo components, salt, all other	ALL.
AZOIC COUPLING COMPONENTS:	
Azoic Coupling Component 3	PCW.
Azoic Coupling Component 7	PCW.
Azoic Coupling Component 8	PCW.
Azoic Coupling Component 12	PCW.
Azoic Coupling Component 21	PCW.
Azoic Coupling Component 29	PCW.
Azoic Coupling Component 35	PCW.
Azoic Coupling Component 43	ALL.
BASIC DYES (CLASSICAL AND MODIFIED)	
*BASIC YELLOW DYES:	
Basic Yellow 2	ACY.
Basic Yellow 11	ATL, CK, VFC.
Basic Yellow 13	ATL, VFC.
Basic Yellow 15	CK.
Basic Yellow 21	VFC.
Basic Yellow 24	BAS.
Basic Yellow 25	BAS.
Basic Yellow 28	BAS.
Basic Yellow 29	BAS, CK, VFC.
Basic Yellow 37	ACY.
Basic Yellow 49	BAS.
Basic Yellow 53	CK.
Basic Yellow 58	VFC.
Basic Yellow 65	BAS.
Basic Yellow 78	BAS.
Basic Yellow 79	ACY, CK.

TABLE 2.--DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
BASIC DYES--CONTINUED	
*BASIC YELLOW DYES--CONTINUED	
Basic Yellow 83	CK.
Basic Yellow 96	BAS.
Basic yellow dyes, all other	X.
Basic yellow dyes, all other, modified	CGY, CK.
*BASIC ORANGE DYES:	
Basic Orange 1	CK, PSC.
Basic Orange 2	ATL, GGY, CK, PSC.
Basic Orange 21	ATL, GGY.
Basic orange dyes, all other	X.
Basic orange dyes, all other, modified	VFC.
*BASIC RED DYES:	
Basic Red 12	AGY, ATL, VFC.
Basic Red 14	BAS, VFC.
Basic Red 15	ATL, BAS, CK.
Basic Red 17	CK.
Basic Red 18	VFC.
Basic Red 22	CGY.
Basic Red 23	VFC.
Basic Red 29	BAS.
Basic Red 46	CK.
Basic Red 49	BAS, CK.
Basic Red 51	BAS.
Basic Red 54	BAS.
Basic Red 73	CK.
Basic Red 104	CK.
Basic red dyes, all other	CGY, X.
Basic red dyes, all other, modified	VFC.
*BASIC VIOLET DYES:	
Basic Violet 1	AGY, BAS, BCG, DSC.
Basic Violet 3	ACT, BAS, CK, DSC.
Basic Violet 4	ACT, DSC.
Basic Violet 10	AGY, BAS.
Basic Violet 16	BAS, VFC.
*BASIC BLUE DYES:	
Basic Blue 1	AGY, SHG, VFC.
Basic Blue 2	DSC.
Basic Blue 3	BAS, CK, VFC.
Basic Blue 7	DSC.
Basic Blue 21	CK.
Basic Blue 26	DSC.
Basic Blue 41	BAS, VFC.

TABLE 2.--DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
BASIC DYES (CLASSICAL AND MODIFIED)--CONTINUED	
*BASIC BLUE--CONTINUED	
Basic Blue 54	BAS.
Basic Blue 60	BAS.
Basic Blue 69	VFC.
Basic Blue 77	VFC.
Basic Blue 94 and 94:1	CK.
Basic Blue 140	VFC.
Basic blue dyes, all other	CGY, X.
Basic blue dyes, all other, modified	BAS, CK, VFC.
BASIC GREEN DYES:	
Basic Green 1	DSC.
Basic Green 4	ACT, BAS, DSC.
Basic green dyes, all other	X.
BASIC BROWN DYES:	
Basic Brown 1	CGY, PSC.
Basic Brown 4	ATL, CGY, PSC.
Basic brown dyes, all other	BAS.
BASIC BLACK DYES:	
Basic black dyes, all other	BAS, CGY, X.
Basic black dyes, all other, modified	CK, VFC.
DIRECT DYES	
*DIRECT YELLOW DYES:	
*Direct Yellow 4	ATL, BAS, CGY, CK, VFC.
Direct Yellow 5	CGY, BAS.
Direct Yellow 6	CGY, VFC.
Direct Yellow 11	BAS, VFC.
Direct Yellow 28	ATL, CK.
Direct Yellow 34	CGY, CK.
Direct Yellow 44	CGY, CK.
Direct Yellow 50	CGY.
Direct Yellow 84	CGY, S.
Direct Yellow 105	CGY.
Direct Yellow 106	CGY, CK.
Direct Yellow 107	CGY, CK.
Direct Yellow 118	CGY, CK.
Direct Yellow 119	CGY, CK.
*Direct Yellow 127	VFC.
Direct Yellow 132	BAS, CGY, CK, VFC.
Direct Yellow 133	S.
Direct Yellow 137	S.
Direct Yellow 137	VFC.

TABLE 2.--DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
DIRECT DYES--CONTINUED	
*DIRECT YELLOW--CONTINUED	
Direct Yellow 147	BAS, VPC.
Direct Yellow 148	S.
Direct Yellow 150	S.
Direct Yellow 152	S.
*Direct yellow dyes, all other	ATL, BAS, CGY, CK, SDG, VPC.
*DIRECT ORANGE DYES:	
Direct Orange 6	ATL.
*Direct Orange 15	BAS, CGY, FAB, VPC.
Direct Orange 28	CK.
Direct Orange 29	CGY.
Direct Orange 34	ATL, FAB.
Direct Orange 39	CGY, CK, FAB.
Direct Orange 72	ATL, CGY, CK.
Direct Orange 80	ATL.
*Direct Orange 102	ATL, BAS, CGY, VPC.
Direct Orange 105	CK.
Direct Orange 118	CGY, S.
*Direct orange dyes, all other	ATL, BAS, CGY, CK.
*DIRECT RED DYES:	
Direct Red 4	CK.
Direct Red 9	CK.
Direct Red 16	ATL, CGY.
Direct Red 23	ATL.
Direct Red 24	FAB.
Direct Red 26	ATL, CGY.
Direct Red 28	FAB.
Direct Red 39	ATL, CK.
*Direct Red 72	ATL, BAS, CGY, CK.
Direct Red 73	ATL, CGY.
Direct Red 79	CK.
Direct Red 80	ATL, CGY, CK.
*Direct Red 81	ATL, CGY, CK, LVR, VPC.
*Direct Red 83	ATL, CGY, CK, FAB.
Direct Red 149	ATL.
Direct Red 153	ATL.
*Direct Red 236	BAS, CGY, CK, VPC.
Direct Red 238	VPC.
Direct Red 239	CGY, S.
Direct Red 253	S.
*Direct Red 254	BAS, CGY, VPC.
*Direct red dyes, all other	ACY, ATL, BAS, CK, VPC.

TABLE 2.--DYES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURERS, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
DIRECT VIOLET DYES:	
Direct Violet 9	ATL, CGY.
Direct Violet 14	ATL.
Direct Violet 66	ATL.
Direct Violet 99	VFC.
*DIRECT BLUE DYES:	
Direct Blue 1	ATL, FAB.
Direct Blue 2	ATL.
Direct Blue 8	ATL.
Direct Blue 14	ATL, CGY.
Direct Blue 15	ATL, S, VFC.
Direct Blue 22	VFC.
Direct Blue 25	CK.
Direct Blue 67	ATL.
Direct Blue 71	CK.
*Direct Blue 75	CGY, CK, S.
Direct Blue 76	BAS, CK.
Direct Blue 79	S.
*Direct Blue 80	ATL, BAS, CGY, CK, FAB.
*Direct Blue 86	ATL, CGY, CK, S, VFC.
Direct Blue 91	CGY.
Direct Blue 98	ATL, CK, FAB.
Direct Blue 108	ATL.
Direct Blue 120, 120:1, 120:2, and 120:3	FAB.
Direct Blue 160	CGY, CK.
Direct Blue 189	CGY, CK.
Direct Blue 191	CK.
*Direct Blue 199	BAS, CGY, VFC.
*Direct Blue 218	CGY, CK, FAB, VFC.
Direct Blue 261	S.
Direct Blue 267	S.
Direct Blue 269	VFC.
Direct Blue 279	VFC.
Direct Blue 281	CGY.
Direct Blue 283	ATL.
Direct Blue 286	ATL.
*Direct blue dyes, all other	ATL, BAS, CGY, CK, FAB, VFC.
DIRECT GREEN DYES:	
Direct Green 1	FAB.
Direct Green 92	ATL.
Direct green dyes, all other	FAB.

TABLE 2.--DYES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
DIRECT DYES--CONTINUED	
*DIRECT BROWN DYES:	
Direct Brown 44	FAB.
Direct Brown 229	ATL.
Direct Brown 230	ATL.
Direct Brown 231	ATL.
Direct Brown 232	ATL.
Direct Brown 238	ATL.
Direct brown dyes, all other	BAS, CK, FAB.
*DIRECT BLACK DYES:	
Direct Black 4	FAB.
Direct Black 19	ATL, CGY.
*Direct Black 22	ATL, CGY, CK, FAB, VPC.
*Direct Black 80	ATL, CGY, CK, FAB.
Direct Black 165	ATL.
Direct Black 170	ATL.
*Direct black dyes, all other	ATL, CGY, CK, FAB, VPC.
DISPERSE DYES	
*DISPERSE YELLOW DYES:	
Disperse Yellow 3	CGY, CK.
Disperse Yellow 23	CGY, CK, S.
Disperse Yellow 34	EKT.
Disperse Yellow 42	CGY, SDC.
Disperse Yellow 54	BAS, CGY, VPC.
Disperse Yellow 58	BAS.
Disperse Yellow 64	CGY.
Disperse Yellow 67	CGY.
Disperse Yellow 77	VPC.
Disperse Yellow 86	EKT.
Disperse Yellow 88	EKT.
Disperse Yellow 99	EKT.
Disperse Yellow 108	EKT.
Disperse Yellow 125	SDC.
Disperse Yellow 126	ICI.
Disperse Yellow 198	BAS.
Disperse Yellow 200	EKT.
Disperse Yellow 210	S.
Disperse Yellow 219	S, SDC.
Disperse yellow dyes, all other	BAS, CK, ICI, VPC.

TABLE 2.--DYES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1965--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
DISPERSE DYES--CONTINUED	
*DISPERSE ORANGE DYES:	
Disperse Orange 3	CK.
Disperse Orange 5	ATL.
Disperse Orange 17	ATL.
*Disperse Orange 25 and 25:1	ATL, GGY, CK, EKT, ICI, VFC.
Disperse Orange 29	ATL, CK, S, SDC.
*Disperse Orange 30	ATL, GGY, CK, S.
*Disperse Orange 37	ATL, GGY, CK, EKT.
Disperse Orange 41	GGY, S.
*Disperse Orange 44 and 44:1	GGY, CK, S, SDC.
Disperse Orange 73	BAS.
Disperse Orange 79	GGY.
Disperse Orange 88	GGY.
Disperse Orange 89	SDC.
Disperse Orange 94	CK.
Disperse Orange 129	S, SDC.
Disperse Orange 136	SDC.
Disperse Orange 138	EKT.
Disperse Orange 145	EKT.
Disperse orange dyes, all other	GGY, CK.
*DISPERSE RED DYES:	
*Disperse Red 1	ATL, GGY, CK, EKT.
*Disperse Red 5	ATL, GGY, CK.
Disperse Red 9	GGY.
Disperse Red 13	ATL.
Disperse Red 15	GGY.
Disperse Red 17	ATL, GGY, CK.
Disperse Red 22	HRT.
Disperse Red 30	EKT.
Disperse Red 35	GGY, EKT.
Disperse Red 50	GGY, CK.
Disperse Red 55	BAS, GGY, VFC.
Disperse Red 60	BAS, GGY, VFC.
Disperse Red 65	GGY, CK.
*Disperse Red 73	ATL, CK, ICI, S.
Disperse Red 82	GGY, VFC.
Disperse Red 86	GGY.
Disperse Red 88	EKT.
Disperse Red 90	VFC.
Disperse Red 91	BAS.
Disperse Red 117	EKT.
Disperse Red 128	GGY.

TABLE 2.---DYES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985---CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
DISPERSE DYES---CONTINUED	
*DISPERSE RED DYES---CONTINUED	
*Disperse Red 133	CGY, EKT, VPC.
Disperse Red 135	CGY, CK.
Disperse Red 136	EKT.
Disperse Red 137	EKT.
Disperse Red 153	FAB, S, SDC.
Disperse Red 159	VPC.
Disperse Red 167/AND 167:1	BAS, CGY, CK, S.
*Disperse Red 177	CK, ICI, S, SDC, VPC.
*Disperse Red 179	BAS, CGY, CK, S.
Disperse Red 195	S, SDC.
Disperse Red 207	CGY.
Disperse Red 263	BAS.
Disperse Red 273	S, SDC.
Disperse Red 274	S, SDC.
Disperse Red 278	ICI.
Disperse Red 305	EKT.
Disperse Red 307	EKT.
Disperse Red 309	EKT.
Disperse Red 311	ICI.
Disperse Red 313	ICI.
Disperse Red 316	S, SDC.
Disperse Red 319	S.
Disperse Red 323	CK.
Disperse Red 333	CGY, CK.
Disperse Red 339	S, SDC.
Disperse Red 340	EKT.
Disperse Red 341	EKT.
Disperse Red 345	EKT.
Disperse red dyes, all other	CK.
*DISPERSE VIOLET DYES:	
Disperse Violet 1	BAS, CGY, CK, EKT, VPC.
Disperse Violet 1	CK.
Disperse Violet 27	CGY.
Disperse Violet 28	CK.
Disperse Violet 33	ICI, S.
Disperse Violet 36	S, SDC.
Disperse Violet 40	VPC.
Disperse Violet 60	S, SDC.
Disperse Violet 64	SDC.
Disperse Violet 91	CGY.
Disperse violet dyes, all other	CGY.

TABLE 2.--DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
DISPERSE DYES--CONTINUED	
*DISPERSE BLUE DYES:	
*Disperse Blue 3	CGY, CK, EXT.
Disperse Blue 7	CGY
Disperse Blue 26	VFC.
Disperse Blue 27	EXT.
Disperse Blue 36	S, VFC.
Disperse Blue 60	BAS, CGY, VFC.
Disperse Blue 62	EXT.
*Disperse Blue 64	CGY, EXT, S.
Disperse Blue 72	BAS.
Disperse Blue 73	S.
Disperse Blue 77	EXT.
*Disperse Blue 79	ATI, BAS, CGY, EXT, HST, ICI, S, SDC, STC, VFC.
Disperse Blue 81	VFC.
Disperse Blue 86	VFC.
Disperse Blue 95	HST.
Disperse Blue 102	CK, EXT.
Disperse Blue 118	EXT.
Disperse Blue 122	ICI.
Disperse Blue 146	BAS.
Disperse Blue 165	CGY, VFC.
Disperse Blue 183	S.
Disperse Blue 200	ICI.
Disperse Blue 281	CGY, S, SDC.
Disperse Blue 284	ICI.
Disperse Blue 291	S, SDC.
Disperse Blue 337	EXT.
Disperse Blue 338	EXT.
*Disperse blue dyes, all other	BAS, CGY, CK, EXT, ICI, VFC.
DISPERSE GREEN DYES:	
Disperse Green 9	ICI.
Disperse green dyes, all other	CGY, CK.
DISPERSE BROWN DYES:	
*Disperse Brown 1	ATI, CK, ICI, S, SDC.
Disperse Brown 2	CK, SDC.
Disperse Brown 10	SDC.
Disperse Brown 18	S, SDC.
Disperse Brown 22	EXT.
Disperse brown dyes, all other	CK, EXT, ICI.
DISPERSE BLACK DYES	
Disperse Black 1	CGY.
*Disperse Black 9	ATI, CGY, EXT.

TABLE 2. --DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
DISPERSE DYES--CONTINUED	
DISPERSE BLACK DYES--CONTINUED	
Disperse Black 33	CGY.
*Disperse black dyes, all other	BAS, CGY, CK, VPC.
FIBER-REACTIVE DYES	
REACTIVE YELLOW DYES	
Reactive Yellow 6	CGY.
Reactive Yellow 7	ICI.
Reactive Yellow 15	HST.
Reactive Yellow 17	HST.
Reactive Yellow 18	ICI.
Reactive Yellow 22	ICI.
Reactive Yellow 37	HST.
Reactive Yellow 42	HST.
Reactive Yellow 57	HST.
Reactive Yellow 86	ICI.
Reactive Yellow 133	ICI.
Reactive Yellow 135	ICI.
Reactive yellow dyes, all other	HST, ICI, STC.
REACTIVE ORANGE DYES:	
Reactive Orange 1	ICI.
Reactive Orange 4	ICI.
Reactive Orange 11	S.
Reactive Orange 12	ICI.
Reactive Orange 13	ICI.
Reactive Orange 14	ICI.
Reactive Orange 16	ATL, CK, HST.
Reactive Orange 20	CK.
Reactive Orange 78	HST.
Reactive Orange 84	ICI.
Reactive Orange 86	ICI.
Reactive orange dyes, all other	ICI.
REACTIVE RED DYES:	
Reactive Red 2	CK, ICI.
Reactive Red 5	ICI.
Reactive Red 11	CK, ICI.
Reactive Red 21	HST, STC.
Reactive Red 29	ICI.
Reactive Red 31	ICI.
Reactive Red 33	ICI.
Reactive Red 35	HST, STC, ICI.

TABLE 2.--DYES FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
FIBER REACTIVE DYES--CONTINUED	
REACTIVE RED DYES--CONTINUED	
Reactive Red 43	CK
Reactive Red 44	HST, STC.
Reactive Red 94	HST.
Reactive Red 106	HST.
Reactive Red 120	CK, ICI.
Reactive Red 141	HST.
Reactive Red 180	ICI.
Reactive red dyes, all other	GGY, HST, ICI, STC.
REACTIVE VIOLET DYES:	
Reactive Violet 5	HST, STC.
Reactive violet dyes, all other	HST, ICI.
REACTIVE BLUE DYES:	
Reactive Blue 3	ICI.
Reactive Blue 4	CK, ICI.
Reactive Blue 5	ICI.
Reactive Blue 7	GGY.
Reactive Blue 13	ICI.
Reactive Blue 19	HST.
Reactive Blue 21	HST.
Reactive Blue 38	HST, STC.
Reactive Blue 71	ICI.
Reactive Blue 89	HST, ICI.
Reactive Blue 173	ICI.
Reactive Blue 174	ICI.
Reactive Blue 199	ICI.
Reactive blue dyes, all other	GGY, HST, ICI, STC.
REACTIVE GREEN DYES:	
Reactive Green 12	S.
Reactive Green 19	ICI.
Reactive green dyes, all other	HST.
REACTIVE BROWN DYES:	
Reactive Brown 1	ICI.
Reactive Brown 17	ICI.
Reactive Brown 18	HST.
REACTIVE BLACK DYES:	
Reactive Black 5	ATL, CK, HST, STC.
Reactive Black 9	ICI.

TABLE 2.--DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
FLUORESCENT BRIGHTENERS	
Fluorescent Brightener 22	CGY.
Fluorescent Brightener 24	CGY.
Fluorescent Brightener 28	CGY, SDH, VPC.
Fluorescent Brightener 46	CGY.
Fluorescent Brightener 49	S.
Fluorescent Brightener 52	S.
Fluorescent Brightener 61	ACY.
Fluorescent Brightener 71	CGY.
Fluorescent Brightener 102	CGY.
Fluorescent Brightener 128	SDH.
Fluorescent Brightener 134	CGY.
Fluorescent Brightener 191	VPC.
Fluorescent Brightener 200	VPC.
Fluorescent Brightener 290	S.
Fluorescent brighteners, all other	ACY, CGY, S, VPC, X.
FOOD DRUG, AND COSMETIC COLORS	
*FOOD, DRUG, AND COSMETIC DYES:	
Food, Drug, and Cosmetic Blue 1	KON, SDH, WJ.
Food, Drug, and Cosmetic Blue 2	KON, SDH, WJ.
Food, Drug, and Cosmetic Green 3	WJ.
Food, Drug, and Cosmetic Red 2	WJ.
*Food, Drug, and Cosmetic Red 3	KON, SDH, STG, WJ.
Food, Drug, and Cosmetic Red 4	CK, WJ.
Food, Drug, and Cosmetic Red 40	KON, SDH, STG, WJ.
*Food, Drug, and Cosmetic Yellow 5	KON, MEK, STG, WJ.
Food, Drug, and Cosmetic Yellow 6	CK, KON, SDH, STG, WJ.
*DRUG AND COSMETIC DYES	
Drug and Cosmetic Green 5	CK, KON.
Drug and Cosmetic Green 6	KON.
Drug and Cosmetic Green 8	SDH.
Drug and Cosmetic Orange 4	KON.
Drug and Cosmetic Orange 5	SDH, SNA, TMS.
Drug and Cosmetic Orange 17	SNA.
*Drug and Cosmetic Red 6	KON, MEK, SDH, SNA, TMS.
*Drug and Cosmetic Red 7	KON, MEK, SDH, SNA, TMS.
Drug and Cosmetic Red 9	SNA.
Drug and Cosmetic Red 17	KON.
Drug and Cosmetic Red 19	SNA.
Drug and Cosmetic Red 21	KON, SNA.
Drug and Cosmetic Red 22	SDH, WJ.

TABLE 2.--DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
FOOD DRUG, AND COSMETIC COLORS--CONTINUED	
*DRUG AND COSMETIC DYES--CONTINUED	
*Drug and Cosmetic Red 27	HRX, SDH, SNA, TMS, SDH.
*Drug and Cosmetic Red 28	KON, HRX, SNA, WJ.
*Drug and Cosmetic Red 30	CK, KON, SNA, WJ.
*Drug and Cosmetic Red 33	KON, SNA.
*Drug and Cosmetic Red 34	SDH, SNA, TMS, WJ.
*Drug and Cosmetic Red 36	KON.
*Drug and Cosmetic Yellow 5	KON.
*Drug and Cosmetic Yellow 6	KON.
*Drug and Cosmetic Yellow 8	KON.
*Drug and Cosmetic Yellow 10	CK, KON, SDH, WJ.
*Drug and Cosmetic Yellow 11	KON.
*DRUG AND COSMETIC DYES, EXTERNAL:	
External Drug and Cosmetic Orange 3	CK, KON.
External Drug and Cosmetic Yellow 7	KON.
MORDANT DYES	
MORDANT YELLOW DYES:	
Mordant Yellow 8	FAB.
Mordant Yellow 20	FAB.
MORDANT ORANGE DYES:	
Mordant Orange 1	FAB.
Mordant Orange 6	ATL.
MORDANT RED DYES:	
Mordant Red 7	ATL.
Mordant Red 9	HRX.
Mordant Red 11	VFC.
MORDANT BROWN DYES:	
Mordant Brown 1	ATL, FAB.
Mordant Brown 18	FAB.
Mordant Brown 33	ATL, FAB.
Mordant Brown 40	FAB.
Mordant Brown 70	FAB.
MORDANT BLACK DYES:	
Mordant Black 9	ATL.
Mordant Black 11	CGY.
SOLVENT DYES	
*SOLVENT YELLOW DYES:	
Solvent Yellow 3	PSC.
Solvent Yellow 13	FAB.

TABLE 2.--DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
SOLVENT DYES--CONTINUED	
*SOLVENT YELLOW DYES--CONTINUED	
Solvent Yellow 14	ATL, PSC.
Solvent Yellow 16	PSC.
Solvent Yellow 33	ACY, CIC.
Solvent Yellow 40	CK.
Solvent Yellow 42	ATL, CK.
Solvent Yellow 43	DGO, MRT.
Solvent Yellow 44	DGO.
Solvent Yellow 56	PSC.
Solvent Yellow 72	PSC.
Solvent Yellow 94	SDH.
Solvent Yellow 107	MRT.
Solvent Yellow 109	MRT.
Solvent Yellow 131	DGO.
Solvent Yellow 135	X.
Solvent Yellow 143	MRT.
Solvent Yellow 160	X.
Solvent Yellow 161	MRT.
Solvent Yellow 163	MRT.
Solvent Yellow 166	CIC.
Solvent Yellow 167	CIC.
Solvent yellow dyes, all other	CK, HLL, MRT.
*SOLVENT ORANGE DYES:	
Solvent Orange 2	ATL, PSC.
Solvent Orange 3	ATL, PSC.
Solvent Orange 7	PSC.
Solvent Orange 20	ATL, FAB.
Solvent Orange 23	CK.
Solvent Orange 25	MRT.
Solvent Orange 31	PSC.
Solvent Orange 60	CIC.
Solvent Orange 73	MRT.
Solvent Orange 74	MRT.
Solvent Orange 76	MRT.
Solvent Orange 77	MRT.
Solvent orange dyes, all other	HLL, MRT, PSC.
*SOLVENT RED DYES:	
Solvent Red 1	PSC.
Solvent Red 5	ATL.
Solvent Red 23	PSC.
Solvent Red 24	ATL, PSC.

TABLE 2. --DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
SOLVENT RED DYES--CONTINUED	
Solvent Red 26	PSC.
Solvent Red 27	PSC.
Solvent Red 49	ACY.
Solvent Red 68	ATL, CK, MFT.
Solvent Red 74	ATL.
Solvent Red 111	MFT.
Solvent Red 125	CK.
Solvent Red 164	MFT.
Solvent Red 165	MFT.
Solvent Red 166	MFT.
Solvent Red 168	MFT.
Solvent Red 169	MFT.
Solvent Red 172	MFT.
Solvent Red 173	MFT.
Solvent Red 175	MFT.
Solvent Red 207	MFT.
Solvent Red 208	MFT.
Solvent Red 209	MFT.
Solvent Red 210	MFT.
Solvent Red 222	CIC.
Solvent red dyes, all other	MIL, SDH.
SOLVENT VIOLET DYES:	
Solvent Violet 8	
Solvent Violet 9	DSC.
Solvent Violet 13	DSC, MFT.
Solvent Violet 14	CK.
Solvent violet dyes, all other	MFT.
*SOLVENT BLUE DYES:	
Solvent Blue 3	MIL.
Solvent Blue 4	PSG.
Solvent Blue 5	DSC.
Solvent Blue 23	DSC.
Solvent Blue 35	BAS.
Solvent Blue 36	MFT.
Solvent Blue 38	MFT.
Solvent Blue 43	TWI.
Solvent Blue 56	ATL.
Solvent Blue 59	VFC.
Solvent Blue 98	MFT.
Solvent Blue 99	MFT.
Solvent Blue 100	MFT.

TABLE 2.--DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
SOLVENT DYES--CONTINUED	
*SOLVENT BLUE DYES--CONTINUED	
Solvent Blue 102	MRT.
Solvent Blue 128	MRT.
Solvent Blue 129	MRT.
Solvent blue dyes, all other	CK, MIL.
SOLVENT GREEN DYES:	
Solvent Green 1	DSC.
SOLVENT BROWN DYES:	
Solvent Brown 12	PSC.
Solvent Brown 20	ATL.
Solvent Brown 22	PSC.
Solvent Brown 38	FAB.
Solvent Brown 51	MRT.
Solvent Brown 52	MRT.
SOLVENT BLACK DYES:	
Solvent Black 7	OCC, PSC.
Solvent Black 13	CK.
Solvent Black 26	ATL, FAB.
Solvent Black 47	MRT.
Solvent Black 48	MRT.
Solvent Black 49	MRT.
SULFUR DYES	
SULFUR YELLOW DYES:	
Leuco Sulfur Yellow 1	SDC.
Leuco Sulfur Yellow 17	SDC.
Leuco Sulfur Yellow 21	SDC.
Leuco Sulfur Yellow 22	SDC.
SULFUR ORANGE DYES:	
Sulfur Orange 1	SDC.
SULFUR RED DYES:	
Leuco Sulfur Red 14	SDC.
SULFUR BLUE DYES:	
Leuco Sulfur Blue 7	SDC.
Leuco Sulfur Blue 13	SDC.
Sulfur blue dyes, all other	VPC.
SULFUR GREEN DYES:	
Leuco Sulfur Green 2	SDC.
Leuco Sulfur Green 3	SDC.
Leuco Sulfur Green 16	SDC.
Leuco Sulfur Green 34	SDC.
Leuco Sulfur Green 35	SDC.
Leuco Sulfur Green 36	SDC.

TABLE 2.---DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985---CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
SULFUR DYES---CONTINUED	
SULFUR BROWN DYES:	
Leuco Sulfur Brown 1, 1:1	SDC.
Leuco Sulfur Brown 3	SDC.
Leuco Sulfur Brown 10	SDC.
Leuco Sulfur Brown 31	SDC.
Leuco Sulfur Brown 37	SDC.
Leuco Sulfur Brown 52	SDC.
Leuco Sulfur Brown 95	SDC.
Leuco Sulfur Brown 96	SDC.
SULFUR BLACK DYES:	
Leuco Sulfur Black 1	SDC.
Leuco Sulfur Black 2	SDC.
Leuco Sulfur Black 18	SDC.
Solubilized Sulfur Black 2	SDC.
Sulfur Black 11, 11:1	SDC.
Sulfur black dyes, all other	VFC.
VAT DYES	
*VAT YELLOW DYES:	
Vat Yellow 2, 8-1/2%	SDC, VFC.
Vat Yellow 22, 10%	VFC.
Vat Yellow 33, 15%	CGY.
Vat Yellow 51	SDC.
*VAT ORANGE DYES:	
Vat Orange 1, 20%	CGY, SDC.
Vat Orange 2, 12%	BAS, CGY.
Vat Orange 7, 11%	CGY.
Vat Orange 15, 10%	VFC.
Vat orange dyes, all other	CGY.
*VAT RED DYES:	
Vat Red 10, 18%	BAS.
Vat Red 13, 11%	CGY, SDC.
Vat Red 15, 10%	HST.
Vat Red 29, 18%	SDC.
Vat Red 32, 20%	VFC.
Vat red dyes, all other	HST.
VAT VIOLET DYES:	
Vat Violet 1, 11%	CGY, VFC.
Vat Violet 13, 6-1/4%	BAS, CGY.
Vat Violet 21	VFC.

TABLE 2.--DYES FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

DYES	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
VAT DYES--CONTINUED	
*VAT BLUE DYES:	
Vat Blue 1, 20%	BAS, BCC, PSC.
Vat Blue 6, 8-1/3%	BAS, CGY, SDC.
Vat Blue 16, 16%	BAS, CGY.
Vat Blue 18, 13%	CGY.
Vat Blue 19	BAS.
Vat Blue 20, 14%	CGY.
Vat Blue 29	BAS.
Vat Blue 43	SDC.
Vat Blue 66	BAS.
Vat blue dyes, all other	BAS, CGY
*VAT GREEN DYES:	
Vat Green 1, 6%	BAS, CGY, SDC.
Vat Green 3, 10%	BAS, CGY, SDC.
Vat Green 7	SDC.
Vat Green 9, 12-1/2%	CGY.
Vat Green 32	VFC.
Vat green dyes, all other	CGY.
*VAT BROWN DYES:	
Vat Brown 1, 11%	CGY, SDC, VFC.
Vat Brown 3, 11%	CGY, SDC, VFC.
Vat Brown 11, 12%	CGY.
Vat Brown 13, 17%	CGY.
Vat Brown 57, 12.8%	CGY, HST.
Vat brown dyes, all other	CGY, VFC.
*VAT BLACK DYES:	
Vat Black 16	CGY.
Vat Black 22, 19%	CGY.
Vat Black 25, 12-1/2%	BAS, CGY, SDC.
Vat Black 27, 12-1/2%	CGY.
Vat black dyes, all other	CGY.
MISCELLANEOUS DYES	
*All other dyes	CGY, DAN, MIL, HRT.

TABLE 3.--DYES: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

(Names of manufacturers that reported production and/or sales of dyes to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2)

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
ACY	American Cyanamid Co.	LVR	C. Lever Co., Inc.
ALL	Alliance Chemical, Inc.	MRX	Johnson Mattney, Inc., Pigments Dept.
ATL	Atlantic Industries, Inc.	MIL	Milliken & Co., Milliken Chemical Co.
BAS	BASF Corp.	MRT	Morton-Thiokol, Inc., Morton Chemical Div.
BCC	Buffalo Color Corp.	OCC	Orient Chemical Corp.
CGY	Ciba-Geigy Corp.	PCW	Pfister Chemical, Inc.
CIC	Color Chem International Corp.	PSC	Passaic Color & Chemical Co.
CK	Crompton & Knowles Corp.	PSC	PMC Specialities Group, Inc.
DAN	Dan River, Inc., Chemical Products Div.	S	Sandoz, Inc., Colors & Chemicals Div.
DGO	Day-Glo Color Corp.	SDC	Sandoz Chemical Corp.
DSC	Dye Specialties, Inc.	SDH	Sterling Drug, Inc., Hilton Davis Chemical Co.
EKT	Eastman Kodak Co., Tennessee Eastman Co. Div.	SWA	Sun Chemical Corp., Pigments Div.
FAB	Fabricolor Manufacturing Corp.	STC	American Hoechst Corp., Sou-Tex Works
HST	American Hoechst Corp., Specialty Products Group, Rhode Island Works	STG	McCormick & Co., Inc., McCormick/Strange Flavor Div
ICI	ICI Americas, Inc., Chemical Div.	TMS	Sterling Drug, Inc., Hilton Davis Chemical Co.
KON	H. Kohnstamm & Co., Inc.	TNI	Gillette Co., Chemical Div.
		VPC	Mobay Chemical Corp., Dyes & Pigments Div.
		WJ	Warner-Jenkinson Co.

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION V -- ORGANIC PIGMENTS

STATISTICAL HIGHLIGHTS

Stephen Wanser

202-523-0496

Organic pigments are toners and lakes¹ derived in whole or in part from benzenoid chemicals and colors.

Statistics on production and sales of all organic pigments in 1985 are given in table 1.² Individual toners and lakes are identified in this report by the names used in the third edition of the *Colour Index*.

Total production of organic pigments in 1985 was 80.9 million pounds—5.6 percent less than the 85.7 million pounds produced in 1984. Total sales of organic pigments in 1985 amounted to 69.0 million pounds, valued at \$447.7 million, compared with 76.1 million pounds, valued at \$493.0 million, in 1984. In terms of quantity, sales of organic pigments in 1985 were 9.3 percent lower than in 1984; in terms of value, sales in 1985 were 9.2 percent lower than in 1984. Changes in U.S. production of pigment has followed overall changes in U.S. economic activity during 1981–85 (see figure 1).

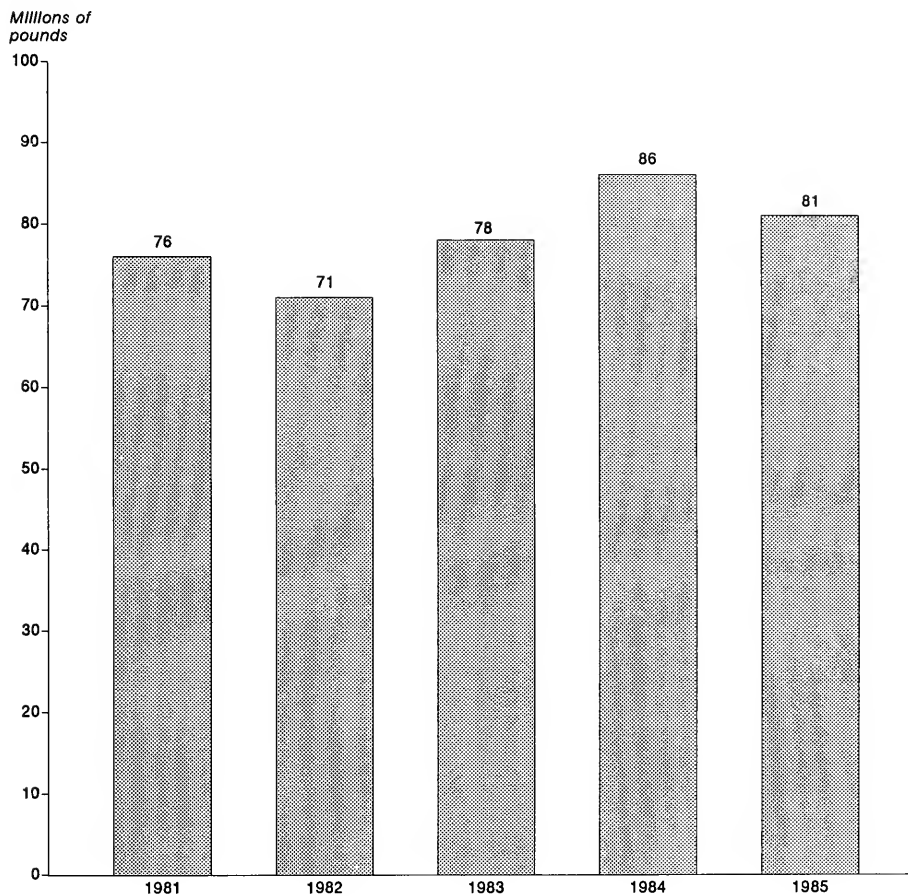
Production of toners in 1985 amounted to 80.3 million pounds—5.5 percent less than the 84.9 million pounds reported in 1984. Sales in 1985 were 68.5 million pounds, valued at \$440.8 million, compared with 75.5 million pounds valued at \$488.6 million, in 1984. Sales in 1985 were 9.3 percent lower than those in 1984 in terms of quantity, and 9.8 percent lower in terms of value. The individual toners listed in the report which were produced in the largest quantities in 1985 were Pigment Yellow 12, 13.9 million pounds; Pigment Blue 15.3, beta form, 9.5 million pounds; Pigment Red 49:1 barium toner, 6.0 million pounds; Pigment Red 57:1 calcium toner, 8.5 million pounds; Pigment Red 53:1, barium toner, 4.5 million pounds; and Pigment Yellow 14, 4.4 million pounds.

Production of lakes totaled 595,000 pounds in 1985, 24 percent lower than the 782,000 pounds reported for 1984. Sales of lakes in 1985 amounted to 495,000 pounds, valued at \$3.9 million. In terms of quantity, sales of lakes in 1985 were 19 percent lower than in 1984; in terms of value, sales in 1985 were 10 percent lower than in 1984.

¹ Toners and lakes are essentially the same in their final form; they differ in the method of preparation. A lake is an organic pigment produced by the interaction of a soluble dye, a precipitant, and an absorptive inorganic substrate. A toner is an insoluble dye produced as a powder; some toners are extended by the inclusion of a solid diluent.

² See also table 2 which lists these products and identifies the manufacturers by codes. The codes are listed in table 3.

Figure 1.—Organic pigments.



Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

V -- ORGANIC PIGMENTS

TABLE 1.--ORGANIC PIGMENTS: U.S. PRODUCTION AND SALES, 1985

[Listed below are the organic pigments for which any reported data on production or sales may be published. (Leaders (...)) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all organic pigments for which data on production and/or sales were reported and identifies the manufacturers of each]

ORGANIC PIGMENT	PRODUCTION		SALES	
	1,000 pounds dry basis ³	1,000 pounds dry basis ³	Value ¹	UNIT VALUE ²
			1,000 dollars	Per pound
Grand Total-----	80,858	69,034	447,709	\$6.44
TONERS				
Total-----	80,263	68,539	440,849	6.43
Yellow toners, total-----	22,516	17,627	84,116	4.47
Acetoacetarylide yellows:				
Pigment Yellow 1, C.I. 11 680-----	99	115	663	5.76
Pigment Yellow 3, C.I. 11 710-----	177	175	992	5.65
Pigment Yellow 65, C.I. 11 740-----	106	116	942	8.11
Pigment Yellow 74, C.I. 11 741-----	938	986	6,639	6.73
Diarylide yellows:				
Pigment Yellow 12, C.I. 21 090-----	13,892	9,695	39,674	4.09
Pigment Yellow 13, C.I. 21 100-----	313	250	1,609	6.43
Pigment Yellow 14, C.I. 21 095-----	4,359	3,549	14,948	4.21
Pigment Yellow 17, C.I. 21 105-----	570	513	3,085	6.02
Pigment Yellow 83, C.I. 21 108-----	776	835	7,420	8.88
All other-----	1,287	1,393	8,144	5.85
Orange toners, total-----	2,407	2,296	15,014	6.54
Pigment Orange 5, C.I. 21 075-----	759	725	3,893	5.37
Pigment Orange 13, C.I. 21 110-----	128	118	1,113	9.42
Pigment Orange 16, C.I. 21 160-----	680	572	3,617	6.32
Pigment Orange 46, C.I. 15 602-----	615	680	3,298	4.85
All other-----	225	201	3,093	15.35
Red toners, total-----	29,171	24,358	164,623	6.76
Naphthol reds, total-----	1,756	1,828	12,932	7.07
Pigment Red 2, C.I. 12 120-----	47	48	505	10.59
Pigment Red 5, C.I. 12 490-----	22	...	...	...
Pigment Red 17, C.I. 12 390-----	45	...	...	...
Pigment Red 23, C.I. 12 355-----	87	81	970	12.04
All other naphthol reds-----	1,555	1,699	11,457	6.74
Pigment Red 3, C.I. 12 120-----	851	888	4,876	5.49
Pigment Red 4, C.I. 12 085-----	79	101	477	4.74
Pigment Red 38, C.I. 12 120-----	150	134	1,495	11.19
Pigment Red 48:1 barium toner, C.I. 15 865-----	721	661	4,141	6.27
Pigment Red 48:2, calcium toner, C.I. 15 865-----	1,441	1,385	8,854	6.40
Pigment Red 48:4, manganese toner C.I. 15 865-----	214	227	1,804	7.94
Pigment Red 49:1 barium toner, C.I. 15 630-----	5,987	4,529	16,507	3.64
Pigment Red 49:2, calcium toner, C.I. 15 630-----	832	760	3,543	4.66
Pigment Red 52:1, calcium toner, C.I. 15 860-----	703	731	4,584	6.27
Pigment Red 53:1, barium toner, C.I. 15 585-----	4,451	3,943	15,968	4.05
Pigment Red 57:1, calcium toner, C.I. 15 850-----	8,533	6,416	31,069	4.84
Pigment Red 81, PMA, C.I. 45 160-----	363	344	5,352	15.54
All other-----	3,090	2,411	53,021	21.99

See footnotes at end of table.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--ORGANIC PIGMENTS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

ORGANIC PIGMENT	PRODUCTION	SALES		
		QUANTITY	VALUE ¹	UNIT VALUE ²
	1,000 pounds dry basis ³	1,000 pounds dry basis ³	1,000 dollars	Per pound
TONERS--Continued				
Violet toners, total	3,084	2,907	57,030	\$17.90
Pigment Violet 1, PTA, C.I. 45 170	43	27	424	15.61
Pigment Violet 3, (PTA)	8	8	117	15.41
Pigment Violet 19, C.I. 46 500	...	1,758	35,052	19.94
Pigment Violet 23, C.I. 46 500	313	304	7,663	25.20
All other	2,720	810	8,774	10.83
Blue toners, total	20,671	18,856	106,200	5.63
Pigment Blue 1 (PMA)	65	51	813	15.85
Pigment Blue 15, alpha form, C.I. 74 160	805	733	6,213	8.47
Pigment Blue 15:1, alpha form, C.I. 74 160	1,028	977	10,172	10.41
Pigment Blue 15:2, alpha form, C.I. 74 160	587	561	5,862	10.44
Pigment Blue 15:3, beta form, C.I. 74 160	9,536	8,477	46,490	5.48
All other	8,650	8,057	36,650	4.55
Green toners, total	2,004	2,094	17,347	8.29
Pigment Green 7, C.I. 74 260	...	1,849	14,781	7.99
All other	2,004	245	2,566	10.22
Brown and Black toners, total	410	401	1,519	3.80
Pigment Brown 5	29	...	...	...
All other	381	401	1,519	3.80
LAKES				
Total	595	495	3,860	7.80
Pigment Red 83, C.I. 58 000	27	26	315	12.05
Pigment Violet 5:1, C.I. 58 055	72	59	520	8.81
All other lakes	496	410	3,025	7.38

¹The value of sales for toners is reported on a dry-full strength basis and the value of sales for lakes is reported on a dry form basis. All sales value data exclude the additional cost of processing or packaging in commercial forms other than the dry full-strength or dry form.

²Calculated from unrounded figures.

³Quantities for toners are reported as dry full-strength toner content, excluding the weight of any dispersing agent, vehicle, or extender. Quantities for lakes are reported as dry lake content, excluding the weight of any dispersing agent or vehicle.

Note.--The C.I. (*Colour Index*) number shown in this report are the identifying number given in the third edition of the *Colour Index*.

The abbreviations PMA and PTA stand for phosphomolybdic and phosphotungstic (including phosphotungstomolybdic) acids, respectively.

TABLE 2.--ORGANIC PIGMENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA WERE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT]

ORGANIC PIGMENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
TONERS	
YELLOW TONERS:	
ACETOACETARYLIDE YELLOWS:	
*Pigment Yellow 1-----	AMS, BAS, CGY, DUP, GLX, HSH, HST, KCM, KON, MEX, ROM, SDH, SMA, VPC.
Pigment Yellow 2-----	KCM.
*Pigment Yellow 3-----	BMS, HEU, HSH, HST, KCM, SMA, VPC.
Pigment Yellow 42-----	VPC.
Pigment Yellow 49-----	ROM.
Pigment Yellow 60-----	SHH.
Pigment Yellow 63-----	SHH, SMA, VPC.
*Pigment Yellow 73-----	SHH, HST, SMA, VPC.
*Pigment Yellow 74-----	BAS, HEU, HSH, HST, SDH, SMA, VPC.
Pigment Yellow 75-----	HST.
Pigment Yellow 97-----	HST.
Pigment Yellow 98-----	HST.
Pigment Yellow 116-----	VPC.
Acetoacetarylide yellows, all others-----	
DIARYLIDE YELLOWS:	
*Pigment Yellow 12-----	HST, KCM, VPC.
*Pigment Yellow 13-----	AMS, APO, BAS, GLX, HSH, HST, ICC, IDC, IND, POP, ROM, SDH, SMA.
*Pigment Yellow 14-----	AMS, APO, BAS, GLX, HST, IDC, IND, ROM, SDH, SMA, VPC.
*Pigment Yellow 17-----	AMS, BAS, BMS, CGY, GLX, HSH, HST, ICC, IDC, IND, ROM, SDH, SMA, VPC.
Pigment Yellow 55-----	GLX.
*Pigment Yellow 83-----	BAS, GLX, HST, ICC, IND, ROM, SMA, VPC.
Pigment Yellow 124-----	GLX.
Pigment Yellow 126-----	GLX.
Pigment Yellow 152-----	HST.
Diarylides yellows, other-----	
YELLOW PIGMENTS, OTHER:	
(Basic Yellow 2), fugitive-----	CGY, GLX, ROM, VPC.
Pigment Yellow 62-----	MEX.
	CGY.

TABLE 2.--ORGANIC PIGMENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

ORGANIC PIGMENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
TONERS--CONTINUED	
YELLOW TONERS--CONTINUED	
YELLOW PIGMENTS, OTHER--CONTINUED	
Pigment Yellow 110-----	CGY.
Pigment Yellow 139-----	VPC.
Pigment Yellow 150-----	CGY.
ORANGE TONERS:	
Pigment Orange 1-----	KCH.
Pigment Orange 2-----	UHL.
*Pigment Orange 3-----	CGY, HSH, HST, SDH, SMA.
*Pigment Orange 13-----	BAS, CGY, HSH, IND, ROM, SNA, VPC.
Pigment Orange 15-----	BNS, CGY.
*Pigment Orange 16-----	BNS, CGY, GLX, HSH, IND, ROM, VPC.
Pigment Orange 34-----	GLX, IND, ROM.
Pigment Orange 36-----	HST, SMA.
Pigment Orange 38-----	HST, IND.
Pigment Orange 43-----	HST.
Pigment Orange 46-----	BAS, SDH, SNA, VPC.
Pigment Orange 48-----	DUP.
Pigment Orange 49-----	DUP.
Pigment orange toners, all other-----	CGY, GLX, VPC.
RED TONERS:	
NAPHTHOL REDS:	
Pigment Red 2-----	GLX, HSH, HST, KCH.
*Pigment Red 5-----	CGY, GLX, HSH, ROM.
Pigment Red 7-----	GLX.
Pigment Red 9-----	HST.
Pigment Red 13-----	KCM.
*Pigment Red 17-----	BNS, IND, ROM, SNA, UHL.
Pigment Red 21-----	BNS.
Pigment Red 22-----	CGY, SMA.
*Pigment Red 23-----	GLX, HSH, KCM, ROM, SNA, UHL.
Pigment Red 31-----	GLX, ROM, SDH.
Pigment Red 112-----	HST.
Pigment Red 147-----	HSH.
Pigment Red 170-----	GLX, HST.
Naphthol reds, all other-----	GLX, IND, KCM, ROM, SNA, VPC, X.

TABLE 2.--ORGANIC PIGMENTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

ORGANIC PIGMENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
TONERS--CONTINUED	
RED TONERS--CONTINUED	
RED PIGMENTS, OTHER:	
Pigment Red 1, (dark)	GLX
*Pigment Red 1, (light)	HSH
*Pigment Red 3	BAS, CGY, HSH, KCM, MRX, SDH, SMA, UHL.
*Pigment Red 4	ALE, BAS, CGY, HSH, KCM, MRX, SDH, UHL.
*Pigment Red 38	GLX, HSH, HST, SMA, VPC.
Pigment Red 41	VPC.
Pigment Red 48	CGY, DUP.
*Pigment Red 48:1, (barium)	AMS, BAS, CMG, HEU, HSH, MGR, MRX, SMA, UHL.
*Pigment Red 48:2, (calcium)	AMS, BAS, CIK, HEU, HSH, MGR, MRX, SDH, SMA, UHL, VFC.
Pigment Red 48:3, (strontium)	CGY, HSH.
*Pigment Red 48:4, (manganese)	CGY, HEU, HSH, SMA, VPC.
*Pigment Red 49, (sodium)	VPC.
Pigment Red 49:1, (barium)	AMS, BAS, BNS, BOR, CIK, ICC, IDC, MGR, SDH, SMA, UHL.
*Pigment Red 49:2, (calcium)	SMA, UHL.
*Pigment Red 52:1, (calcium)	AMS, BNS, CMG, CIK, ICC, IDC, MGR, SDH, SMA, UHL.
Pigment Red 52:2, (manganese)	BAS, MGR, SMA, UHL.
Pigment Red 53, (sodium)	BAS, HSH, UHL.
*Pigment Red 53:1, (barium)	ICC.
Pigment Red 57	ALE, AMS, APO, BAS, BOR, CIK, HSH, ICC, IDC, MGR, MRX, SDH, SMA, UHL.
*Pigment Red 57:1, (calcium)	BNS.
Pigment Red 63	AMS, APO, BAS, BNS, BOR, CGY, CIK, HEU, HSH, ICC, IDC, KON, MGR, SDH, SMA, UHL.
*Pigment Red 81, (PMA)	HSH.
Pigment Red 81, (PTA)	MGR, MRX, SMA, UHL.
Pigment Red 88	MGR, MRX, UHL.
Pigment Red 119	VFC.
Pigment Red 122	SMA, UHL.
Pigment Red 123	SMA, UHL.
Pigment Red 168	SMA, VFC.
Pigment Red 179	VFC.
Pigment Red 181	HST.

TABLE 2.--ORGANIC PIGMENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985.--CONTINUED

ORGANIC PIGMENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
TONERS--CONTINUED	
RED TONERS--CONTINUED	
PIGMENT RED--CONTINUED	
Pigment Red 188-----	HST.
Pigment Red 190-----	VFC.
Pigment Red 200-----	BAS, SMA.
Pigment Red 202-----	CGY, SMA.
Pigment Red 206-----	CGY.
Pigment Red 207-----	CGY.
Pigment Red 211-----	VFC.
Pigment Red 224-----	VFC.
Pigment red toners, all other	CGY, HST, STC, VFC.
VIOLET TONERS:	
Pigment Violet 1, (fugitive)	KCM, UHL.
Pigment Violet 1, (PMA)	MGR, MRX, UHL.
*Pigment Violet 1, (FTA)	MGR, MRX, SMA, UHL.
Pigment Violet 3, (fugitive)	KCM, MGR, UHL.
Pigment Violet 3, (PMA)	BAS, KCM, MGR, MRX, SDH, UHL.
Pigment Violet 3, (FTA)	MGR, MRX, UHL.
Pigment Violet 3-----	VFC.
Pigment Violet 4, (fugitive)	VFC.
*Pigment Violet 19-----	SMA, VFC.
*Pigment Violet 23-----	HST, IPP, ROM, SDC, SMA, VFC.
Pigment Violet 29-----	VFC.
Pigment Violet 38-----	HST.
Pigment Violet 42-----	CGY.
Pigment violet toners, all other	VFC, X.
BLUE TONERS:	
(Basic Blue 7)-----	KCM.
*Pigment Blue 1, (PMA)	BNS, MGR, MRX, SDH, UHL.
Pigment Blue 1, (FTA)	MRX.
Pigment Blue 2, (PMA)	LVR, UHL.
Pigment Blue 9, (PMA)	LVR.
Pigment Blue 14, (PMA)	LVR, UHL, VPC.
*Pigment Blue 15, (α form)	BAS, CGY, HSH, SDH, SMA, USM, VFC.
*Pigment Blue 15:1, (α form)	BAS, CGY, SDH, SMA, VFC.
*Pigment Blue 15:2, (α form)	BAS, CGY, SDH, SMA, VFC.
*Pigment Blue 15:3, (β form)	ALC, AMS, AFO, BAS, BHM, CGY, CLK, CUS, DUF,
Pigment Blue 15:4, (β form)	LDG, IPP, MGR, POP, ROM, SDH, SMA, VFC.
	BAS, CGY, CUS, SMA.

TABLE 2.--ORGANIC PIGMENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

ORGANIC PIGMENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
TONERS--CONTINUED	
BLUE TONERS--CONTINUED	
Pigment Blue 19	PSG.
Pigment Blue 25	GLX.
Pigment Blue 61	BAS.
Pigment blue toners, all other	VPC.
GREEN TONERS:	
Pigment Green 1, (PMA)	MRX, UHL.
Pigment Green 2, (PMA)	MRX.
Pigment Green 2, (PTA)	UHL.
Pigment Green 4, (PMA)	UHL.
*Pigment Green 7	ALC, CLK, HEU, POP, SDH, SMA.
Pigment Green 8	CGY, KGW.
Pigment Green 10	HEU.
Pigment Green 36	SMA, VPC.
Pigment green toners, all other	UHL, VPC, X.
BROWN TONERS:	
Pigment Brown 1	GLX, ROM, VPC.
*Pigment Brown 5	GLX, ICG, VPC.
Pigment brown toners, all other	SDH, UHL, VPC.
BLACK TONERS:	
Pigment Black 7	STC.
Pigment black toners, all other	UHL, VPC.
LAKES	
YELLOW LAKES:	
(Acid Yellow 1)	KGW.
(Acid Yellow 23)	KOM, HEX.
ORANGE LAKES:	
Pigment Orange 17	KGW.
RED LAKES:	
(Basic Red 1)	BNS.
(Basic Red 81, PMA)	LVR.
Pigment Red 60:1	HSH, MRX, SMA.
*Pigment Red 83	CGY, HSH, MRX, UHL.

TABLE 2.--ORGANIC PIGMENTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

ORGANIC PIGMENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
LAKES--CONTINUED	
VIOLET LAKES:	
(Basic Violet 1)-----	BNS.
(Basic Violet 4)-----	BNS.
(Basic Violet 10)-----	BNS.
(Basic Violet 3, (PMA)-----	LVR.
*Pigment Violet 51-----	HSN, HRE, UHL, VFC.
BLUE LAKES:	
(Basic Blue 9)-----	LVR.
(Basic Blue 14, (PMA)-----	LVR.
(Basic Blue 1, (PFA)-----	LVR.
Pigment Blue 24-----	SDH.
GREEN LAKES:	
(Acid Green 3)-----	KCW.
(Basic Green 1, (PMA)-----	LVR.

V -- ORGANIC PIGMENTS

TABLE 3.--ORGANIC PIGMENTS: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of organic pigments to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE :	NAME OF COMPANY	CODE :	NAME OF COMPANY
ALE :	Alex Chemical Co.	KCW :	Keystone Color Works, Inc.
ALG :	Allegheny Chemical Corp.	KON :	H. Kohnstamm & Co., Inc.
AMS :	Ridgway Color Co.	LVR :	C. Lever Co., Inc.
APO :	Apollo Colors, Inc.	MGR :	Magruder Color Co., Inc.
BAS :	BASF Corp.	MRX :	Johnson Mattney, Inc., Pigment Dept.
BMX :	Blu-Max Pigments, Inc.	POP :	Pope Chemical Corp.
BNS :	Binney and Smith, Inc.	PSG :	PMC Specialities Group, Inc.
CGY :	Ciba-Geigy Corp.	ROM :	Roma Color, Inc.
CIK :	Flint Ink Corp., Cal/Ink Div.	SDC :	Sandoz Chemicals Corp.
CMC :	Chromatic Color Corp.	SDH :	Sterling Drug, Inc., Hilton Davis Chemical Co.
CUS :	Customs Pigments Corp.	SNA :	Sun Chemical Corp., Pigment Div.
GLX :	Galaxie Chemical Corp.	STC :	American Hoechst Corp., Sou-Tex Works
HEU :	Heubach, Inc.	TMS :	Sterling Drug, Inc., Hilton Davis Chemical Co.
HSH :	Harshaw/Filtrol Partnership	UHL :	Paul Uhlich & Co., Inc.
HST :	American Hoechst Corp., Specialty Products Group, Rhode Island Works	VPC :	Mobay Chemical Corp., Dyes & Pigments Div.
ICC :	BASF Corp Inmont Div.		
IDC :	Industrial Color, Inc.		
IND :	Indel Color Co., Inc.		
IPP :	Spectrachem Corp.		

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION VI -- MEDICINAL CHEMICALS

STATISTICAL HIGHLIGHTS

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202-523-1768

Medicinal chemicals include the medicinal and feed grades of all organic chemicals having therapeutic value, whether obtained by chemical synthesis, by fermentation, by extraction from naturally occurring plant or animal substances, or by refining a technical grade product. They include antibiotics and other anti-infective agents, antihistamines, autonomic drugs, cardiovascular agents, central nervous system depressants and stimulants, hormones and synthetic substitutes, vitamins, and other therapeutic agents for human or veterinary use, and for animal feed supplements. Data for the production of these products during 1981-85 are shown in figure 1.

The table shows statistics for production and sales of medicinal chemicals grouped by pharmacological class. The statistics shown are for bulk chemicals only. Finished pharmaceutical preparations and products put up in pills, capsules, tablets, or other measured doses are excluded.¹ The difference between production and sales reflects inventory changes, processing losses, and captive consumption of medicinal chemicals processed into ethical and proprietary pharmaceutical products by the primary manufacturer. In some instances, the difference may also include quantities for medicinal grade products used as intermediates; for example, penicillin V used as an intermediate in the manufacture of other antibiotics. All quantities are given in terms of 100 percent content of the pure bulk drug.

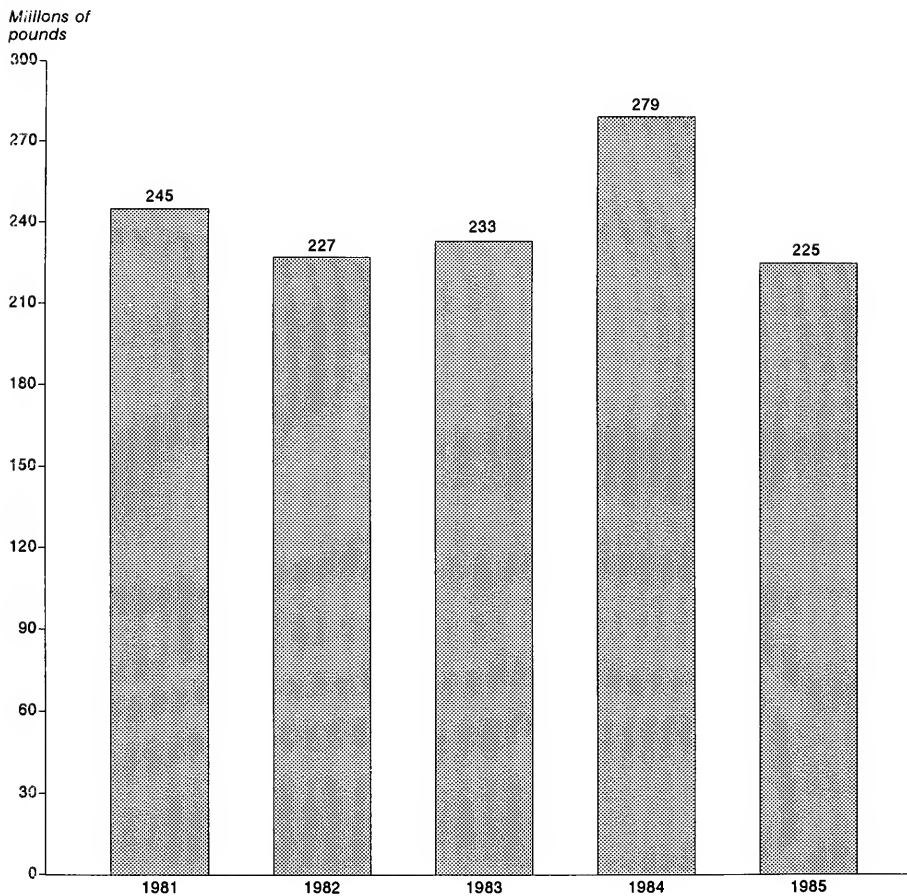
Total U.S. production of bulk medicinal chemicals in 1985 amounted to 224.7 million pounds. Total sales of bulk medicinal chemicals in 1985 amounted to 144.6 million pounds, valued at \$1,339.3 million. Beginning in 1980, methionine and most other amino acids and their salts are reported in the section on Miscellaneous End-Use Chemicals and Chemical Products. Section totals are not, therefore, comparable with years prior to 1980.

Production of the larger groups of medicinal chemicals in 1985 was as follows: Antibiotics, 31.9 million pounds, 5.0 percent higher than in 1984; anti-infective agents other than antibiotics, 25.1 million pounds, 8.0 percent less than in 1984; central nervous system depressants and stimulants, 63.2 million pounds, 9.0 percent less than in 1984; gastrointestinal agents and therapeutic nutrients, 48.5 million pounds, 11 percent less than in 1984; and vitamins, 37.6 million pounds, 25 percent less than in 1984.

Production of some of the more important individual products in the table was as follows: Choline chloride, 44.2 million pounds, 11 percent less than in 1984; aspirin, 28.2 million pounds, 17 percent less; and vitamin E, 13.7 million pounds, 18 percent more.

¹ Complementary statistics on the dollar value of manufacturers' shipments of finished pharmaceutical preparations, except biologicals, are published annually by the U.S. Department of Commerce, Bureau of the Census, in Current Industrial Reports, Series MA-28G. Many pharmaceutical manufacturers that report to the Bureau of the Census are excluded from the U.S. International Trade Commission report because they are not primary producers of medicinal chemicals; that is, they do not themselves produce the bulk drugs which go into their pharmaceutical products, but purchase their drug requirements from domestic or foreign producers.

Figure 1.—Medicinal chemicals.



Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.



TABLE 1.--MEDICINAL CHEMICALS: U.S. PRODUCTION AND SALES, 1985

[Listed below are all synthetic organic medicinal chemicals for which any reported data on production or sales may be published. (Leaders (...)) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all medicinal chemicals for which data on production and/or sales were reported and identifies the manufacturers of each]

MEDICINAL CHEMICALS	PRODUCTION ¹		SALES	
	1,000 pounds	1,000 pounds	QUANTITY	UNIT
			1,000 dollars	VALUE ² Per pound
Grand total-----	224,660	144,618	1,339,322	\$9.26
Acyclic-----	48,729	43,695	140,018	3.20
Benzenoid ³ -----	125,591	75,672	648,419	8.57
Cyclic nonbenzenoid ⁴ -----	50,340	25,251	550,885	21.82
Antibiotics, total-----	31,922	11,636	429,786	36.94
Penicillins, total ⁵ -----	6,800	1,626	37,526	23.08
Other antibiotics, total-----	25,122	10,010	392,260	39.19
For medicinal use ⁶ -----	6,727	3,545	329,127	92.84
For nonmedicinal uses ⁷ -----	18,395	6,465	63,133	9.77
Antihistamines-----	211	103	5,491	53.31
Anti-infective agents (except antibiotics), total-----	25,088	7,833	34,114	4.36
Anthelmintics-----	9,013	3,497	4,926	1.41
Antiprotozoan agents-----	10,691	713	4,258	5.97
Other anti-infective agents ⁸ -----	5,384	3,623	24,930	6.88
Autonomic drugs, total-----	991	800	17,289	21.61
Sympathomimetic (adrenergic) agents-----	958	800	17,289	21.61
Other autonomic drugs-----	33	...	...	...
Central depressants and stimulants, total-----	63,234	43,451	298,625	6.87
Analgesics, antipyretics, and nonhormonal anti-inflammatory agents, total-----	55,714	38,890	112,846	2.90
Aspirin-----	28,160	...	...	...
All other ⁹ -----	27,554	38,890	112,846	2.90
Anticonvulsants, hypnotics, and sedatives-----	1,636	286	6,307	22.08
Antidepressants-----	218	24	3,110	129.58
Antitussives-----	342	280	53,065	189.55
Tranquilizers-----	75	9	6,197	690.14
Other central depressants and stimulants ¹⁰ -----	5,249	3,962	117,100	29.56
Expectorants and mucolytic agents-----	1,162	980	7,756	7.91
Gastrointestinal agents and therapeutic nutrients, total ¹¹ -----	48,457	42,381	25,603	.60
Choline chloride, all grades-----	44,238	39,752	16,469	.41
All other-----	4,219	2,629	9,134	.60
Renal-acting and edema-reducing agents-----	...	202	10,725	53.46
Smooth muscle relaxants ¹² -----	40	...	...	...
Vitamins, total-----	37,631	32,650	172,920	5.30
Vitamin E-----	13,732	8,364	86,370	10.33
All other vitamins ¹³ -----	23,899	24,286	86,550	3.56
Miscellaneous medicinal chemicals ¹⁴ -----	15,924	4,582	337,013	30.71

See footnotes at end of table.

FOOTNOTES

¹The data on production and sales are for bulk medicinal chemicals only. Methionine and most other amino acids and their salts are now reported in the section on Miscellaneous End-Use Chemicals and Chemical Products. Section totals are not, therefore, comparable with years prior to 1980.

²Calculated from rounded figures.

³Benzenoid, as used in this report, describes any cyclic medicinal chemical whose molecule contains either a 6-membered carbocyclic ring with conjugated double bonds or a 6-membered heterocyclic ring with 1 or 2 hetero atoms and conjugated double bonds, except the pyrimidine ring.

⁴Includes antibiotics of unknown structure.

⁵Includes semisynthetic penicillins and all other penicillins.

⁶Includes production and sales of antifungal and antitubercular antibiotics, tetracyclines, and cephalosporins.

⁷Includes production and sales of tetracyclines.

⁸Includes production and sales of urinary antiseptics; does not include production of sulfaguanidine used as an intermediate in the production of anti-infective sulfonamides; also includes sulfonamides.

⁹Includes sales quantity and value of aspirin; also production and sales of acetaminophen.

¹⁰Includes production and sales of amphetamines, general anesthetics, respiratory and cerebral stimulants, and skeletal muscle relaxants.

¹¹Methionine and its salts are now reported in the section in Miscellaneous End-Use Chemicals and Chemical Products under amino acids.

¹²Includes theophylline derivatives.

¹³Includes production and sales of vitamin A, vitamin B, vitamin C, vitamin D, and vitamin K.

¹⁴Includes production and sales of antineoplastic agents, cardiovascular agents, diagnostic agents, hematological agents, and unclassified medicinal chemicals. Also includes production and sales of local anesthetics, dermatological agents, hormones and synthetic substitutes, sales quantity and value of smooth muscle relaxants and production of renal-acting and edema-reducing agents.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT]

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*ANTIBIOTICS:	
*CEPHALOSPORINS:	
Cefaclor-----	LIL.
Cefamandole-----	LIL.
Cefazolin, sodium-----	LIL.
Cefoxitin-----	MRK.
Cephalexin-----	LIL.
Cephaloridine-----	LIL.
Cephalothin, sodium-----	BRS. LIL.
Cephapirin-----	BRS.
Cephapirin, sodium-----	BRS.
Cephradine-----	SK, TRD.
*PENICILLINS:	
PENICILLINS, SEMISYNTHETIC:	
AMOXICILLIN:	
Amoxicillin (trihydrate)-----	BEE, BOC, BRS.
Amoxicillin (anhydrous)-----	BRS, WYT.
AMPICILLIN:	
Ampicillin (anhydrous)-----	BRS, WYT.
Ampicillin (trihydrate)-----	BEE, BOC, BRS.
OTHER SEMISYNTHETIC PENICILLINS:	
Ampicillin, sodium-----	BEE, BRS, WYT.
Carbenicillin, disodium-----	BEE, PFZ.
Carbenicillin indanyl, sodium-----	PFZ.
Carpenicillin, sodium-----	BEE.
Cloxacillin, benzathine-----	BEE, BRS.
Cloxacillin, sodium-----	BEE, BOC, BRS.
Cyclacillin-----	BRT, WYT.
Dicloxacillin, sodium-----	BEE, BOC, BRS, WYT.
Hetacillin, potassium-----	BRS.
Methicillin, sodium-----	BRS.
Nafcillin, sodium-----	BEE, BRS, WYT.
Oxacillin, sodium-----	BEE, BOC, BRS.
Piperacillin-----	BRS.
Ticarcillin, disodium-----	BEE.
Ticarcillin, sodium-----	BEE.
FOR MEDICINAL USE:	
Penicillin V-----	PFZ, WYT.
Penicillin G, benzathine-----	WYT.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*ANTIBIOTICS--CONTINUED	
PENICILLINS:	
PENICILLINS (EXCEPT SEMISYNTHETIC)--CONTINUED	
FOR MEDICINAL USE--CONTINUED	
Penicillin G, potassium----	PFZ, WYT.
Penicillin V, potassium----	BRS, LIL.
Penicillin G, procaine (medicinal grade)----	PFZ.
Penicillins, other than semisynthetic, all other----	BRS.
FOR NONMEDICINAL USES:	
Penicillin G, procaine (animal feed grade)----	HRK, PFZ.
TETRACYCLINES:	
FOR MEDICINAL USE:	
Chlortetracycline (medicinal grade)----	ACY.
Doxycycline-----	PFZ.
Minocycline-----	ACY.
Oxytetracycline (medicinal grade)----	PFZ.
Tetracycline-----	ACY.
FOR NONMEDICINAL USES:	
Chlortetracycline (animal feed grade)----	ACY.
Oxytetracycline (animal feed grade)----	PFZ.
*OTHER ANTIBIOTICS:	
*FOR MEDICINAL USE:	
ANTIFUNGAL ANTIBIOTICS:	
Amphotericin B-----	PEN, TRD.
Nystatin (medicinal grade)----	ACY, TRD.
Tobramycin-----	LIL.
ANTITUBERCULAR ANTIBIOTICS:	
Dihydrostreptomycin-----	PFZ.
Streptomycin (medicinal grade)----	PFZ.
OTHER ANTIBIOTICS FOR MEDICINAL USE:	
Amikacin sulfate-----	BRS.
Aztreonam-----	TRD.
Bacitracin (medicinal grade)----	IHC.
Cefonicid-----	SK.
Chloramphenicol, monosuccinic acid ester----	PD.
Clindamycin-----	UPJ.
Erythromycin-----	ABB, UPJ.
Erythromycin estolate-----	LIL.
Erythromycin stearate-----	UPJ.
Gentamycin-----	SCH.
Imipenem-----	HRK.
Kanamycin-----	BRS.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*ANTIBIOTICS--CONTINUED	
*OTHER ANTI-BIOTICS--CONTINUED	
*FOR MEDICINAL USE--CONTINUED	
*OTHER ANTI-BIOTICS FOR MEDICINAL USE--CONTINUED	
Lincomycin (medicinal grade)-----	UFJ.
Moxalactam-----	LIL.
Necmycin (medicinal grade)-----	UFJ.
Netilmicin-----	SCH, UFJ.
Novobiocin, sodium-----	UFJ.
Polymyxin B-----	PFZ.
Sisomicin-----	SCH.
Spectinomycin (medicinal grade)-----	ABB, UFJ.
Thiostrepton-----	TED.
Vancomycin-----	LIL.
*FOR NONMEDICINAL USES:	
Bacitracin (animal feed grade)-----	IHC.
Cycloheximide-----	UFJ.
Hygromycin B-----	LIL.
Lasalocid-----	HOF, X.
Lincomycin (animal feed grade)-----	UFJ.
Lincomycin hydrochloride-----	UFJ.
Monesin-----	LIL.
Necmycin (animal feed grade)-----	PFZ, UFJ.
Spectinomycin (animal feed grade)-----	UFJ.
Streptomycin-----	LIL, PFZ.
Tylosin-----	LIL.
*ANTIHISTAMINES:	
*ANTINAUSEANTS:	
Cyclizine hydrochloride-----	BUR.
Dimenhydrinate-----	GAN.
Meclizine hydrochloride-----	PFZ.
Metoclopramide hydrochloride-----	LIL.
Trimethobenzamide hydrochloride-----	HOF.
*OTHER ANTIHISTAMINES:	
Brompheniramine maleate-----	HEX, LLI.
Chlorpheniramine maleate-----	HEX, SK.
Cycloheptadine hydrochloride-----	HEX.
Desbucampfeniramine maleate-----	HEX.
Dimethindene maleate-----	CGY.
Diphenhydramine citrate-----	WYK.
Diphenhydramine hydrochloride-----	PD, WYK.
Doxylamine succinate-----	BKC, HOF.
Phenindamine tartrate-----	HOF.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*ANTHISTAMINES--CONTINUED	
OTHER ANTHISTAMINES--CONTINUED	
Phenyltoloxamine citrate	GAN.
Pyrilamine maleate	HEX.
Tripelemamine	CGY.
Tripelemamine citrate	CGY.
Tripelemamine hydrochloride	CGY.
Triprolidine hydrochloride	BUR.
*ANTI-INFECTION AGENTS (EXCEPT ANTIBIOTICS):	
*ANTHELMINTICS:	
Diethylcarbamazine citrate	SK.
Ivermectin	MRK.
Phenothiazine	WAG.
Piperazine	TX, UCC.
Piperazine dihydrochloride	FLM.
Piperazine hydrochloride	DAN, FLM, TX, WHL.
Piperazine phosphate	TX.
Pyrantel pamoate	PFZ.
Pyrantel tartrate	PFZ.
Thenium ciosylate	SFS.
Thiabendazole	MRK.
*ANTIPROTOZOAN AGENTS:	
ARSENIC AND BISMUTH COMPOUNDS:	
Arsanilic acid	FLM, WHL.
Bismuth subsalicylate	NOR.
Carbarsone	WHL.
Glycobiarsol	ESA.
Nitarsone	SAL.
Roxarsone	SAL.
Roxarsone, sodium	SAL.
Sodium arsaniolate	WHL.
Antiprotozoan agents, arsenic and bismuth compounds, all other	ESA.
OTHER ANTIPROTOZOAN AGENTS:	
Aklomide	SAL.
Amodiaquine hydrochloride	PD.
Amprolium	MRK.
Dinitolmide	SAL.
Ethopabate	MRK.
Hydroxychloroquine sulfate	SDW.
Iodochlorhydroxyquin	CGY.
Ipronidazole	HOF.
Metronidazole	SRL.
Nitromide	SAL.
Primaquine phosphate	SDW.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*ANTI-INFECTION AGENTS (EXCEPT ANTIBIOTICS)--CONTINUED	
SULFONAMIDES	
Mafenide-----	SDW.
Mafenide acetate-----	SDW.
Sulfabenzamide-----	ACY.
Sulfacetamide-----	SCH.
Sulfadiazine-----	ACY.
Sulfadimethoxine-----	HOF.
Sulfamethazine-----	SAL.
Sulfamethizole-----	ACY.
Sulfamethoxazole-----	HOF.
Sulfamitran-----	SAL.
Sulfasalazine-----	SAL.
Sulfathiazole, sodium-----	SAL.
Sulfisoxazole-----	HOF.
Sulfisoxazole, acetyl-----	HOF.
*URINARY ANTISEPTICS:	
Methenamine hippurate-----	RIK.
Methenamine mandelate-----	ARN, PD.
*OTHER ANTI-INFECTION AGENTS:	
ANTIFUNGAL AGENTS:	
Benzoic acid-----	KJM.
Calcium undecylate-----	WTL.
Sodium caprylate-----	LEM.
Zinc undecylate-----	WTL.
Antifungal agents, all other-----	SCH.
ANTILEPTIC AND ANTITUBERCULAR AGENTS:	
Aminosalicylic acid-----	HXL.
Sulfoxone, sodium-----	ABB.
GENERAL ANTISEPTICS AND ANTIBACTERIAL AGENTS:	
Bromchloronone-----	MHL.
Capreomycin-----	LIL.
Ceftazidime-----	LIL.
Cetylpyridinium chloride-----	HEX, HXL.
Chlorhexidine gluconate-----	WHL.
Chlorobutanol-----	SFS.
m-Cresyl acetate-----	ADC.
8-Hydroxy-5-quinolinesulfonic acid-----	HEK, RSA.
Iodoform-----	DPW.
Ormetoprim-----	HOF.
Povidone - iodine-----	GAF.
Pyriithione, zinc-----	MES.
Resorcinol-----	KPT, LEM.
Trimethoprim-----	BUR.
Anti-infective agents, all other-----	LIL.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*AUTONOMIC DRUGS:	
*SYMPATHOLIMETIC AGENTS:	
Methoxyphenamine hydrochloride	HKL.
Naphazoline hydrochloride	CGY.
Phenylephrine	SDW.
Phenylephrine bitartrate	GAN.
Phenylephrine hydrochloride	GAN, LLI, SDW.
Phenylpropanolamine hydrochloride	ARS, GAN, NEP, ORT.
Propylhexedrine	PD, SK.
Pseudoephedrine hydrochloride	BUR, GAN.
Pseudoephedrine sulfate	GAN.
Terbutaline sulfate	CGY.
Tetrahydrozoline hydrochloride	PFZ.
Sympathomimetic (adrenergic) agents, all other	SCH, SD.
*OTHER AUTONOMIC DRUGS:	
PARASYMPATHOLYTIC QUATERNARY AMMONIUM COMPOUNDS (EXCEPT TROPANE DERIVATIVES):	
Glycopyrrrolate	LLI.
Isopropramide iodide	SK.
Propantelaine bromide	SRL.
Tridihexethyl chloride	ACY.
PARASYMPATHOLYTIC TERTIARY AMINES (EXCEPT TROPANE DERIVATIVES):	
Oxybutynin chloride	PD.
Oxyphenacylimine hydrochloride	PFZ.
Trihexyphenidyl hydrochloride	ACY.
PARASYMPATHOLYTIC TROPANE DERIVATIVES:	
Anisotropine methylbromide	ARA.
Benztropine mesylate	ARA.
PARASYMPATHOLIMETIC AGENTS:	
Bethanechol chloride	GAN.
Neostigmine methylsulfate	HOF.
Pyridostigmine bromide	HOF.
SYMPATHOLYTIC AGENTS:	
Timolol maleate	MRK.
*CENTRAL DEPRESSANTS AND STIMULANTS:	
*ANALGESICS, ANTIPIRETTICS, AND NONHORMONAL ANTI- INFLAMMATORY AGENTS:	
Acetaminophen	MAL, MON, PEN, SHD.
Aminobenzoic acid	WYK.
Aspirin	DOW, MON, MOR, SD.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*CENTRAL DEPRESSANTS AND STIMULANTS:	
*AMALGAMICS, ANTIPIRETTICS, AND NONHORMONAL ANTI-INFLAMMATORY AGENTS--CONTINUED	
Aurothioglucose	SCH.
Choline magnesium salicylate	LEM.
Diflunisal	MRK.
Fenpropfen	LIL
Ibuprofen	TEA
Indomethacin	MRK.
Isoxicam	PD.
Meclofenamate, sodium	PD.
Mefenamic acid	PD.
Mefenamic acid	PD.
Mepredone hydrochloride	FEN, SDW, WYT.
Methadone hydrochloride	MAL.
Morphine sulfate	MAL, PEN.
Oxycodone hydrochloride	DUP, MAL, PEN.
Oxyphenbutazone	CGY.
Pentazocine	SD.
Pentazocine hydrochloride	SD.
Piroxicam	PFZ.
Potassium aminobenzoate	GAN
Potassium salicylate	KLM
Propoxyphene hydrochloride	GAN, LIL.
Propoxyphene napsylate	GAN, LIL.
Salicylate	WK.
Sodium aminobenzoate	GAN.
Sodium salicylate	KLM.
Sulindac	MRK.
Analgesics and antipyretics, other than salicylates, all other	SCH, X.
*ANTICONSULSANTS, HYPNOTICS, AND SEDATIVES:	
*ANTICONSULSANTS (EXCEPT BARBITURATES):	
Aminoglutethimide	CGY.
Ethosuximide	PD.
Ethotoin	ABB.
Phenytoin	PD.
Phenytoin, sodium	PD.
Valproic acid	ABB.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*CENTRAL DEPRESSANTS AND STIMULANTS--CONTINUED	:
*ANTICONVULSANTS, HYPNOTICS, AND SEDATIVES:	:
BARBITURATES:	:
Amobarbital-----	GAN.
Amobarbital, sodium-----	GAN.
Butabarbital-----	GAN.
Butabarbital, sodium-----	ABB, GAN.
Butalbital-----	GAN.
Pentobarbital-----	GAN.
Pentobarbital, sodium-----	ABB, GAN.
Phenobarbital-----	GAN.
Phenobarbital, sodium-----	GAN.
Secobarbital, sodium-----	GAN.
Talbutal-----	GAN.
Thiamylal, sodium-----	ABB, PD.
Thiopental, sodium-----	ABB.
Alprazolam-----	UPJ.
Ethinorvynol-----	ABB.
Glutethimide-----	CCY, GAN.
*ANTIDEPRESSANTS:	:
Amiripryline-----	MRK.
Amiripryline hydrochloride-----	GAN, MRK.
Doxepin hydrochloride-----	PFZ, SK.
Fluoxetine hydrochloride-----	LIL.
Imipramine hydrochloride-----	CCY.
Maprotiline hydrochloride-----	CCY.
Nortriptyline hydrochloride-----	LIL.
*ANTIUSIVES:	:
Benzonatate-----	CCY.
Carbamphen edisylate-----	SK.
Codeine-----	HAL, MRK, PEN.
Dextromethorphan hydrobromide-----	AND, HOF.
Hydrocodone bitartrate-----	HAL.
Noscopine-----	HAL, PEN.
Thebaine-----	HAL, PEN.
*TRANQUILIZERS:	:
PHENOTHIAZINE DERIVATIVES:	:
Chlorpromazine hydrochloride-----	SK.
Fluphenazine hydrochloride-----	TRD.
Perphenazine-----	SCH.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*CENTRAL DEPRESSANTS AND STIMULANTS--CONTINUED	
*TRANQUILIZERS:	
PHENOTHAZINE DERIVATIVES--CONTINUED	
Prochlorperazine edisylate	SK.
Prochlorperazine maleate	SK.
Promethazine hydrochloride	WT.
Promethazine hydrochloride	WT.
Trifluoperazine	SK.
Trifluoperazine hydrochloride	SK.
OTHER TRANQUILIZERS:	
Clorazepate dipotassium	ABB.
Hydroxyzine pamoate	LEM, PFZ.
Meproamate	ABB.
Molindone hydrochloride	PD.
Oxazepam	WT.
Przepam	NEF.
Thiothixene hydrochloride	PFZ.
Triazolam	UPJ.
*OTHER CENTRAL DEPRESSANTS AND STIMULANTS:	
AMPHETAMINES:	
Amphetamine	ARN.
Amphetamine sulfate	ARN.
Dextroamphetamine	ARN.
Dextroamphetamine sulfate	ARN, SK.
Methamphetamine	ARN.
Methamphetamine hydrochloride	ARN.
GENERAL ANESTHETICS:	
Enflurane	OH.
Isoflurane	OH.
Ketamine hydrochloride	PD.
RESPIRATORY AND CEREBRAL STIMULANTS:	
CAFFEINE (NATURAL AND SYNTHETIC):	
Caffeine, natural	GPR, GMF.
Caffeine, synthetic	PFZ.
OTHER RESPIRATORY AND CEREBRAL STIMULANTS:	
Benzphetamine hydrochloride	UPJ.
Diethylpropion hydrochloride	BKC, GAN.
Doxapram hydrochloride	LLI.
Methylphenidate hydrochloride	CCY.
Nikethamide	GAN.
Phendimetrazine tartrate	GAN, HEX, SWD.
Pentetamine	GAN, HEX, SWD.
Phentermine hydrochloride	GAN, HEX, SWD.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*CENTRAL DEPRESSANTS AND STIMULANTS--CONTINUED	
SKELETAL MUSCLE RELAXANTS:	
Chlorphenesin carbamate	UPJ.
Cyclobenzaprine hydrochloride	MRK.
Methocarbamol	LLI.
Orphenadrine citrate	RIK.
Succinylcholine chloride	ABB, BUR.
DERMATOLOGICAL AGENTS:	
Aluminum phenolsulfonate	SAL.
Ammonium phenolsulfonate	SAL.
Salicylic acid	DOW, KLM, MON.
Zinc phenolsulfonate	MAL, SAL.
*EFFECTORANTS AND MUCOLYTIC AGENTS:	
Ethylenediamine dihydroiodide	AJY, DFW, WAG, WHL.
Guaifenesin	LLI.
Iodinated glycerol	X.
*GASTROINTESTINAL AGENTS AND THERAPEUTIC NUTRIENTS:	
GASTROINTESTINAL AGENTS:	
CHOLINE CHLORIDE (ALL GRADES):	
*Choline chloride (animal feed grade)	CHO, HFT, IMC, NUT, TWH.
Choline chloride (medicinal grade)	HFT.
OTHER GASTROINTESTINAL AGENTS:	
Betaine hydrochloride	HFT.
Calcium polycarbophil	LLI.
Choleretics and hydrocholeretics, all other	UPJ.
Choline bicarbonate	HFT, IMC.
Choline bitartrate	HFT.
Choline dihydrogen citrate	HFT.
Cimetidine	SK.
Cimetidine hydrochloride	SK.
Colectipol hydrochloride	UPJ.
Dextrothyroxine, sodium	BAX.
Dihydroxyaluminum aminoacetate	CHT.
Diphenoxylate	MAL.
Docusate, calcium	ACY.
Docusate, potassium	ACY.
Docusate, sodium	ACY, MAL.
Gemfibrozil	PD.
Phenolphthalein	SCH.
Sitosterols	UPJ.

TABLE 2. --MEDICINAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*GASTROINTESTINAL AGENTS AND THERAPEUTIC NUTRIENTS:	
THERAPEUTIC NUTRIENTS:	
Calcium gluceptate-----	PFZ.
Copper gluconate-----	PFZ.
Magnesium gluconate-----	PFZ.
Manganese gluconate-----	PFZ.
Potassium gluconate-----	PFZ.
Zinc gluconate-----	PFZ.
Therapeutic nutrients, all other-----	LEM.
HORMONES AND SYNTHETIC SUBSTITUTES:	
ANABOLIC AGENTS AND ANDROGENS:	
Fluoxymesterone-----	UPJ.
Methyltestosterone-----	UPJ.
Stanozolol-----	SB.
Testosterone-----	UPJ.
Testosterone cypionate-----	UPJ.
Testosterone enanthate-----	UPJ.
Testosterone propionate-----	UPJ.
Zeranol-----	IMC.
Anabolic agents and androgens, all other-----	X.
CORTICOSTEROIDS:	
Acromethasone-----	SCH.
Betamethasone-----	SCH.
Betamethasone dipropionate-----	SCH.
Betamethasone sodium phosphate-----	SCH.
Betamethasone valerate-----	SCH.
Cortisone acetate-----	UPJ.
Dexamethasone-----	MRK.
Dexamethasone acetate-----	MRK.
Dexamethasone sodium phosphate-----	MRK.
Diflorasone diacetate-----	UPJ.
Fludrocortisone acetate-----	UPJ.
Fluorometholone-----	UPJ.
Halcinonide-----	TRD.
Hydrocortisone-----	UPJ.
Hydrocortisone acetate-----	UPJ.
Medrysone-----	UPJ.
Meprednisone-----	UPJ.
Meprednisone acetate-----	UPJ.
Methylprednisolone-----	ABB.
Prednisolone-----	UPJ.
Prednisolone acetate-----	UPJ.
Prednisone-----	UPJ.

SCH, UPJ.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985---CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
HORMONES AND SYNTHETIC SUBSTITUTES--CONTINUED	
CORTICOSTEROIDS--CONTINUED	
Triamcinolone	TRD, X.
Triamcinolone acetonide	TRD, UPJ.
Triamcinolone diacetate	TRD, UPJ.
Corticosteroids, all other	X.
ESTROGENS AND PROGESTOGENS:	
ESTROGENS:	
Dieneestrol	X.
Estradiol cypionate	UPJ.
Estrogens, conjugated	ORG.
Estrogens, esterified	ORG.
Estrone	SRL.
Estrogens, all other	ORG, X.
PROGESTOGENS:	
Alprostadiol	UPJ.
Carboprost tromethamine	UPJ.
Dinoprostone tromethamine	UPJ.
Hydroxyprogesterone caproate	UPJ.
Medroxyprogesterone acetate	SRL, UPJ.
Megestrol acetate	UPJ.
Melengestrol acetate	UPJ.
Progesterone	UPJ.
SYNTHETIC HYPOGLYCEMIC AGENTS:	
Acetohexamide	LIL.
Chlorpropamide	FPZ.
Tolazamide	UPJ.
Tolbutamide	UPJ.
Synthetic hypoglycemic agents, all other	X.
THYROID HORMONE AND ANTITHYROID AGENTS:	
Levothyroxine, sodium	BAX.
Methimazole	LIL.
Thyroglobulin	NEP.
Thyroid	ARP.
OTHER HORMONES AND SYNTHETIC SUBSTITUTES:	
Calcitonin	ARP.
Corticotropin	ARP, ORG.
Danazol	SD.
Dinoprost tromethamine	UPJ.
Glucagon	LIL.
Gonadorelin	BIB.
Insulin	LIL.

TABLE 2. --MEDICINAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*LOCAL ANESTHETICS:	
Benzocaine-----	WYK.
Butamben-----	ABB.
Diucaine-----	CGY.
Dibucaine hydrochloride-----	CGY.
Lidocaine-----	LEM, SDM, WYK.
Lidocaine hydrochloride-----	LEM, WYK.
Mepivacaine hydrochloride-----	LEM, WYK.
Prilocaine hydrochloride-----	ABB.
Prilocaine hydrochloride-----	WYK.
*RENAL-ACTING AND EDEMA-REDUCING AGENTS:	
BENZOTHIADIAZINE DERIVATIVES:	
Benzthiazide-----	PfZ.
Chlorothiazide-----	MRK.
Hydrochlorothiazide-----	ABB, CGY, MRK, SK.
Methyclothiazide-----	ABB.
Trichlormethiazide-----	SCH.
OTHER RENAL-ACTING AND EDEMA-REDUCING AGENTS:	
Acetazolamide-----	ACY.
Amiloride hydrochloride-----	MRK.
Canrenoate, potassium-----	MRK.
Dichlorophenamide-----	MRK.
Ethacrynic acid-----	MRK.
Probeneid-----	MRK, SAL.
Spirololactone-----	SRL.
Sulfimpyrazone-----	CGY.
Triamterene-----	SK.
*SMOOTH MUSCLE RELAXANTS:	
Atracurium besylate-----	BUR.
Flavoxate hydrochloride-----	SK.
Oxtriphylline-----	HEP, PD.
Papaverine hydrochloride-----	PER.
theophylline sodium glycinate-----	CHT.
*VITAMINS:	
VITAMIN A:	
Beta carotene (provitamin A)-----	HOF.
Tretinoin (vitamin A acid)-----	EK.
Vitamin A acetate (animal feed grade)-----	BAS, HOF.
Vitamin A acetate (medicinal grade)-----	HOF.
Vitamin A alcohol-----	HOF.
Vitamin A palmitate (medicinal grade)-----	HOF.
Vitamin A propionate-----	HOF.
Vitamin A, all other-----	EK.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*VITAMINS--CONTINUED	
VITAMIN B--COMPLEX:	
NIACIN AND DERIVATIVES:	
Niacin (animal feed grade)	REP.
Niacin (medicinal grade)	REP.
Nicotinamide (medicinal grade)	REP, RIL.
Nicotinamide (animal feed grade)	RIL.
PANTOTHENIC ACID DERIVATIVES:	
Dexpantethenol	HOF.
Pantethenol	HOF.
OTHER B-COMPLEX VITAMINS:	
Biotin	HOF.
Cyanocobalamin (animal feed grade)	MRK.
Cyanocobalamin (U.S.P. crystalline)	MRK.
Pyridoxine	HOF.
Riboflavin (animal feed grade)	MRK.
Riboflavin (medicinal grade)	HOF, MRK.
Thiamine hydrochloride	HOF.
Thiamine mononitrate	HOF.
VITAMIN C:	
Ascorbic acid	HOF.
Calcium ascorbate	HOF.
Sodium ascorbate	HOF.
VITAMIN D:	
Cholecalciferol (vitamin D)	VTH.
Ergocalciferol (vitamin D)	VTH.
*VITAMIN E:	
DL-ALPHA TOCOPHERYL ACETATE (ALL GRADES):	
dl- α Tocopheryl acetate (animal feed grade)	BAS, HOF.
dl- α Tocopheryl acetate (medicinal grade)	BAS, HOF.
OTHER VITAMIN E:	
d- α Tocopherol	EKT, SCP.
dl- α Tocopherol	HOF.
d- α Tocopheryl acetate	EKT, SCP.
d- α Tocopheryl acid succinate	EKT, SCP.
VITAMIN K:	
MENADIOLONE SODIUM BISULFITE:	
Menadione sodium bisulfite (anhydrous)	ABB.
Menadione sodium bisulfite (trihydrate)	HET.
*MISCELLANEOUS MEDICINAL CHEMICALS:	
ANTINEOPLASTIC AGENTS:	
Azathioprine	BUR.
Cytarabine	UPJ.

TABLE 2.--MEDICAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*MISCELLANEOUS MEDICAL CHEMICALS--CONTINUED	
AMTNEOPLASTIC AGENTS--CONTINUED	
Merceptopurine-----	BUR.
Methotrexate-----	BRS.
Thioguanine (hemihydrate)-----	BUR, LIL.
Vinblastine sulfate-----	BUR.
Vincristine sulfate-----	LIL.
Antineoplastic agents, all other-----	SCH.
CARDIOVASCULAR AGENTS:	
ANTIHYPERTENSIVE AGENTS:	
Captopril-----	TRD.
Diazoxide-----	SCH.
Guanabenz-----	SCH.
Guanethidine sulfate-----	CGI.
Hydralazine hydrochloride-----	CGI.
Methyldopa-----	HRK.
Metoprolol tartrate-----	CGI.
Minoxidil-----	UPJ.
Nadolol-----	TRD.
Enalapril maleate-----	HRK.
VASODILATORS:	
Amyl nitrite-----	BUR, FKE.
Flecainide acetate-----	RIK.
Nifedipine-----	PEZ.
Vasodilators, all other-----	LIL.
OTHER CARDIOVASCULAR AGENTS:	
Accecinide-----	PD.
Digoxin-----	BUR.
Disopyramide phosphate-----	SEL.
Procainamide hydrochloride-----	PD, WYK.
Tocainide-----	HRK.
DIAGNOSTIC AGENTS:	
ROENTGENOGRAPHIC CONTRAST MEDIA:	
Diatrizoate, meglumine-----	SDW.
Diatrizoate, sodium-----	SDW.
Iopanoic acid-----	SDW.
Iothalamate, meglumine-----	MAL.
Tyropionate, sodium-----	SDW.
Roentgenographic contrast media, all other-----	
OTHER DIAGNOSTIC AGENTS:	
Albumin-----	SPR.
Amnihippuric acid-----	SPR.
Glutamy-p-nitroaniline (liver function test)-----	REC.
Indocyanine green-----	HYN.
Metyrapone-----	CGI.
Phenoisulfonphthalein-----	HYN.

TABLE 2.--MEDICINAL CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MEDICINAL CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*MISCELLANEOUS MEDICINAL CHEMICALS--CONTINUED	:
HEMATOLOGICAL AGENTS:	:
ANTICOAGULANTS:	:
Ammonium heparin-----	RIK, SPR.
Anisindione-----	SCH.
Benzalkonium heparin-----	RIK.
Lithium heparin-----	RIK, SPR.
Potassium warfarin-----	X.
Sodium heparin-----	SPR.
Warfarin-----	SDM.
OTHER HEMATOLOGICAL AGENTS:	:
Cellulose, oxidized-----	EKT.
Dextran-----	PHR.
UNCLASSIFIED MEDICINAL CHEMICALS:	:
Allopurinol-----	BUR.
Carbidopa-----	HKK.
Etidronate, disodium-----	NOR.
Levodopa-----	HON.
Medicinal chemicals, all other-----	BIB.

TABLE 3.--MEDICINAL CHEMICALS: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of medicinal chemicals to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE :	NAME OF COMPANY	CODE :	NAME OF COMPANY
:	:	:	:
:	:	:	:
ABB :	Abbott Laboratories	MAL :	Mallinckrodt, Inc.
ACY :	American Cyanamid Co.	MHI :	Morton-Thiokol, Inc., Ventron Div.
ADC :	Anderson Development Co.	MON :	Monsanto Co.
AJY :	Ajay Chemicals, Inc.	MRK :	Merck & Co., Inc.
AHD :	Cyclo Products, Inc.	:	:
ARA :	Syntex Chemicals, Inc.	NEP :	Nepera, Inc.
ARN :	Arenol Chemical Corp.	NES :	Ruetgers-Nease Chemical Co.
ARP :	Armour Pharmaceutical Co.	NOR :	Norwich Eaton Pharmaceutical, Inc.
ARS :	Arsynco, Inc.	NUT :	Nutrius, Inc.
:	:	:	:
BAS :	BASF Corp.	OH :	Anaquest
BAX :	Baxter Travenol Laboratories, Inc.	ORG :	Organics/LaGrange, Inc.
BEE :	Beecham, Inc.:	ORT :	Roehr Chemicals, Inc., Div. of Aceto Corp.
:	Beecham Laboratories Div.	:	:
:	Beecham Western Hemisphere Inc.	PD :	Parke-Davis Div. of Warner-Lambert Co.
BIB :	Beckman Instruments, Inc., Spinco Div.	PEN :	CPC International, Inc., Penick Corp.
BKC :	J. T. Baker Chemical Co.	PFN :	Pfanstiehl Laboratories, Inc.
BOC :	Biocraft Laboratories, Inc.	PFZ :	Pfizer, Inc. & Pfizer Pharmaceuticals, Inc.
BRS :	Bristol-Myers Co.	PHR :	Pharmachem Corp.
BUR :	Burroughs Wellcome Co.	:	:
:	:	REG :	Regis Chemical Co.
CGY :	Ciba-Geigy Corp.	RIK :	Riker Laboratories, Inc. Sub of 3M Co.
CHT :	Chattem, Inc.	RIL :	Reilly Tar & Chemical Corp.
CPR :	Certified Processing Corp.	RSA :	R.S.A. Corp.
:	:	:	:
DAN :	Dan River, Inc., Chemical Products Div.	SAL :	Salsbury Laboratories, Inc.
DOW :	Dow Chemical Co.	SCH :	The Schering Corp.
DPW :	Deepwater, Inc.	SCP :	Henkel Corp.
DUP :	E. I. duPont de Nemours & Co., Inc.	SD :	Sterling Drug, Inc.:
:	:	SD :	Sterling Pharmaceuticals, Inc.
DK :	Eastman Kodak Co.:	SDW :	Sterling Organics Div.
EKT :	Tennessee Eastman Co. Div.	SFS :	Stauffer Chemical Co., Specialty Group
:	:	SK :	SmithKline Beckman Corp., SmithKline Chemicals Div.
FRE :	Frank Enterprises, Inc.	:	:
FLM :	Fleming Laboratories, Inc.	SPR :	Scientific Protein Laboratories
:	:	SRL :	C.D. Searle & Co.
GAF :	GAF Corp., Chemical Group	:	:
GAN :	Cane's Chemicals, Inc.	TMH :	Thompson-Hayward Chemical Co.
GMF :	General Foods Manufacturing Corp., Maxwell House Coffee Div.	TNA :	Ethyl Corp.
:	:	TRD :	Squibb Manufacturing, Inc.
HET :	Heterochemical Corp.	TX :	Texaco, Inc., Texaco Chemical Co.
HEX :	Hexagon Laboratories, Inc.	:	:
HFT :	Syntex Agribusiness, Inc., Nutrition & Chemical Div.	UCC :	Union Carbide Corp.
:	:	UPJ :	Upjohn Co.
HOF :	Hoffmann-LaRoche, Inc.	:	:
HXL :	Hexcel Corp., Hexcel Chemical Products	VTM :	Vitamins, Inc.
HYN :	Hynson, Westcott & Dunning, Inc.	:	:
:	:	WAC :	West Design-Chemical, Inc.
IMC :	International Minerals & Chemical Corp.	WHL :	Whitmoyer Laboratories, Inc.
:	:	WTK :	Whittaker Corp., Heico Chemicals Div.
KAN :	Kanasco, LTD	WTL :	Pennwalt Corp., Lucidol Div.
KLM :	Kalama Chemical, Inc.	WYK :	Wyckoff Chemical Co., Inc.
KPT :	Koppers Co., Inc.	WYT :	Wyeth Laboratories, Inc., Wyeth Laboratories Div. of American Home Products Corp.
:	:	:	:
LEM :	Napp Chemicals, Inc.	:	:
LIL :	Eli Lilly & Co., U.S. and Puerto Rico	:	:
LLI :	Lee Laboratories, Inc.	:	:
:	:	:	:

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION VII -- FLAVOR AND PERFUME MATERIALS

STATISTICAL HIGHLIGHTS

Eric Land

202-523-0491

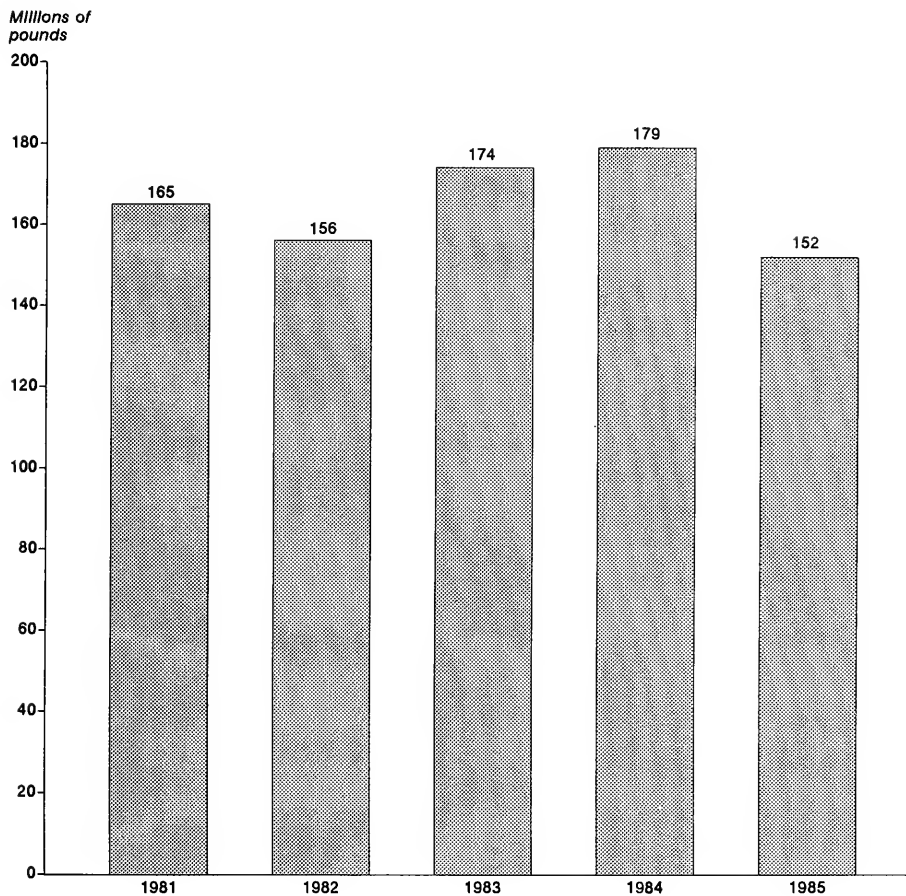
Flavor and perfume materials are organic chemicals used to impart flavors and aromas to foods, beverages, cosmetics, and soaps. These aroma chemicals are also utilized to neutralize or mask unpleasant odors in industrial processes and products, as well as in consumer products.

Total domestic production of flavor and perfume materials in 1985 amounted to 151.9 million pounds. Sales of these materials in 1985 amounted to 86.1 million pounds, valued at \$586.6 million, compared with 114.7 million pounds, valued at \$636.8 million, in 1984. U.S. production of flavor and perfume materials in 1985 decreased by 15.0 percent from the level in 1984 while the quantity of sales decreased by 25.0 percent, primarily owing to declines in production and sales of two major chemicals in this section, monosodium glutamate and saccharin.

Production of cyclic flavor and perfume materials in 1985 amounted to 101.2 million pounds; sales amounted to 70.5 million pounds, valued at \$546.9 million. Individual publishable chemicals in the cyclic group produced in the greatest volume in 1985 were anethole, q-methylionone, and eugenol.

U.S. output of acyclic flavor and perfume materials in 1985 amounted to 50.7 million pounds; sales of these materials amounted to 15.6 million pounds, valued at \$39.6 million. Monosodium glutamate, formerly the most important of the acyclic chemicals was no longer produced domestically.

Figure 1.—Flavor and perfume chemicals.



Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

TABLE 1.--FLAVOR AND PERFUME MATERIALS: U.S. PRODUCTION AND SALES, 1985

[Listed below are all synthetic organic flavor and perfume materials for which any reported data on production or sales may be published. (Leaders (...)) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all flavor and perfume materials for which data on production and/or sales were reported and identifies the manufacturers of each]

FLAVOR AND PERFUME MATERIALS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT
		1,000 pounds	1,000 dollars	Per pound
Grand total-----	151,871	86,075	586,560	\$6.81
CYCLIC				
Total-----	101,217	70,464	546,937	7.76
Benzenoid and Naphthalenoid				
Total-----	86,835	60,151	502,466	8.35
4-Allyl-2-methoxyphenol (Eugenol)-----	292	231	775	3.35
Phenethyl isobutyrate-----	10	...	...	...
2-Phenethyl phenylacetate-----	32	20	117	5.87
Phenylacetaldehyde, dimethyl acetal-----	107	108	461	4.27
p-Propenylanisole (Anethole)-----	2,695	2,302	5,649	2.45
All other benzenoid and naphthalenoid materials-----	83,699	57,490	495,464	8.62
Terpenoid, Metaracyclic, and Acyclic				
Total-----	14,382	10,313	44,471	4.31
Cedryl acetate-----	197	125	668	5.34
Ionones-----	89	111	948	8.55
γ-Methylionone-----	651	468	3,020	6.45
α-Terpinyl acetate-----	1,231	...	...	...
Vetivenyl acetate-----	28	13	643	48.94
All other terpenoid, heterocyclic, and alicyclic materials-----	12,186	9,596	39,192	4.08
ACYCLIC				
Total-----	50,654	15,611	39,623	2.54
Allyl hexanoate-----	23	42	149	3.58
Citronellyl formate-----	21	16	138	8.78
3,7-Dimethyl-cis-2,6-octadien-1-ol acetate (Neryl acetate)-----	22	19	95	4.88
3,7-Dimethyl-1,6-octadien-3-yl propionate (Linalyl propionate)-----	17	5	108	23.93
3,7-Dimethyloctanol-1 (Tetrahydrogeraniol)-----	368	...	...	...
3,7-Dimethyl-6-octen-1-ol (Citronellol)-----	1,568	1,558	4,442	2.85
Ethyl hexanoate-----	...	8	38	4.65
Geranyl acetate-----	130	98	435	4.42
Geranyl formate-----	...	9	68	7.77
2-Hexenal-----	...	3	54	18.03
cis-3-Hexen-1-yl acetate-----	4	...	...	...
7-Hydroxy-3,7-dimethyl-1-octanol (Hydroxycitronellal)-----	249	...	...	...
Isopentyl butyrate-----	...	81	167	2.06
1,3-Nonanediol acetate-----	90	67	362	5.42
N-Octyl acetate-----	3	...	...	...
All other acyclic materials-----	48,159	13,705	33,567	2.45

¹Calculated from unrounded figures.

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT.]

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC	
BENZENOID AND NAPHTHALENOID:	
2'-Acetonaphthone (8-Methyl naphthyl ketone)	GIV.
1-Acetoxy-2-sec-butyl-1-ethylcyclohexane	GIV, IFF.
P-Allylanisole	SCH, X.
Allyl anthranilate	RT(E).
4-Allyl-1,2-dimethoxybenzene (4-Allylveratrole)	CI, X.
*4-Allyl-2-methoxyphenol (Eugenol)	BDS, CI, ELN, GIV, IFF, UNG.
4-Allyl-2-methoxyphenol acetate (Eugenol acetate)	CI.
α -Amyl cinnamic aldehyde	IFF.
Amyl cinnamyl acetate	IFF.
Amyl cinnamyl alcohol	IFF.
p-Anisaldehyde	GIV, FB.
Anisyl acetate	ELN, GIV.
Anisyl butyrate	RT(E).
Aurantol	BDS.
Benzal acetone	FB.
Benzaldehyde glyceryl acetal	GIV.
Benzophenone	CMN, PD.
Benzyl acetate	GIV, MON.
Benzyl benzoate	MON, MRF.
Benzyl butyrate	ELN, FB.
Benzyl cinnamate	FB.
Benzyl formate	ELN.
Benzyl isobutyrate	ELN.
Benzyl isopentyl ether	GIV.
Benzyl isovalerate	ELN.
Benzyl laurate	GIV.
1-(Benzylloxy)-2-methoxy-4-propenylbenzene (Benzyl isoeugenyl ether)	GIV.
Benzyl phenylacetate	ELN, GIV.
Benzyl propionate	ELN, IFF, FB.
Benzyl salicylate	FB, GIV, MON.
4-tert-Butyl-2',6'-dimethyl-3',5'-dinitroacetophenone (Musk Ketone)	GIV.
p-tert-Butyl- α -methylhydrocinnamaldehyde	GIV, RDA.

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
BENZENOID AND NAPHTHALENOID--CONTINUED	
1-tert-Butyl-3,4,5-trimethyl-2,6-dinitrobenzene (Musk tibetene)	GIV.
5-tert-Butyl-2,4,6-trinitro-m-xylene (Musk xylol)	GIV.
Carvacrol	GIV.
Cineole (Eucalyptol)	NCI.
Cinnamaldehyde	CI, FB.
Cinnamyl acetate	ELM, FB.
Cinnamyl alcohol	FB.
Cinnamyl butyrate	FB.
Cinnamyl cinnamate	FB.
Cinnamyl nitrite	IFF.
Cinnamyl propionate	ELM.
Coumarin	RDA.
Cumyl acetate	IFF.
Cumyl alcohol	IFF.
Cumyl formate	IFF.
trans-Decahydro- β -naphthol	IFF.
trans-Decahydro- β -naphthyl acetate	IFF.
2-4-Dibromo-6-nitro-m-cresyl methyl ether	GIV.
1,2-Dimethoxy-4-propenylbenzene (4-Propenylveratrol)	FB.
3,7-Dimethyl-2,6-octadienyl phenylacetate (Geranyl phenylacetate)	GIV.
α , α -Dimethylphenethyl acetate	IFF.
α , α -Dimethylphenethyl alcohol	IFF.
Dimethyl phenylacetyl carbinol	IFF.
p-Ethoxybenzaldehyde	GIV.
2-Ethoxynaphthalene	GIV.
Ethyl anthranilate	FB.
Ethyl benzoate	ELM.
Ethyl cinnamate	ELM.
Ethyl- α , β -epoxy- β -methylhydrocinnamate	ELM.
2-Ethyl hexyl salicylate	ELM, FEL, MOM.
Ethyl phenylacetate	ELM, GIV.
Ethyl salicylate	FB.
Geranyl benzoate	GIV.
Heliotropyl acetate	IFF.
α -Hexylcinnamaldehyde	CI, IFF.
Hexyl salicylate	IFF.
Hydratropaldehyde	CI, GIV.
Hydratropaldehyde, dimethyl acetal	GIV, IFF.
Hydrocinnamic acid	ELM.
Hydrocoumarin	ELM, GIV.

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
BENZENOID AND NAPHTHALENOID--CONTINUED	
Hydroxycitronellal methyl anthranilate	GIV, IFF.
4-Hydroxy-3-ethoxybenzaldehyde (Ethylvanillin)	RDA.
4-Hydroxy-3-methoxybenzaldehyde (Vanillin)	MON.
4-(4-Hydroxy-3-methoxyphenyl)-2-butanone (Vanillyacetone)	GIV.
Isoamyl phenylacetate	ELN.
Isoamyl salicylate	IFF.
Isobutyl benzoate	ELN.
Isobutyl phenylacetate	ELN, FB.
Isobutylquinoline	IFF.
Isobutyl salicylate	FB.
Isobutenyl tetrahydrobenzaldehyde (Myrec aldehyde)	IFF.
Isopentyl benzoate	GIV.
Isopentyl salicylate	FB, MON.
p-Isopropyl- α -methylhydrocinnamaldehyde (Cyclamen- aldehyde)	RDA.
d-Limonene	RT(E).
1-Limonene	SCM.
Linalyl anthranilate	BDS, FMT.
p-Mentha-1,8-diene (Limonene)	IFF.
p-Methoxybenzyl alcohol (Anisyl alcohol)	ELN, GIV.
o-Methoxycinnamic aldehyde crystals	CI.
2-Methoxynaphthalene	GIV.
1-p-Methoxyphenyl penten-1-one-3 (α -Methyl- anisylacetone)	GIV.
2-Methoxy-4-propenylphenol (Isoeugenol)	CI.
2-Methoxy-4-propenylphenol, acetate	ELN.
4-Methylacetophenone	OMN.
p-Methylanisole	GIV, PSG.
Methyl anthranilate	FB, PSG, UNG.
Methyl benzoate	KLM, MRF.
α -Methylbenzyl acetate (Styralyl acetate)	CI, IFF.
α -Methylcinnamaldehyde	CI, FB.
Methyl cinnamate	FB.
6-Methylcoumarin	GIV.
1,2-Methylenedioxy-4-propylene benzene (isoSafrole)	AMB.
p-Methylhydratropaldehyde	GIV.
1-Methyl-isoheptyl-hexahydrobenzaldehyde	GIV.
Methyl N-methylanthranilate	AMB.
Methyl phenylacetate	ELN.

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985.--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
BENZENOID AND NAPHTHALENOID--CONTINUED	
3-Methyl-5-phenyl-1-pentanol	IFF.
Methyl salicylate	KLM, NON.
Musk 89	IFF.
1,1,3,3,5-Pentamethyl-4,6-dimetroindan (Muskene)	GIV.
α-Pentylcinnamaldehyde	CI, FB.
Phenethyl acetate	BDS, FB, IFF.
Phenethyl benzoate	IFF.
Phenethyl formate	ELN, IFF.
*Phenethyl isobutyrate	ELN, GIV, IFF.
Phenethyl isovalerate	ELN, FB.
*2-Phenethyl phenylacetate	BDS, ELN, FB, GIV, IFF.
Phenethyl propionate	ELN.
Phenethyl salicylate	GIV.
2-Phenoxyethyl isobutyrate	ELM, FB.
Phenylacetaldehyde	GIV.
*Phenylacetaldehyde, dimethyl acetal	GIV.
Phenylacetic acid	CI, ELM, GIV.
Phenylacetic acid, isopentyl ester	GIV.
α-Phenylanisole	GIV.
Phenylethyl anthranilate	RT(E).
Phenylethyl 2-methyl butyrate	SCH.
Phenylethyl tiglate	FB.
3-Phenylpropyl acetate	ELN, GIV.
3-Phenylpropyl cinnamate	FB.
Piperonal (Heliotropin)	AMB.
*p-Propenylanisole (Anethole)	ARZ.
4-Propenyl-1,2-dimethoxybenzene (Methyl isoeugenol)	CI.
p-Propylanisol (Dihydroanethole)	FB, GIV.
SWEETENERS, SYNTHETIC:	
Aspartame	NSW.
Cyclohexanesulfamic acid, calcium salt (Calcium cyclamate)	ABB.
Cyclohexanesulfamic acid, sodium salt (Sodium cyclamate)	ABB.
Saccharin (1,2-Benzisothiazolin-3-one, 1,1-dioxide)	PSG.
Saccharin, sodium salt	IFF.
Tetramethyl, octahydro acetophenone	IFF.
Tetramethyl, octahydro acetyl naphthalene	IFF.
Synthetic sweetner material, all other	NSW.

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
BENZENOID AND NAPHTHALENOID--CONTINUED	
p-Tolualdehyde	GIV.
p-Tolylacetaldehyde	GIV.
p-Tolylacetate	ELN.
p-Tolylisobutyrate	GIV, IFF.
p-Tolyl octanoate	IFF.
p-Tolylphenylacetate	GIV.
α-(Trichloromethyl)benzyl acetate (Rosetone)	ARS.
Trimethyl benzyl dioxane	IFF.
Trimethylcyclohexyl salicylate	ARS.
All other benzenoid or naphthalenoid chemicals	IFF.
TERPENOID, HETEROCYCLIC, AND ALICYCLIC:	
4-Acetoxyethyl-4-nonene	FB.
Acetyl-n-butyl (2,3-Hexanedione)	FB.
Acetyl cedrene (Vertoflex)	BDS.
Acetyl isovaleryl (5-Methyl-2,3-hexanedione)	FB.
N-Acetyl methyl anthranilate	AMB.
Acetyl propionyl (2,3-Pentanedione)	FB.
Allo-ocimene	GIV, IFF, SCH, X.
Allyl cyclohexyl propionate	GIV.
Amyl cyclohexyl acetate	IFF.
Amyl acetate	GIV.
Beta methyl ionone coeur	IFF.
2-tert-Butylcyclohexanol	IFF.
2-tert-Butylcyclohexenone	IFF.
2-sec-Butylcyclohexanone	GIV.
P-tert-Butylcyclohexyl acetate (Verbenix)	CI, IFF.
Cadinene	FB.
α-Campholenic aldehyde	SCH.
Carrenoate, potassium	IFF.
l-Carvone	SCH.
B-Caryophyllene	BDS, GIV, SCH.
Caryophyllene oxide	GIV.
B-Cedrene epoxide (Andrane)	BDS, IFF.
Cedrenol	ELN, IFF.
Cedrol	ELN.
*Cedryl acetate	BDS, IFF.
Cedryl formate	IFF.
Cyclohexadecen-7-olide	IFF.

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
TERPENOID, HETEROCYCLIC, AND ALICYCLIC--CONTINUED	
2-Cyclohexylcyclohexanone	GIV, IFF.
Cyclohexyl ethyl acetate	IFF.
Cyclohexyl methanol dimethyl acetate	FB.
p-Cymene	SCM.
Dihydro-iso-jasnone	FB.
Dihydroindicyclopentadienyl acetate (Cyclacet)	BDS, CI, IFF.
Dihydroindicyclopentadienyl propionate	BDS, CI.
(Cyclaprop) (Verdyl propionate extra)	IFF, SCM.
Dihydro terpineol	SCM, X.
Dihydroterpinyl acetate	IFF.
Dimethyl cyclohexane methanol	FB.
Dimethyl pseudo ionone	IFF.
Galaxolide (1,3,4,6,7,8-Hexahydro-4,6,6,7,8,8-	IFF.
hexamethyl-cyclopenta-γ-2-benzopyran)	ELN, FB, GIV.
Guaiacwood acetate	FB.
Guaiene	IFF.
Hexadecanamide	IFF.
Hexahydro dimethyl methano-indenol	FB.
2-Hexyl-2-cyclopenten-1-one	FB.
3-Hydroxy-2-ethyl-4-pyrone (Ethylmaltol)	PFZ.
4-(4-Hydroxy-4-methyl pentyl)-3-cyclohexene-10-	
carboxaldehyde (Lyrall)	IFF.
3-Hydroxy-2-methyl-4-pyrone (Maltol)	PFZ.
4-Hydroxymonamic acid, γ-lactone (γ-Nonalactone)	ELN.
4-Hydroxundecanoic acid, γ-lactone (γ-Undecalactone)	ELN.
Ionone(α- and β-)	BDS, GIV, NCI.
α-Ionone	BDS, GIV, HOF, IFF.
β-Ionone	HOF.
Isobornyl acetate	NCI, RDA.
Isobornyl methyl ether	SCM.
Isobornyl propionate	ELN.
Isocamphyl cyclohexanols	GIV.
Isomenthone	GIV.
2-Isopropylcyclohexanol	GIV.
Isopulegyl acetate	GIV.
p-Mentha-1,3-diene (α-Terpinene)	SCM.
p-Mentha-1,4-diene (γ-Terpinene)	SCM.
p-Mentha-6,8-dian-2-ol (Carveol)	FB.
p-Mentha-6,8-dian-2-one (Carvone, Carvol)	FB.

TABLE 2.--FLAVORS AND PERFUME MATERIALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
TERPENOID, HETEROCYCLIC, AND ALICYCLIC--CONTINUED	
1-p-Mentha-6,8-dien-2-yl acetate (Carvyl acetate)	FB.
p-Menth-8-en-3-ol (Isopulegol)	GIV.
p-Menth-1-en-3-one (Piperitone)	GIV.
p-Menth-4-(8)-en-3-one (Pulegone)	GIV.
1-1-p-Menthen-6-yl-1-propanone	GIV.
d-Menthol	HAR, SCH
dl-Menthol, synthetic	GIV, HAR, NCI, SCH.
Menthyl acetate	FB, GIV, SCH.
1-Menthyl acetate	SCM.
Methylionone(α - and β -)	GIV, IFF, NCI.
* γ -Methylionone	BDS, GIV, NCI.
6-Methyl- α -ionone	BDS.
6-Methyl- β -ionone	BDS, NCI.
Nopol	NCI.
Nopyl acetate	NCI.
Rose oxide	FB.
α -Santalol	GIV.
Sassafras oil, hydrogenated	GIV.
Terpinene-ol	SCM.
Terpineol (α - and β -)	HFC, NCI.
α -Terpineol acetate	GIV, IFF, NCI, SCH.
α -terpinyl propionate	ELM.
3,3,5-Trimethyl cyclohexanol (n-Homenthol)	ARS.
Trimethyl cyclohexene carboxaldehyde	IFF.
Trimethyl cyclohexenyl butenone	IFF.
1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)-1,6-heptadien-3-one (Allyl- α -ionone)	IFF.
Trimethyl norborane methanol	IFF.
Vetiveneol	GIV.
*Vetivanyl acetate	BDS.
All other terpenoid, heterocyclic, or alicyclic flavor and perfume chemicals	ELM, FB, GIV, IFF.
	IFF, SCH.
ACYCLIC	
Allyl disulfide	IFF.
Allyl heptanoate	ELM, FB.

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*Allyl hexanoate	ELM, FB, UNG.
Allyl isovalerate	RT(E)
Allyl mercaptan	RT(E)
Allyl octanoate (Allyl caprylate)	RT(E)
Allyl sulfide	RT(E)
Amyl vinyl carbonyl acetate	IFF.
Bitter acids	RT(E)
Butter esters	RT(E)
3-bromo-propyl-amine hydrobromide	HFC.
Butyl butyryl lactate	ELM, RT(E)
Butyl undecylenate	FB, GIV.
Citral dimethyl acetal	CI, IFF.
Citronellallic acid	HFC.
Citronellyl acetate	BDS, ELM, GIV, IFF, NCI.
Citronellyl butyrate	GIV.
Citronellyl ethyl ether	IFF.
*Citronellyl formate	BDS
Citronellyl isobutyrate	BDS, ELM, GIV, IFF.
Citronellyl propionate	ELM, GIV, IFF.
Crude acetate mixture (linalyl, neryl, geranyl acetates, main components)	IFF.
Crude caryophyllene mixture (α,β, and γ isomers)	X.
Decanal (Capraldehyde)	NCI.
9-Decenyl acetate	CI, GIV.
Decyl acetate	IFF.
Diethyl acetal	GIV.
Diethyl isobutyldiimine malonate	FB.
Diethyl sebacate	HFC.
Diethyl succinate	ELM.
Diethyl succinate	MRF.
Dihexyl fumarate	FB.
d-Dihydrocarveol	SCM
Dihydrocarvone	SCM
Dihydrolinalool	SCM
Dihydro myrcenol	IFF, SCM.
Dihydro pentamethyl indanone	IFF.
Dihydroterpinyl acetate	IFF.
1,1-Dimethoxy octane	IFF.
2,6 Dimethyl-3-hepten-1-ol	GIV.
Dimethyl hexamediol	X.

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985.--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
2,5-Dimethyl-3-hexyne-2,5-diol	X
3,7-Dimethyl-trans-2,6-octadienal (Citral A, Geraniol)	BDS, FB
3,7-Dimethyl-2,6-octadienal (Citral B)	NCI, SCH
3,7-Dimethyl-cis-2,6-octadien-1-ol (Nerol)	ELM, FB, GIV, IFF, NCI, SCH
3,7-Dimethyl-trans-2,6-octadien-1-ol (Geraniol)	ELM, FEL, GIV, IFF, NCI, SCH
3,7-Dimethyl-1,6-octadien-3-ol (Linalool) (Linalyl alcohol)	ELM, FB, FEL, GIV, IFF, NCI, SCH
*3,7-Dimethyl-cis-2,6-octadienol, acetate (Neryl acetate)	ELM, GIV, IFF
3,7-Dimethyl-1,6-octadien-3-ol, acetate (Linalyl acetate)	ELM, FB, GIV, NCI, SCH(E)
3,7-Dimethyl-1,6-octadien-3-yl isobutyrate (Linalyl isobutyrate)	ELN
*3,7-Dimethyl-1,6-octadien-3-yl propionate (Linalyl propionate)	ELM, FB, GIV
Dimethyloctanal	GIV, SCH
*3,7-Dimethyloctanol-1 (Tetrahydrogeraniol)	GIV, IFF, NCI, SCH
3,7-Dimethyl-3-octanol	GIV, SCH
Dimethyloctanyl acetate	FB, IFF
3,7-Dimethyl-6-octen-1-ol (Citronellal)	GIV, SCH
*3,7-Dimethyl-6-octen-1-ol (Citronellol)	ELM, FB, GIV, IFF, NCI, SCH
3,7-Dimethyl-7-octenol 70%, 6-octenol isomer 30%	GIV
Dimethyl succinate	FB
Dimyrcetol	IFF
Dioxolane-2-acetate	IFF
Dodecane nitrile	IFF
Ethylacetate	FB
Ethyl butyrate	ELM, FB, WM
Ethyl caprate	ELM, FB
Ethyl crotonate	RT(E)
Ethyl formate	FB
Ethyl heptanoate	ELM, FB, FEL
*Ethyl hexanoate	ELM, FB, WM
Ethyl isovalerate	ELM, FB
Ethyl laurate	HPC, SCH
Ethyl-2-methyl butyrate	HPC, SCH
Ethyl-2-methyl pentanoate	HPC
Ethyl myristate	ELM, HPC
Ethyl nonanoate	ELM, FB

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1965--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
Ethyl octanoate	ELN, FB.
Ethyl propionate	FB, NW.
Ethyl trimethyl cyclopentenyl buteroi	IFF.
Ethyl valerate	ELN.
*Geranyl acetate	BDS, ELM, FEL, GIV, HFC, IFF, NCI, NW, SCH.
Geranyl butyrate	ELM, FB, GIV.
Geranyl crotonate	FB.
Geranyl ethyl ether	IFF.
*Geranyl formate	BDS, ELM, GIV.
Geranyl isobutyrate	IFF.
Geranyl isovalerate	FB.
Geranyl and methyl tiglate	FMT.
Geranyl nitrite (Citralva)	CI, IFF.
Geranyl propionate	ELM, FB.
Geranyl tiglate	FB.
Glyceryl tripropionate	HFC.
Heptanamide	FB.
Hexanoic acid (Caproic acid)	SCM.
*2-Hexenal	FB, GIV, SCH.
*2-Hexenol	FB, SCH.
*cis-3-Hexen-1-yl acetate	BDS, GIV, IFF.
cis-3-Hexenyl benzoate	BDS.
cis-3-Hexenyl butyrate	IFF, SCH.
cis-3-Hexenyl methyl carbonate	IFF.
cis-3-Hexenyl salicylate	BDS, IFF.
cis-3-Hexenyl tiglate	BDS.
Hexoxyacetaldehyde dimethyl acetal	FB.
Hexyl caproate	FB.
Hexyl 2-methylbutyrate	SCM.
Hydroxycitronellol	SCM.
*7-Hydroxy-3,7-dimethyl-1-octanal (Hydroxycitronellal)	FB, GIV, IFF, SCH.
7-Hydroxy-3,7-dimethyl octanal dimethyl acetal (Hydroxycitronellal, dimethyl acetal)	GIV.
Isobutyl acetate	FB, NW.
Isobutyl butyrate	FB.
Isodecyl neopentanoate	SEC.
Isononyl acetate	IFF.
Isopentyl acetate (Isoamyl acetate)	ELM, FB, HFC.
*Isopentyl butyrate	FB, GIV, HFC, NW.

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
Isopentyl caproate	FB.
Isopentyl caprylate	FB.
Isopentyl formate	ELM, FB.
Isopentyl isovalerate	ELM, FB, HPC.
Isopentyl propionate	FB.
Lauraldehyde	GIV, SCH.
3-Methyl-2-butenyl acetate	IFF.
2-Methylbutyl isovalerate	SCH.
Methyl butynol	X.
Methyl crotonate	RT(E).
2-Methyl decanal	IFF.
Methyl hexyl ether	SCH.
Methyl isobutyrate	HPC.
Methyl isovalerate	FB.
Methyl-2-methyl butyrate	SCH.
3-Methyl-2-(and)nonene nitrile	GIV.
Methyl nonen-3-oste	HPC.
Methyl-octyl aldehyde	CI.
Methylol methyl hexyl ketone	GIV.
Methyl pentynol	X.
8-Methyl thiopropionaldehyde	RT(E).
Methyl thiobutyrate	STG.
2-Methylundecanal	CI, GIV.
2-Methyl undecanal dimethylacetal	CI.
Myrcenyl acetate	IFF.
Myristaldehyde	GIV.
Nonanal	CI, GIV.
*1,3-Nonanediol acetate	ELM, GIV, IFF.
1,3-Nonanediol diacetate	SCH.
4-Nonene-4-carboxaldehyde	FB.
Nonyl acetate	IFF.
Nonylenic acid	HPC.
Octimene	IFF.
Octanal	GIV, IFF.
Octanal dimethylacetal	CI.
3-Octanone (Ethyl amyl ketone)	GIV.
*8-Octyl acetate	ELM, FB, SCH.
Octyl formate	FB.

TABLE 2.--FLAVOR AND PERFUME MATERIALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

FLAVOR AND PERFUME MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
Octyl isobutyrate-----	FB.
Octyl isovalerate-----	GIV.
Pseudo linalyl acetate (Neobergamate)-----	IFF.
Rhodinol-----	FB, FEL, GIV, IFF.
Rhodinyl acetate-----	IFF.
Tepyl acetate-----	ELN.
Tetrahydromyrcenol-----	SCM.
Trimethyl-cyclododeca-trienyl ethanone-----	IFF.
3,5,5-Trimethyl hexanal-----	IFF.
Undecanal-----	GIV.
9-Undecenal-----	CI, GIV.
Undecenal-10-----	IFF.
All other acyclic flavor and perfume materials-----	IFF.

TABLE 3.--FLAVOR AND PERFUME MATERIALS: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of flavor and perfume materials to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE :	NAME OF COMPANY	CODE :	NAME OF COMPANY
ABB :	Abbott Laboratories	IFF :	International Flavors & Fragrances, Inc.
AMR :	American Bio-Synthetics Corp.	KLM :	Kalama Chemical, Inc.
ARS :	Arsynco, Inc.	MON :	Monsanto Co.
ARZ :	Arizona Chemical Co.	MRF :	Morflex Chemical Co., Inc.
BDS :	Biddle Sawyer Corp.	NCI :	Union Carb Corp., Terpene and Aromatics Div.
CI :	Chem-Fluer, Inc.	NSW :	Nutrasweet Co.
CWN :	Upjohn Co., Fine Chemical Div.	NW :	Northwestern Chemical Co.
ELM :	Elan Chemical Co.	PD :	Parke-Davis, Div. of Warner-Lambert Co.
FB :	Fritzsche Dodge & Olcott, Inc.	PFZ :	Pfizer, Inc.
FEL :	Felton International, Inc.	PSG :	PMC Specialities Group, Inc.
FMT :	Fairmount Chemical Co., Inc.	RDA :	Rhone-Poulenc, Inc.
GIV :	Givaudan Corp.	SBC :	Scher Chemicals, Inc.
HAR :	Haarmann & Reimer Corp.	SCM :	SCM Corp., Organic Chemicals Div.
HOF :	Hoffmann-LaRoche, Inc.	STG :	McCormick & Co., Inc. McCormick-Strange Div.
HPC :	Hercules, Inc.	UNG :	Ungerer & Co.

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION VIII -- PLASTICS AND RESIN MATERIALS

STATISTICAL HIGHLIGHTS

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202-523-3709

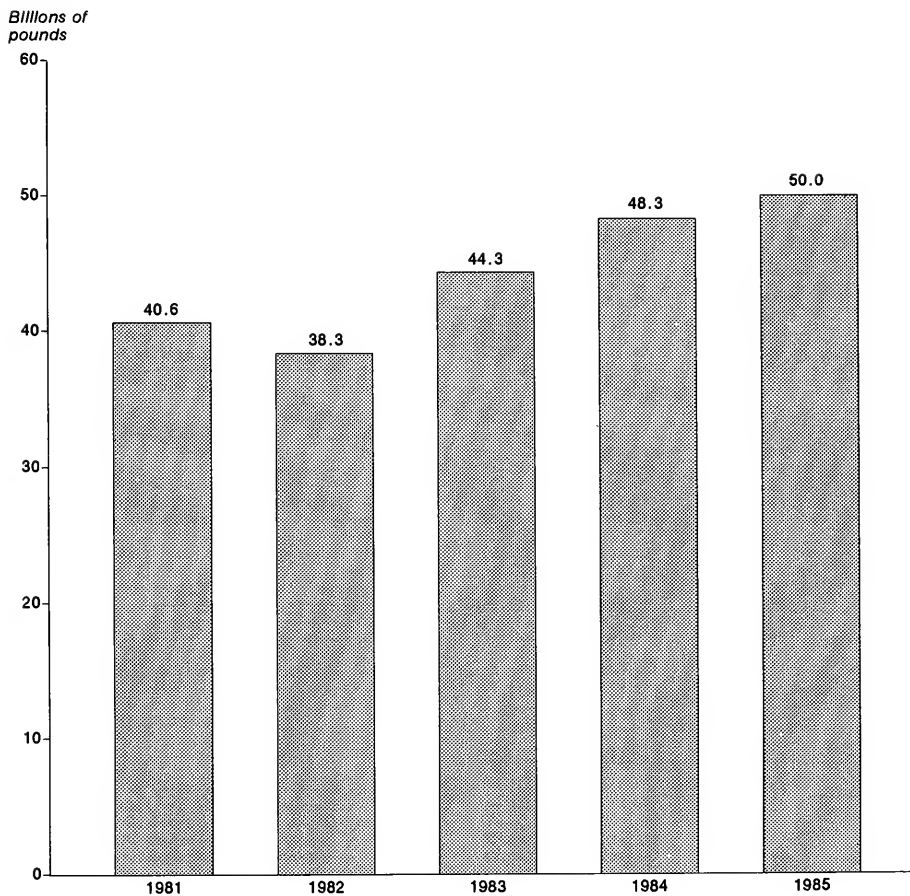
Plastics and resin materials are high molecular weight polymers which, at some stage in their manufacture, exist in such physical condition that they can be shaped or otherwise processed by the application of heat and pressure. The terms "plastics," "resin," and "polymers," can be (and often are) used interchangeably by the trade. Depending on the chemical composition, manufacturing process, or intended use, the commercial products may contain plasticizers, fillers, extenders, stabilizers, coloring agents, or other additives. There are about 40 to 50 basic plastics and resins which are available commercially. These basic materials are available in literally thousands of individual compounds each with its distinct properties depending on the molecular weight of the resin and the types and amounts of the additives present. Plastics materials may be molded, cast, or extruded into semifinished or finished solid forms. Resin materials may be in the form of solutions, pastes, or emulsions for applications such as protective coatings, adhesives, or paper and textile treatment.

Statistics on U.S. production and sales of synthetic plastics and resin materials for 1985 are given in table 1. U.S. production of plastics and resin materials in 1985 totaled 49,998 million pounds, or 3.6 percent more than the 48,255 million pounds produced in 1984. From 1981-85, the production of plastics and resin materials increased irregularly from 40,601 million pounds in 1981 to 49,998 million pounds in 1985, or at an average, annual rate of growth of 5.3 percent (see figure 1). Sales in 1985 totaled 42,171 million pounds, valued at \$20,168 million, compared with 40,751 million pounds, valued at \$20,923 million, in 1984.

Thermosetting materials are those which harden with a change in composition in the final treatment so that in their final state as finished articles they are substantially infusible and insoluble; that is, they cannot again be softened by heat or solvents. U.S. production of thermosetting materials totaled 8,243 million pounds in 1985, compared with 7,997 million pounds in 1984. Production of the most important products in 1985 included phenolic (1,714 million pounds), amino (or urea and melamine) resins (1,624 million pounds), polyester resins, unsaturated (1,336 million pounds), and alkyd resins (830 million pounds).

Thermoplastic materials are those which in their final state as finished articles can be repeatedly softened by heat and hardened by a decrease in temperature. U.S. production of thermoplastic materials totaled 41,755 million pounds in 1985 (or 83.5 percent of the total plastics and resin materials output for 1985), compared with 40,257 million pounds in 1984. Production of the most important products in 1985 included polyethylene (15,799 million pounds), polypropylene (5,654 million pounds), vinyl resins (8,107 million pounds), and styrene type materials (7,229 million pounds).

Figure 1.—Plastics and resin materials.



Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

TABLE 1.--PLASTICS AND RESIN MATERIALS: U.S. PRODUCTION AND SALES, 1985

[Quantities and values are given in terms of the total weight of the materials (dry basis). Listed below are all plastics and resin materials, urethane type elastomers, and certain precursors for which any reported data on production or sales may be published. (Leaders (...)) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all products for which data on production and/or sales were reported and identifies the manufacturers of each]

PLASTICS AND RESIN MATERIALS	PRODUCTION		SALES	
	QUANTITY	VALUE	UNIT	VALUE ¹
	1,000 pounds dry basis ²	1,000 pounds dollars	Per pound	
Grand total-----	49,997,869	42,171,209	20,167,800	\$0.48
THERMOSETTING RESINS				
Total-----	8,242,728	6,448,642	3,889,722	.60
Alkyd resins, total-----	830,372	458,565	296,297	.65
Phthalic anhydride type-----	713,521	397,522	244,961	.62
Polybasic acid type-----	42,369	23,579	21,105	.90
Styrenated-alkyds or copolymer alkyds-----	15,617	6,495	5,380	.83
Vinyl toluene alkyds-----	25,661	25,492	17,549	.69
Other copolymer alkyds-----	33,204	5,477	7,302	1.33
Epoxy resins: ^{3,4}				
Unmodified-----	420,760	323,332	389,781	1.21
Advanced-----	(342,451)	(136,718)	(189,657)	(1.39)
Furfuryl type resins-----	23,307	23,116	17,997	.78
Glyoxal-formaldehyde resins-----	19,047	...	...	...
Melamine-formaldehyde resins (an amino resin)-----	208,316	177,354	154,623	.87
Phenolic and other tar acid resins-----	1,713,618	1,206,766	659,773	.55
Polyester resins, unsaturated ⁵ -----	1,336,107	1,261,775	797,107	.63
Polyether and polyester polyols for urethanes ⁶ -----	1,760,621	1,401,153	807,751	.58
Polyurethane elastomers and plastics products,				
total-----	339,718	230,954	373,572	1.62
Elastomers-----	180,863	148,550	269,107	1.81
Plastics-----	158,855	82,404	104,465	1.27
Urea-formaldehyde resins (an amino resin)-----	1,415,683	1,214,104	220,515	.18
Other thermosetting resins ⁸ -----	175,179	151,523	172,306	1.14
THERMOPLASTIC RESINS				
Total-----	41,755,141	35,722,567	16,278,078	.46
Acrylic resins, total ⁹ -----	1,427,113	1,015,106	1,061,514	1.05
Butyl acrylate-ethyl acrylate copolymers resins-----	78,862	63,851	52,769	.83
Homopolymer resins, except PMMA, of acrylic or methacrylic acid esters-----	97,045	24,572	30,743	1.25
Polymethyl methacrylate (PMMA) resins-----	482,612	336,887	358,136	1.05
Thermosetting acrylic resins-----	127,691	26,126	30,966	1.19
Other acrylic resins-----	640,903	563,670	588,900	1.04
Engineering plastics ¹⁰ -----	778,774	599,568	969,044	1.62
Petroleum hydrocarbons resins-----	254,437	223,143	109,130	.49
Polyamide resins, total-----	409,205	378,631	598,131	1.58
Nylon type ^{10 11} -----	346,475	316,884	527,292	1.66
Non-nylon type-----	62,730	61,747	70,839	1.15

See footnote at end of table.

TABLE 1.--PLASTICS AND RESIN MATERIALS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

PLASTICS AND RESIN MATERIALS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds dry basis	1,000 pounds dry basis	1,000 dollars	Per pound
THERMOPLASTICS RESINS--Continued				
Polyester resins, saturated, total ^{9 12} -----	1,285,440	991,386	789,120	\$0.80
Polyethylene terephthalate (PET)-----	1,115,792	858,110	613,424	.71
Other saturated polyesters, including Polybutylene terephthalate, (PBT) resins-----	169,648	133,276	175,696	1.32
Polyethylene resins, total-----	15,799,107	14,274,932	4,728,834	.33
Ethylene-vinyl acetate and other copolymer resins-----	481,049	415,095	203,939	.49
Specific gravity 0.940 and below ¹³ -----	8,804,593	7,687,157	2,645,416	.34
Specific gravity over 0.940-----	6,513,465	6,172,680	1,879,479	.30
Polypropylene resins-----	5,654,450	4,393,155	1,489,418	.34
Polyterpene resins-----	28,112	27,602	22,965	.83
Polytetrafluoroethylene (PTFE) resins-----	25,494	20,017	126,933	6.34
Rosin modifications, total-----	340,397	316,061	158,567	.50
Modified rosin (unesterified)-----	169,421	150,709	49,188	.33
Modified rosin esters-----	131,756	128,446	84,978	.66
Rosin esters, unmodified (Ester gums)-----	39,220	36,906	24,401	.66
Styrene plastics materials, total-----	7,228,967	5,994,319	3,087,867	.52
Acrylonitrile-butadiene-styrene terpolymer (ABS) resins-----	1,347,658	1,038,889	846,228	.81
Expandable polystyrene beads-----	513,238	479,757	227,027	.47
Methyl methacrylate-butadiene-styrene (MBS) resins and certain other styrene copolymer and terpolymer resins-----	339,846	276,840	230,137	.83
Rubber modified polystyrene-----	1,421,435	1,116,338	415,947	.37
Straight polystyrene-----	1,994,230	1,682,841	566,186	.34
Styrene-acrylonitrile copolymer (SAN) resins-----	769,562	598,129	251,563	.42
Styrene latexes, total-----	681,279	665,233	394,081	.59
Styrene-butadiene latexes-----	627,995	626,489	367,763	.59
All other styrene latexes-----	53,284	38,744	26,318	.68
All other styrene plastics materials ¹⁴ -----	161,719	136,292	156,698	1.15
Vinyl resins, total ¹⁵ -----	8,106,722	7,243,367	2,724,697	.38
Polyvinyl acetate ¹⁶ -----	635,589	495,603	301,834	.61
Polyvinyl alcohol ¹⁷ -----	166,819	143,391	119,638	.83
Polyvinyl chloride and copolymers-----	6,667,869	6,058,705	1,868,820	.31
Polyvinylidene chloride resins, latex type-----	19,197	18,508	16,822	.91
Vinyl acetate-acrylate copolymers-----	345,173	309,780	126,462	.41
Other vinyl and vinylidene resins ¹⁸ -----	272,075	217,380	291,121	1.34
All other thermoplastic resins ¹⁹ -----	416,923	245,280	411,858	1.68

¹Calculated from unrounded figures.

²Dry weight basis unless otherwise specified. Dry weight basis is the total weight of the materials including resin and coloring agents, extenders, fillers, plasticizers, and other additives, but excluding water and other liquid diluents unless they are an integral part of the materials.

³Includes reactive diluents which are an integral part of the resin. Excludes the weight of hardeners sold in association with the resin as part of a two-component system.

⁴Data shown for advanced epoxy resins are that part of the unmodified epoxy resins which is further processed; therefore, the total in parentheses are not included in the grand total.

⁵Polyester resins are unsaturated alkyd resins, later to be copolymerized with a monomer (Such as styrene or methyl methacrylate), and polyallyl resins (such as diallyl phthalate and diglycol carbonate). Data are on an "as sold" basis, including monomer if part of the resin system.

⁶In addition to the polyols, the other principal starting materials used in the production of urethane products are the isocyanic acid derivatives, mainly the 80/20 mixture of toluene-2,4- and 2,6-diisocyanate. Statistics for the isocyanic acid derivatives are reported in the "Cyclic Intermediates" section of the Synthetic Organic Chemicals report.

⁷The data on urethane elastomers are believed to be not fully representative of the total urethane market in view of the very large number of urethane elastomer producers.

⁸Includes acetone-formaldehyde resins, dicyandiamide resins, glyoxal-formaldehyde resins/sales only, polybutadiene resins, silicone resins, thiourea resins, and certain other thermosetting resins.

⁹ Does not include production or sales for fiber use.

FOOTNOTES--CONTINUED

¹⁰Engineering plastics: Includes acetal, polycarbonate, polyimide and amide-imide polymers, polyphenylene oxide, polyphenylene sulfide and polysulfone. Engineering plastics are defined in Whittington's Dictionary of Plastics, as "All plastics, with or without fillers or reinforcements, which have mechanical, chemical and thermal properties suitable for use in construction, machine components and chemical processing equipment." The above list of plastics (all of which are thermoplastic) was selected from a larger group in this source. Certain other plastics named in Whittington's Dictionary as engineering plastics, such as ABS resins, acrylic resins, and nylon resins, are not included in the above list as they are published separately.

¹¹Statistics for nylon 6 and nylon 6/6 which are used in plastics applications (e.g., molding, etc.) are included here.

¹²Statistics are included here for polyethylene terephthalate used in plastics applications (e.g., molding, etc.) Statistics also are included here for production only when the starting materials are converted directly to a finished product(i.e., "in situ" production), polyester film and tape are examples of such a conversion.

¹³Combines conventional low density polyethylene (LDPE) resins with linear low density polyethylene (LLDPE) resins, because several of the leading producers of LLDPE continue to aggregate these data with that of LDPE.

¹⁴Includes data for α -methyl styrene polymers, p-methyl styrene polymers, styrene-allyl alcohol copolymer resins, styrene-divinylbenzene copolymer resins, styrene-maleic anhydride copolymers resins, styrene-methyl methacrylate copolymers resins, and other styrene type plastics material.

¹⁵Data are on the basis of dry resin content, excluding the weight of plasticizers, extenders, fillers coloring agents, stabilizers, or impact modifiers, unless otherwise noted.

¹⁶Data for polyvinyl acetate produced and sold in latex form includes the weight of any protective colloids which are used as emulsion stabilizers and form an integral part of the resin system. Production and sales do not include polyvinyl acetate used as a reactive intermediate for polyvinyl alcohol or other vinyl resins.

¹⁷Production and sales do not include polyvinyl alcohol used as a reactive intermediates for polyvinyl butyral or other vinyl resins.

¹⁸Includes polyvinyl butyral, polyvinyl formal, polyvinylidene chloride (solid type), and other vinyl resins.

¹⁹Includes cellulose plastics, coumarone-indene resins, fluorocarbon resins (except PTFE), phenoxy resins, polybutylene type resins, polyphenyl aromatic ester resins, and other thermoplastic materials.

Note.--Data reported to the U.S. International Trade Commission do not necessarily coincide with that reported to the Society of the Plastics Industry (SPI) because of differences in both the reporting instructions and in the coverage of certain resins.

TABLE 2.--PLASTICS AND RESIN MATERIALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PLASTICS AND RESIN MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
THERMOSETTING RESINS	
Acetone-formaldehyde resins	ACY, CEL, FLH, GP.
*ALKYD RESINS:	
Alkyd-acrylate copolymer resins	FRE, KMC, OBC, PFC, SCH.
Alkyd phenol	X.
*Phthalic anhydride type alkyd resins	ACO, ASH, AZS, BAL, BLC, BRU, CCC, CEI, CEL, CGU, CJO, CPV, DRC, DSO, DUP, ENP, EM, FJI, FMO, FOC, FRE, GAI, GEI, GRC, GRV, HAN, HJR, ICF, IOV, JOB, JSC, KMC, KMF, LIC, MCC, MID, MNP, MCP, NTL, OBC, PER, PFC, PFT, QCF, RCI, REL, SCH, SCN, SDH, SRY, SW, TMA, UNO, USS, VSP, X, X, X.
*Polybasic acid type alkyd resins	ACY, BEN, CJO, CPV, DSO, FOC, FRE, GAI, GEI, GRV, HAN, ICF, IOV, MCC, NTL, PFC, RCI, REL, SCH, SCN, SW.
*Styrenated-alkyds, or copolymer alkyds	ACY, BEN, CJO, CPV, DSO, EM, FRE, GEI, HAN, HJR, MNP, NTL, OBC, RUO, SCH, SW.
*Vinyl toluene alkyds	CGU, CPV, GSB, FJI, FRE, GEI, JOB, MCC, MNP, OBC, PFC, PFT, REL, SCH, SW.
Alkyd copolymers, all other	CGU, GEI, HJR, MCC, MNP, OBC, PFC, SW.
Dicyandiamide resins	APX, ECC, JSC, PFC, S, SNM, STC.
AMINO RESINS:	
*Melamine-formaldehyde resins	ACY, ADC, AUX, BOR, CBD, CEL, CGL, CPV, DCO, DRC, GAI, GRS, JSC, LIC, MID, MNP, MON, NCJ, NVH, PLS, PMC, PFC, PPL, PST, RCI, REL, SCH, SNM, STC, WPC, WRD, X.
Thiourea resins	CHP.
*Urea-formaldehyde resins	ACY, APX, AUX, BOR, CBD, CCC, CEL, CGL, CHP, CPV, DAN, DSO, GAF, GP, GRV, JSC, MMW, MNP, MOW, PKI, PMC, PFC, PPL, PST, REI, RCI, REL, SAC, SNM, SOR, VAL, VPC, X.
Amino resins, all other	X.
*EPOXY RESINS:	
*Epoxy, resins advanced	ASH, BEN, CEL, CGL, CJO, CNI, DSO, ENP, EM, FMO, GAI, GE, GRC, GRV, ICF, MCC, MID, MNP, MNT, OCF, PFC, RCI, SCH, SCN, SHO.

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT.]

TABLE 2.--PLASTICS AND RESIN MATERIALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
PLASTICS AND RESIN MATERIALS	
THERMOSETTING RESINS--CONTINUED	
EPOXY RESINS--Continued	
*Epoxy, resins unmodified-----	ADC, AZS, CEL, CGY, CIU, CHF, DOW, DSO, JOB, PPG, PRT, RCI, SHG, UCC, WLM, X.
*Vinyl type resins-----	ACR, GEI, CIU, DRE, HVG, NCP, UNO, WRD.
*Glyoxal-formaldehyde resins-----	AUK, RBT, PTC, SWM, WFG.
*Phenolic and other tar acid resins-----	ABS, ACR, ASH, BME, BOR, BSC, BTL, CHD, CEI, CLK, CIU, CPV, DRR, DSO, EM, GE, GEI, GP, GRG, HER, HGD, HFC, HVG, ICF, IML, IRI, KFI, LLI, MGA, MID, MMH, NCI, NCP, NTC, NYL, OBC, OCF, PAL, PKI, PLS, PFG, PFL, PSG, FSL, PYZ, RAB, RCL, RH, SPL, STC, SW, UCC, UNO, USR, VPC, VSV, WCA, WRD, X, X, X.
Polybutadiene resins-----	ATR, CCS, CHI, CRS, LG, SCH.
*POLYESTER RESINS, UNSATURATED, AND ALLYL RESINS:	
Allyl resins-----	DRC, FMC, GEI, MCC, PFG.
Diallyl isophthalate-----	FMC, GEI.
Polyester resins, unsaturated-----	ACS, ACY, ADC, APH, ASH, AZS, CGL, CJO, CPV, DRC, DSO, ENP, EM, FJI, FFE, GEI, GRG, ICF, ICI, IPC, KPT, MGC, MHT, OCF, PPG, RCI, SCM, SIC, SLG, SW, USS.
*Polyether and polyester polyols for urethanes-----	ARK, BAS, BMC, BPT, CEI, CHC, CJO, CPV, CXL, DOH, FEE, GRG, ICI, JOB, MGC, MMH, MOB, MHT, MCP, OCF, OMC, PLM, PFG, PPL, RCI, RUO, SHS, TX, UCC, UPJ, WR, WTC.
*POLYURETHANE ELASTOMER AND PLASTIC PRODUCTS:	
*Polyurethane elastomers-----	ACY, ADC, ARO, BFG, BFT, CAS, ONI, DCC, DOW, EEP, EPI, GRD, HXL, ICF, INF, MMH, MOB, MON, MRT, PPG, PRC, FYI, RUO, SBG, SLG, SMO, UPJ, USR.
*Polyurethane resins-----	AGO(E), ARO, CGL, DSO, DUF, ENP, EM, FFE, GEI, HVC, INF, LG, MGC, MID, MOB, OMC, PEL, PVI, QUN, RBT, RCI, SCM, SCN, SIF, SW, UPJ, USH, WTC.
Silicone resins-----	CJO, DCC, LIC, MCC, PEL, SCH, SPD.
Thiourea-formaldehyde resins-----	ARK.
Thermosetting resins, benzenoid, all other-----	ACY, BAS, DSO, ENP, GRG, MCC, MID, REL, SCH, VAL, WLM, WFG, X.

TABLE 2.---PLASTICS AND RESIN MATERIALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985---CONTINUED

PLASTICS AND RESIN MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
THERMOPLASTIC RESINS	
*ACRYLIC RESINS:	
COPOLYMER RESINS OF ACRYLIC AND/OR METHACRYLIC ACID	
*Butyl acrylate-ethyl acrylate copolymer resins---	BFG, DSO, FLH, QBC, QUM, RH, SYT, UOC, VAL.
Butyl methacrylate-ethyl methacrylate copolymer resins---	UOC, WTC.
Ethyl acrylate---	DSO.
2-Ethylhexyl acrylate-methyl acrylate copolymer resins---	DSO, SYT, UOC.
Lauryl methacrylate-stearyl methacrylate copolymer resins---	HJR, TX.
Other copolymer resins of acrylic and/or methacrylic acid esters---	ACO(E), AZS, BPT, DRB, DRC, DSO, GAF, ICF, JNS, JSC, MID, MSC, PPG, PRT, FYI, RH, SCH, SCP, SYT, UCC, VAL, WTC.
HOMOPOLYMER RESINS OF ACRYLIC AND/OR METHACRYLIC ACID RESINS:	
*Homopolymer resins of acrylic or methacrylic acid esters, except PHMA---	AZS, CPV, CYR, DA, DUP, GLC, GRV, ICF, FYI, FYI, RH, SAR, SA, UOC.
*Polymethyl methacrylate (PMMA)---	CTP, CYR, DUP, ICF, IOC, JOB, MGT, PKL, PPG, PTC, FYI, RH, SAR, SNW, SYT, USS, WTC.
Polyethyl methacrylate---	TX.
*Thermosetting acrylate resins---	AGY, CEL, CHP, CPV, DA, DSO, DUP, EPH, FMO, FRE, GAI, GRV, HAN, ICF, LIC, MCC, MID, PPG, SM.
CELLULOSE PLASTICS AND RESINS:	
Cellulose acetate---	EKT.
Cellulose acetate butyrate---	EKT.
Cellulose acetate propionate---	EKT.
Ethyl cellulose---	X.
Cellulose plastics, all other---	DOM, DUF.
Coumarone-indene resins---	HFC, NEV.
*ENGINEERING PLASTICS:	
Acetal resins---	CEL, DRR, DUP, MCC, MWF, PFG, RAS, REL, WFG.
Polycarbonate resins---	DOM, GE, GRG, HJR, MCC, MOB, PFG, SNW.
Polyamides and amide-imide polymers---	AMO, DUF, EM, GE, GEL, GRG, PDI.
Polyphenylene oxide type resins---	GE, REL.
Polyphenylene sulfide resins---	PLC.
Polysulfone resins---	PLC.

TABLE 2. --PLASTICS AND RESIN MATERIALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1965--CONTINUED

PLASTICS AND RESIN MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
THERMOPLASTIC RESINS--CONTINUED	
FLUOROCARBON RESINS:	
*Polytetrafluoroethylene (PTFE)-----	ACS, DUP, ICI.
*Polyvinylidene fluoride resin-----	PAS.
*Fluorocarbon resins, all other-----	DUP.
*Petroleum hydrocarbon resins-----	CFX, CKI, EKK, ENJ, GYR, HPC, ICF, LLI, NEV, RCI, X.
Phenoxy (R) resin (other than for coating and adhesives)-----	UCC.
*POLYAMIDE RESINS:	
*Non-nylon type, polyamide resins-----	COO, EFH, EKR, ENI, HYA, HYG, HLC, LLI, MON, NCI, PAC, S, SCP, SNW, USM.
*Nylon type, polyamide resins-----	ACS, AGI, BCM, CEL, CFR, DGO, DUP, GRG, MON, RSM, SCP, SKR, USM.
Polybutylene type resins-----	
*POLYESTER RESINS, SATURATED:	
*Polybutylene terephthalate (PBT)-----	AGI, CEL, GAF, GE, USM.
*Polyethylene terephthalate (PET)-----	DUP, EK, EKT, GEI, GYR, HST, ICI, USH.
*Polyester resins, saturated, all other-----	AZS, BFT, COO, CPV, DUP, EKT, GAL, HYC, ICI, LLI, MNP, PPG, SCH, UCC.
*POLYETHYLENE AND COPOLYMERS RESINS:	
*Ethylene-acrylic acid resins (EAA)-----	DOM.
*Ethylene-vinyl acetate (EVA) copolymer resins-----	ENJ, NSC, USI.
*Other ethylene copolymer resins-----	EKT, EKK, PPG, SNW.
*Specific gravity 0.940 and below (Conventional low density)-----	ACS, DOM, DUP, EKK, ELP, ENJ, GOC, NMP, SM, SNW, UCC, USI, X.
*Specific gravity 0.940 and below (Linear low density)-----	AZS, ENJ, NMP, PLC, SM, USI.
*Specific gravity over 0.940-----	ACS, AHO, DOM, DUP, ENJ, GOC, HST, NMP, PLC, SLT, USI.
Polyphenyl aromatic ester resins-----	
*Polypropylene polymer and copolymer resins-----	AMG, GSD, EKK, ELP, ENJ, GOC, HIM, MIL, NMP, PLC, SHG, SLT, USS.
*Polyterpene resins-----	
*Modified rosin (Unesterified)-----	ARZ, GJO, HPC, MOW, NCI, ORC, SVL.
*Modified rosin esters-----	AZS, EM, FJI, FRP, GRV, HPC, LLI, MGC, NCI, ORC, RCI, SCM, STC, SM, SVL, X.
*ROsin esters, unmodified (Ester gums)-----	
*STYRENE TYPE PLASTICS MATERIALS:	
*Acrylonitrile-butadiene-styrene (ABS) terpolymer resins-----	ARZ, ENP, FRP, HPC, LLI, NCI, PAT, RCI, SVL.
p-Methyl styrene polymers-----	DOM, GRD, GYR, MCB, MON, SM.

TABLE 2.--PLASTICS AND RESIN MATERIALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PLASTICS AND RESIN MATERIALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
THERMOPLASTIC RESINS--CONTINUED	
STYRENE TYPE PLASTICS MATERIALS--Continued	
*Methyl styrene polymers	AMO.
*Styrene-acrylonitrile copolymer resins (SAN)	BFG, DOM, MCB, MON, RCI, SH.
POLYSTYRENE:	
*Expandable polystyrene beads	ATR, BAS, CSD, HST, TXS, VIT.
*Rubber modified polystyrene	API, CSD, DOM, DPI, HST, MON, PLR, SM.
*Straight polystyrene	AEF, AMO, API, ATR, CSD, DA, DOM, DPI, GAF, GOC, HGC, HST, KTP, MMM, MON, PLR, SM, TXS.
*STYRENE LATEXES:	
*Styrene-butadiene latexes	DOH, GNT, GRD, GYR, PLR, PVI, UOC.
*Styrene latexes, all other	ADC, BFG, GNT, GRD, HCC, MON, PVI, UOC, UOC.
*OTHER STYRENE COPOLYMERS:	
*Methyl methacrylate-butadiene-styrene (MBS) resins	CYR, MRT, RH.
Styrene-allyl alcohol copolymer resins	RFC.
Styrene-divinylbenzene copolymer resins	RH.
Styrene-maleic anhydride copolymer resins	ATR, MON, PPG.
Styrene-methyl methacrylate copolymer resins	FLH, MCC, RGD.
Styrene copolymers, all other	ARZ, DOM, DSO, DUP, EMP, GYR, IOC, JNS, MON, PLC, PPG, RGD, X.
*Styrene type plastics materials, all other	JNS.
*VINYL RESINS:	
*Polyvinyl acetate resins	AIP, AZS, BOR, DAN, DSO, FJI, FLH, FLM, GLC, GRD, JOB, JSC, KMF, MNP, MON, NSC, PVI, RCI, SCH, SCO, SMM, UCC, UOC, X, X.
*Polyvinyl alcohol resins	AIP, AZS, DUP, MON.
Polyvinyl butyral resins	DUP, MON, UCC.
Polyvinyl formal resin	EA, GSG, MON.
*Vinyl acetate-acrylate copolymers	ACO, AZS, DA, DSO, ELH, FLM, HJR, HCC, NCJ, MTC, OBC, PVI, SCH, SSW, SPC, UCC, UOC.
*POLYVINYL CHLORIDE AND COPOLYMER RESINS:	
Polyvinyl chloride copolymer resins, all other	BFG, CNL, HRP, HN.
Polyvinyl chloride homopolymer resins	AIP, BFG, BOR, CNT, FOR, GGC, HRP, HN, KYS, MIL, PNT, SHT, UCC, VST.
Vinyl chloride-acetate copolymer resins	MCC.
POLYVINYLIDENE CHLORIDE RESINS:	
*Latex type polyvinylidene chloride resins	BFG, DOM, GRD, UOC.
Solid type polyvinylidene chloride resins	DOM.
*Vinyl resins, all other	DUP, NTC, RH, UOC.
*Thermoplastic resins, all other	DUP, LIL, MCC, MON, OBC, SM, UOC.

VIII -- PLASTICS AND RESIN MATERIALS

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TABLE 3.--PLASTICS AND RESIN MATERIALS: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of plastics and resin materials to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
ABS	Abex Corp., Friction Products Div.- U.S.	CSD	Fina Oil & Chemical Co., Cosden Chemical Div.
ACR	CPG International, Inc., Acme Resin Corp.	CTP	Continental Polymers, Inc.
ACO	Adco Chemical Co.	CTR	Custom Resins Div. of Bemis Co., Inc.
ACY	American Cynamid Co.	CYR	CYRO Industries
ADC	Anderson Development Co.	CXI	Chemical Exchange Industries, Inc.
AEP	A & E Plastics Corp.		
ACS	Allied Corp., Chemicals Sector	DA	Diamond Shamrock Corp., Chemicals Div.
AGI	EMS-American Grilon, Inc.	DAN	Dan River, Inc., Chemical Products Div.
ATP	Air Products & Chemicals, Inc.	DCC	Dow Corning Corp.
AMO	Amoco Corp.	DGO	Day-Glo Color Corp.
APH	Alpha Corporation of Tennessee	DMS	Dennis Chemical Co.
API	Asoma Polymers, Inc.	DOW	Dow Chemical Co.
APX	Apex Chemical Co., Inc.	DPI	Dart Polymers, Inc. Sub of Dart Container Corp.
ARK	Armstrong World Industries, Inc.		
ARO	Arnco	DRB	The Derby Co., Inc.
ARZ	Arizona Chemical Co.	DRC	Dock Resins Corp.
ASH	Ashland Oil, Inc.	DRR	Delta Resins & Refractories
ATR	Atlantic Richfield Co., Arco Chemical Co.	DSO	DeSoto, Inc.
AUX	Auralux Corp.	DUP	E. I. duPont de Nemours & Co., Inc.
AZS	AZS Corp., AZS Chemical Corp.		
		ECC	Eastern Color & Chemical Co.
BAL	Sherwin-Williams Co., Consumers Div.	EEP	Eaton Corp., Industrial Polymer Product Div.
BAS	BASF Corp.	EFH	E. F. Houghton & Co.
BCM	Belding Chemical Industries	EK	Eastman Kodak Co.:
BEN	Bennett's Paint Corp.	EKT	Tennessee Eastman Co. Div.
BFG	B. F. Goodrich Co.,:	EKK	Texas Eastman Co. Div.
	Ameripol SBR Div.	ELP	El Paso Products Co.
	B. F. Goodrich Chemical Group	EMR	Emery Chemicals Div. of National Distillers & Chemical Corp.
BLC	Ranbar Technology, Inc. Ball Chemical Co.	ENJ	Exxon Chemical Americas
BMC	Brin-Mont Chemicals, Inc.	ENP	Insilco Corp., Enterprise Companies Div.
BME	Allied Bendix Corp., Friction Materials Div.	EPI	Eagle Pitcher Industries, Ohio Rubber Co. Div.
BOR	Borden, Inc., Borden Chemical Div.	EW	Westinghouse Electric Corp., Insulating Materials Div.
BFT	Permethane Inc.		
BRU	M. A. Bruder & Sons, Inc.		
BSC	Cascade Resins, Inc.		
BTL	BTL OF Illinois, Inc.	FJI	Foy-Johnston, Inc.
		FLH	H. B. Fuller Co.
CAS	Caschem, Inc.	FLN	Franklin International
CBD	Chembond Corp.	FMO	Ford Motor Co., Paint Plant
CCC	C.N.C. Chemical Corp.	FMC	FMC Corp.
CCS	Colorado Chemical Specialties, Inc.	FOG	Handschy Industries, Inc., Farac Varnishes & Chemicals
CEI	Combustion Engineering, Inc., C-E Cast Products	FOR	Formosa Plastics Corp. - U.S.A.
CEL	Celanese Corp.:	FRE	Freeman Chemical Corp.
	Celanese Specialties	FRP	FRP Co.
	Celanese Specialties Resins		
CFX	Chemfex, Inc.	GAF	GAF Corp., Chemical Group
CGL	Cargill, Inc.	GAI	Clasurit America, Inc.
CGY	Ciba-Geigy Corp.	GE	General Electric Co.:
CHC	Carpenter Chemical Co.	GEI	Insulating Materials
CHP	C. H. Patrick & Co., Inc.	GGC	Georgia-Gulf Corp.,:
CJO	C. J. Osborn Chemicals, Inc.		PVC Compound Div.
CLK	Clark Oil & Refining Corp.		Plaquemine Div.
CLU	CL Industries, Inc.	GLC	General Latex & Chemical Corp.
CMP	Commercial Products Co., Inc.	GNT	Diversitech General (Gencorp Co.)
CNI	Consp, Inc.	GOC	Chevron Chemical Corp.
CNT	Certainteed Corp.	GP	Georgia-Pacific Corp.:
COO	Terrell Corp.		Resins Operations
CPV	Cook Paint & Varnish Co.	GRD	W. R. Grace & Co., Polymers & Chemical Div.
CRS	Colorado Resins, Inc.	GRG	P. D. George Co.

TABLE 3.--PLASTICS AND RESIN MATERIALS: DIRECTORY OF MANUFACTURERS, 1985--Continued

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
GRV	Guardsman Chemicals, Inc.	NSC	National Starch & Chemical Corp.
GYR	Goodyear Tire & Rubber Co.	NTC	National Casein Co.
HAN	Hanna Chemical Coatings Corp.	NTL	NL Industries, Inc., NL Chemicals Div
HER	Heresite-Saekaphen, Inc.	NVM	Nevamar Corp.
HGC	Goodson Chemical Corp.	NWP	Norchem, Inc.
HIM	Himont U.S.A., Inc.	OBC	O'Brien Corp.
	Occidental Chemical Corp.:	OCF	Owens-Corning Fiberglas Corp.
HJR	Hugh J.--Resins Co., Inc.	OMC	Olin Corp.
HKD	Durez Div.		
HKP	PVC Div.	PAC	Pacific Anchor Chemical Corp.
HN	Tenneco Polymer, Inc.	PAI	Polymer Applications, Inc.
HPC	Hercules, Inc.	PAS	Pennwalt Corp.
HST	American Hoechst Corp.:	PDI	Phelps Dodge Industries, Inc., Phelps Dodge
	Hoechst Fiber Industries Div.		Magnet Wire Co. Div.
	Petrochemicals/Plastics Group	PEL	Pelron Corp.
HVG	Ametek, Inc., Haveg Div.	PER	Perry & Derrick Co., Inc.
HXL	Hexcel Corp., Hexcel Chemical Products	PKI	Perkins Industries, Inc.
HYA	Dexter Corp., Hysol Aerospace & Industrial	PKL	Plaskolite, Inc.
	Products Div., Dexter Specialty Chemicals	PLC	Phillips Petroleum Co.
	Group	PLN	Disogrin Industries Corp.
HYC	Dexter Corp., Hysol Electronic Chemicals	PLR	Polysar, Inc.:
	Div., Dexter Specialty Chemicals Group		Latex Div.
			Plastic Div.
ICF	BASF Corp., Inmont Div.	PLS	Plastics Engineering Co.
ICI	ICI Americas, Inc. & Chemicals Div.	PMC	Plastics Manufacturing Co.
INL	Van Leer Containers, Inc.	PNT	Pentasote, Inc., Film/Compound
INP	Synair Corp.	PPC	PPG Industries, Inc.
IOC	Sybron Chemicals, Inc.	PPL	Pioneer Plastics Div. of LOF Plastics, Inc.
IOV	Iovite, Inc.	PRC	Products Research & Chemical Corp.
IPC	Interplastic Corp.	FRT	Fratt & Lambert, Inc., Paint Div.
IRI	Ironsides Co.	FSG	PMC Specialities Group Inc.
		FSL	Fasllok Corp.
JNS	S. C. Johnson & Son, Inc.	PST	Perstorp Compounds, Inc.
JOB	Jones-Blair Co.	PTC	Polycast Technology Corp.
JSC	Sybron Chemicals, Inc.	PVI	Polyvinyl Chemical Industries
		PYI	Polymer Industries
		PYZ	Polyrez Co., Inc.
KMC	Komac Paint, Inc.		
KMP	Kelly-Moore Paint Co., Inc.	QCP	Quaker Chemical Corp.
KPT	Koppers Co., Inc.	QUN	K. J. Quinn & Co., Inc.
KTP	Kent Polymers, Inc.		
KYS	Keysor Corp.		
		RAB	Raymark Corp.
LC	Lord Corp., Chemical Products Group	RAS	Raffi and Swanson, Inc.
LIC	Lilly Industrial Coatings, Inc.	RBI	Reeves Brothers, Inc.
LII	Lawter International, Inc.	RGD	Richardson Polymer Corp.
		RCI	Reichhold Chemicals, Inc.
MCA	Masonite Corp., Alpine Resin Div.	REL	Reliance Universal, Inc., Louisville Resins
MCB	Borg-Warner Corp., Borg Warner Chemicals		Operations
MCC	McCloskey Corp.:	RH	Rohm & Maas Co.
	McCloskey Varnish Co.:	RSN	Rilsan Corp.
	McCloskey Varnish Co. of California	RTC	Riegel Textile Corp., Riechem Div.
	McCloskey Varnish Co. of Oregon	RUO	Ruco Polymer Corp.
MID	Dexter Corp., Midland Div.		
MIL	Milliken & Co., Milliken Chemical Co.	S	Sandoz, Inc., Colors & Chemicals Div.
MMM	Minnesota Mining & Manufacturing Co.	SAC	Southeastern Adhesives Co.
MNP	McWhorter, Inc.	SAR	Leksi, Inc.
MOB	Mobay Chemical Corp., Pittsburgh Div.	SBG	Samuel Bingham Co.
MON	Monsanto Co.	SCM	SCM Corp., Coatings & Resins Div.
MRT	Morton-Thickol, Inc., Morton	SCN	Schenectady Chemicals, Inc.
	Chemical Co. Div.	SCO	Scholler, Inc.
		SCP	Henkel Corp.
NCI	Union Camp Corp., Chemical Products Div.	SDH	Sterling Drug, Inc., Hilton Davis Chemical Co.
NCJ	National Casein of New Jersey		Div.
NCP	Niles Chemical Paint Co. and Kordell	SHC	Shell Oil Co., Shell Chemical Co. Div.
	Industries Div.	SHT	Shintech, Inc.
NEV	Neville Chemical Co.	SHX	Sherex Chemical Co., Inc.

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TABLE 3.--PLASTICS AND RESIN MATERIALS: DIRECTORY OF MANUFACTURERS, 1985--CONTINUED

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
SIC	Standard Oil Co., Silmar Div., Engineered Material Co.	TXS	Texstyrene Plastics, Inc.
SIF	Standard Oil Co., Filon Div., Engineered Material Co.	UCC	Union Carbide Corp.
SKP	Shakespeare Co., Monofilament Div.	UNO	United-Erie, Inc.
SLC	Soluol Chem Co., Inc.	UOC	Union Oil Co. of California
SLT	Soltex Polymer Corp.	UPJ	Upjohn Co. Polymer Chemical Div.
SM	Mobil Oil Corp.: Mobil Chemical Co.: Chemical Petrochemicals Div. Products Div.	USI	National Distillers & Chemical Corp.: U.S. Industrial Chemicals Co.:
SMO	Smooth-On, Inc.	USM	Emhart Corp., Bostik U.S. Div.
SNW	Sun Chemical Corp., Chemicals Div.	USR	Uniroyal, Inc., Uniroyal Chemical Div.
SOR	MW Manufacturers, Inc., Southern Resin Div.	USS	U.S. Steel Corp., USS Chemicals Div.
SPC	Insilco Corp., Sinclair Paint Co. Div.	VAL	United Merchants & Manufacturers, Inc., Valchem Div.
SPD	General Electric Co., Silicone Products Dept.	VIT	Vititek Corp.
SPL	Spaulding Fibre Co., Inc., Industrial Plastics Div.	VPC	Mobay Chemical Corp., Dye & Pigment Div.
SRY	Synray Corp.	VST	Vista Polymers, Inc.
STC	American Hoechst Corp., Sou-Tex Works	VSV	Valentine Sugars, Inc., Valite Div.
SW	Sherwin-Williams Co., Chemical Div.	WCA	West Coast Adhesives Co.
SYL	Sylwachem Corp.	WLN	Wilmington Chemical Corp.
SYT	Synthron, Inc.	WM	Inolex Chemical Co.
TNA	Ethyl Corp.	WPG	West Point-Pepperell, Inc., Grifftex Chemical Co. Sub.
		WRD	Weyerhaeuser Co.
		WTC	Witco Chemical Corp.

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION IX -- RUBBER PROCESSING CHEMICALS

STATISTICAL HIGHLIGHTS

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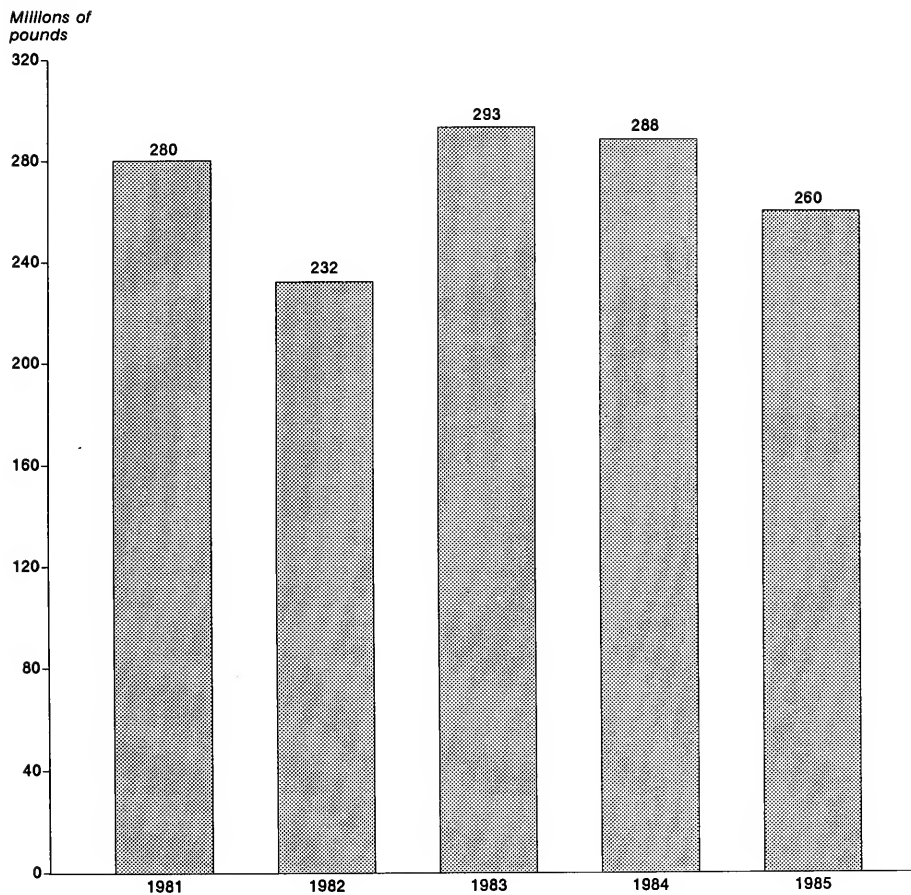
Rubber-processing chemicals are organic compounds that are added to natural and synthetic rubber to give them qualities necessary for their conversion into finished rubber goods. In this report, statistics are given for cyclic and acyclic compounds by use—such as accelerators, antioxidants, and vulcanizing agents. Data on production and sales of rubber-processing chemicals in 1985 are given in table 1.¹ Data on production of rubber-processing chemicals during 1981–85 is given in figure 1.

Production of rubber-processing chemicals as a group in 1985 amounted to 260 million pounds, or 10 percent less than the 288 million pounds produced in 1984. Sales of rubber-processing chemicals in 1985 amounted to 174 million pounds, valued at \$281 million, compared with 176 million pounds, valued at \$287 million, in 1984.

The production of cyclic rubber-processing chemicals in 1985 amounted to 237 million pounds, or 9 percent less than the 260 million pounds produced in 1984. Sales of cyclic rubber-processing chemicals in 1985 totaled 155 million pounds, valued at \$258 million, compared with 154 million pounds, valued at \$261 million, in 1984. Of the total production of cyclic rubber-processing chemicals in 1985, antioxidants, antiozonants, and stabilizers accounted for 67 percent, and accelerators, activators, and vulcanizing agents for 29 percent. Production of antioxidants, antiozonants, and stabilizers, which amounted to 160 million pounds in 1985, included 100 million pounds of amino compounds and 59 million pounds of phenolic and phosphite compounds. Sales of amino antioxidants, antiozonants, and stabilizers in 1985 amounted to 71 million pounds, valued at \$108 million; sales of phenolic and phosphite antioxidants, antiozonants, and stabilizers were 34 million pounds, valued at \$59 million.

Production of acyclic rubber-processing chemicals in 1985 amounted to 23 million pounds, or 18 percent less than the 28 million pounds produced in 1984. Sales in 1985 totaled 20 million pounds, valued at \$22 million, compared with 22 million pounds, valued at \$26 million, in 1984. Dithiocarbamic acid derivatives accounted for 30 percent of the production of acyclic rubber-processing chemicals in 1985.

¹ See table 2, which lists these products and identifies the manufacturers by codes. These codes are given in table 3.

Figure 1.—Rubber-processing chemicals.

Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

TABLE 1.--RUBBER PROCESSING CHEMICALS: U.S. PRODUCTION AND SALES, 1985

[Listed below are all rubber-processing chemicals for which any reported data on production or sales may be published. (Leaders (...) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all rubber-processing chemicals for which data on production and/or sales were reported and identifies the manufacturers of each]

RUBBER-PROCESSING CHEMICALS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
Grand Total-----	260,164	174,273	280,680	\$1.61
CYCLIC				
Total-----	237,224	154,709	258,438	1.67
Accelerators, activators, and vulcanizing agents				
total-----	69,151	41,441	68,027	1.64
Thiazole derivatives, total-----	63,918	36,156	52,012	1.44
2,2'-Dithiobis[benzothiazole]-----	7,219	6,285	7,545	1.20
All other thiazole derivatives-----	56,699	29,871	44,467	1.49
All other accelerators, activators, and vulcanizing agents ^{2 3} -----	5,233	5,285	16,015	3.03
Antioxidants, antiozonants, and stabilizers, total-----	159,528	105,181	167,080	1.59
Amino compounds, total-----	100,211	70,704	107,872	1.53
1,2-Dihydro-2,2,4-trimethylquinoline-----	...	12,085	13,046	1.08
Substituted p-phenylenediamines-----	64,619	43,556	69,930	1.61
All other amino compounds ⁴ -----	35,592	15,063	24,896	1.65
Phenolic and phosphite compounds, total ⁵ -----	59,317	34,477	59,208	1.72
Phosphites-----	45,264	24,171	29,210	1.21
Polyphenolics, total-----	6,059	6,267	21,889	3.49
Bisphenol, hindered-----	1,305	...	...	...
All other polyphenolics-----	4,754	...	...	...
All other phenolic and phosphite compounds, total-----	7,994	4,039	8,109	2.01
Phenol, styrenated mixtures-----	622	584	629	1.08
All other phenolic and phosphite compounds-----	7,372	3,455	7,480	2.16
All other cyclic rubber-processing chemicals ⁶ -----	8,545	8,087	23,331	2.89
ACYCLIC				
Total-----	22,940	19,564	22,242	1.14
Accelerators, activators, and vulcanizing agents,				
total-----	6,873	5,446	12,050	2.21
Dithiocarbamic acid derivatives ³ -----	4,474	3,482	8,292	2.38
All other accelerators, activators, and agents ⁷ -----	2,399	1,964	3,758	1.92
All other acyclic rubber-processing chemicals ⁸ -----	16,067	14,118	10,192	.72

¹Calculated from unrounded figures.

²Includes aldehyde-amine reaction products, guanidines, dithiocarbamates, and other accelerators, activators, and vulcanizing agents.

³Data on dithiocarbamates included in this table are for materials used chiefly in the processing of natural and synthetic rubber. Data on dithiocarbamates, which are used chiefly as fungicides, are included in the section on "Pesticides and Related Products."

⁴Includes aldehyde- and acetone-amine reaction products.

⁵Also includes other antioxidants, antiozonants, and stabilizers.

⁶Includes blowing agents, peptizers, and other cyclic rubber-processing chemicals.

⁷Includes thiurams, xanthates, sulfides, and other accelerators, activators, and vulcanizing agents.

⁸Includes blowing agents, polymerization regulators, shortstops, and other acyclic rubber processing chemicals.

TABLE 2. --RUBBER-PROCESSING CHEMICALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT]

RUBBER-PROCESSING CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC	
*ACCELERATORS, ACTIVATORS, AND VULCANIZING AGENTS:	
ALDEHYDE-AMINE REACTION PRODUCTS:	
Heptaldehyde-aniline condensate	USR.
Tetrahydro-3,5-dimethyl-4H-1,3,5-oxadiazine-4-thione	RBC.
Triethyltrimethylenetriamine	USR.
Aldehyde-amine reaction products, cyclic, other	DUP.
DITHIOCARBAMIC ACID DERIVATIVES:	
Dibenzyl(dithiocarbamic acid, sodium salt	USR.
Dibenzyl(dithiocarbamic acid, zinc salt	USR.
GUANIDINES:	
Dicatechol borate, di-o-tolylguanidine salt	DUP.
*THIAZOLE DERIVATIVES:	
1,3-Bis(2-benzothiazolylmercaptomethyl) urea	RBC.
N-tert-Butyl-2-benzothiazolesulfenamide	BFG, MON, USR.
N-Cyclohexyl-2-benzothiazolesulfenamide	MON, USR.
2,5-Dimercapto-1,3,4-thiadiazole	VNC.
*2,2'-Dithiobisbenzothiazole	BFG, GYR, MON, USR.
2-Mercaptobenzothiazole	GYR, MON, USR.
2-Mercaptobenzothiazole, copper salt	ACY.
2-Mercaptobenzothiazole derivative	VNC.
2-Mercaptobenzothiazole, zinc chloride	GYR.
2-Mercaptobenzothiazole, zinc salt	GYR, USR, VNC.
N-Oxydiethylene-2-benzothiazolesulfenamide	BFG, USR.
N-Oxydiethylenethiocarbamyl-N'-oxydiethylene sulfenamide	BFG.
Thiazole derivatives, cyclic, other	X.
*ALL OTHER CYCLIC ACCELERATORS, ACTIVATORS, AND VULCANIZING AGENTS:	
Bis(morpholinothiocarbamyl) disulfide	ACY.
Dibenzylamine	USR.
1,3-Dihydro-4(or 5)-methyl-2H-benzimidazole-2-thione	VNC.
Dimethylammonium hydrogen isophthalate	VNC.
Di-N'-pentamethylenethuram tetrasulfide	DUP, VNC.
4,4'-Dithiodimorpholine	MON.

TABLE 2.--RUBBER-PROCESSING CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

RUBBER-PROCESSING CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
*ACCELERATORS, ACTIVATORS, AND VULCANIZING AGENTS-- CONTINUED	
*ALL OTHER CYCLIC ACCELERATORS, ACTIVATORS, AND VULCANIZING AGENTS--CONTINUED	
2-Mercaptotoluimidazole, zinc salt	VGC.
m-Phenylenebismaleimide	DUP.
Tetramethylthiuram tetrasulfide	GFR.
Accelerators, activators, and vulcanizing agents, cyclic, other	DUP, USR.
*ANTIOXIDANTS, AMTIOZOMANTS, AND STABILIZERS:	
*AMINO ANTIOXIDANTS, AMTIOZOMANTS, AND STABILIZERS:	
ALDEHYDE- AND ACETONE-AMINE REACTION PRODUCTS:	
Butyraldehyde-aniline condensate	DUP.
Diphenylamine-acetone aldehyde	USR.
Diphenylamine-acetone condensate	BFG, USR.
*SUBSTITUTED P-PHENYLENEDIAMINES:	
Alkylaryl-p-phenylenediamines	MON.
N,N'-Bis(1,4-dimethylpentyl)-p-phenylenediamine	MON, UPM.
N,N'-Bis(1-ethyl-3-methylpentyl)-p- phenylenediamine	UPM.
N,N'-Bis(1-methylheptyl)-p-phenylenediamine	UPM.
N-Cyclohexyl-N'-phenyl-p-phenylenediamine	USR.
Diarylenediamines, mixed	GFR.
N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine	UPM, USR.
N,N'-Di-2-naphthyl-p-phenylenediamine	BFG.
N,N'-Diphenyl-p-phenylenediamine	BFG.
N-Isopropyl-N'-phenyl-p-phenylenediamine	UPM.
N-(1-Methylheptyl)-N'-phenyl-p-phenylenediamine	USR.
N-(1-Methylpentyl)-N'-phenyl-p-phenylenediamine	USR.
P-Phenylenediamines, substituted, other	KPI.
*OTHER AMINES:	
p-Aminophenol	BFG.
1,2-Dihydro-6-ethoxy-2,2,4-Trimethylquinoline (Ethoxyquin)	MON.
*1,2-Dihydro-2,2,4-trimethylquinoline	BFG, MON, USR.
Diphenylamine-styrenated	GFR.
Nonyldiphenylamine mixture (Mono-, di-, end tri)	USR.
Octyldiphenylamine	BFG, USR.
p-(p-Toluenesulfonamido)diphenylamine	BFG.
	USR.

TABLE 2.--RUBBER-PROCESSING CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

RUBBER-PROCESSING CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
*ANTIOXIDANTS, ANTIOZONANTS, AND STABILIZERS--CONTINUED	
*PHENOLIC AND PHOSPHITE ANTIOXIDANTS AND STABILIZERS:	
*PHOSPHITES:	
Alkylaryl phosphites mixed	FER, MCB.
Nonylphenyl phosphites, mixed	MCB, OMC, USR.
Polymeric phosphites	MCB, OMC
Polyphenolic phosphites, polyalkylated	BFG, MCB.
Tertiary phosphites	MCB.
*POLYPHENOLICS (INCLUDING BISPHENOLS):	
*Bisphenol, hindered	DUP, CYR, USR.
4,4'-Butylidenebis(6-tert-butyl-m-cresol)	MON.
2,5-Di-sec-butyldecylhydroquinone	USR.
2,5-Di-(1,1-dimethylpropyl)hydroquinone	MON.
2,2'-Methylenebis(6-tert-butyl-p-cresol)	ACX, FER.
2,2'-Methylenebis(6-tert-butyl-4-ethylphenol)	ACX.
1,1,3-Tri(2-methyl-4-hydroxy-5-tert-butylphenyl)butane	ICI.
ALL OTHER PHENOLIC ANTIOXIDANTS AND STABILIZERS:	
Phenol, alkylated	BFG, CYR, NEV, RCI.
Phenol, hindered	FER, OMC, USR.
*Phenol, styrenated, mixtures	CYR, NEV, USR.
N-Stearoyl-p-aminophenol	HKL.
BLOWING AGENTS:	
Dinitrosopentamethylenetetramine	OMC
P'-Oxybis(benzenesulfonhydrazide)	OMC, USR.
5-Phenyltetrazole	OMC.
P-Toluenesulfonylhydrazide	USR.
P-Toluenesulfonylsemicarbazide	USR.
PEPTIZERS:	
2,2',2''-Dithiobis(benzanilide)	ACX.
ALL OTHER CYCLIC RUBBER-PROCESSING CHEMICALS:	
P-tert-Amylphenol sulfide (Tackifier)	FAS.
4-Chloro-2,6-bis(2,4-dihydroxybenzyl)phenol	ICI.
N-(Cyclohexylthio)phthalimide	MON.
Diphenyl-4,4'-diphenylmethylenediacetate	USR.
Rubber-processing chemicals, cyclic, all other	ACX, FER.

TABLE 2.--RUBBER-PROCESSING CHEMICALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

RUBBER-PROCESSING CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC	
*ACCELERATORS, ACTIVATORS, AND VULCANIZING AGENTS:	
*DITHIOCARBAMIC ACID DERIVATIVES:	
Diethylthiocarbamic acid derivative-----	VNC.
Dibutylthiocarbamic acid, nickel salt-----	DUP, USR, VNC.
Dibutylthiocarbamic acid, sodium salt-----	DUP, USR, VNC.
Diethylthiocarbamic acid, zinc salt-----	VNC.
Diethylthiocarbamic acid, cadmium salt and	
bis(diethylthiocarbamoyl)disulfide, mixture-----	VNC.
Diethylthiocarbamic acid, selenium salt-----	VNC.
Diethylthiocarbamic acid, sodium salt-----	VNC.
Diethylthiocarbamic acid, tellurium salt-----	VNC.
Dimethylthiocarbamic acid, zinc salt-----	GYR, VNC.
Dimethylthiocarbamic acid, bismuth salt-----	VNC.
Dimethylthiocarbamic acid, copper salt-----	VNC.
Dimethylthiocarbamic acid, lead salt-----	VNC.
Dimethylthiocarbamic acid, selenium salt-----	VNC.
Dimethylthiocarbamic acid, sodium salt and sodium	
polysulfide-----	BFG.
Dimethylthiocarbamic acid, zinc salt-----	GYR, VNC.
Dithiocarbamic acid derivatives, acyclic, other-----	DUP, X.
THIURAMS:	
Bis(dibutylthiocarbamoyl) disulfide-----	VNC.
Bis(diethylthiocarbamoyl) disulfide-----	GYR.
Bis(dimethylthiocarbamoyl) disulfide-----	GYR, VNC.
Bis(dimethylthiocarbamoyl) sulfide-----	GYR.
N,N'-Dioctadecyl-N,N'-diisopropyl thiuram disulfide-----	USR.
XANTHATES AND SULFIDES:	
Di-n-butylxantho disulfide-----	USR.
Zinc isopropyl xanthate-----	VNC.
*ALL OTHER ACYCLIC ACCELERATORS, ACTIVATORS, AND	
VULCANIZING AGENTS:	
p-Aminocyclohexylmethane carbonate-----	DUP.
n-Butylaldehyde-butylamine condensate-----	DUP.
BLOWING AGENTS:	
1,2-Hydrazinedicarboxylic acid, bis(1-methylethyl)	
acet-----	USR.

TABLE 2.--RUBBER-PROCESSING CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

RUBBER-PROCESSING CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
POLYMERIZATION REGULATORS:	
n-Decyl mercaptan-----	PLC.
n-Dodecyl mercaptan-----	PAS, PLC.
tert-Hexadecyl mercaptan-----	PLC.
n-Hexyl mercaptan-----	PAS, PLC.
tert-Nonyl mercaptan-----	PLC.
n-Octyl mercaptan-----	PLC.
Tetradecyl mercaptan-----	PLC.
Polymerization regulators, acyclic, other-----	PLC.
SHORTSTOPS:	
Dimethyldithiocarbamic acid, potassium salt-----	USR.
Dimethyldithiocarbamic acid, sodium salt-----	ALC, BFC, USR, VCC, VWG.
*ALL OTHER ACYCLIC RUBBER-PROCESSING CHEMICALS:	
Waxes and paraffinic products-----	DUP, RCI.
Zinc laurate (Activator, physical property improver, and processing auxiliary)-----	USR.

TABLE 3.--RUBBER-PROCESSING CHEMICALS: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of rubber-processing chemicals to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE :	NAME OF COMPANY	CODE :	NAME OF COMPANY
ACY :	American Cyanamid Co.	MON :	Monsanto Co.
ALC :	Alco Chemical Corp.	NEV :	Neville Chemical Co.
BFG :	B. F. Goodrich Co., B. F. Goodrich Chemical Group	OMC :	Olin Corp.
DUP :	E. I. duPont de Nemours & Co., Inc.	PAS :	Pennwalt Corp.
FER :	Ferro Corp., Ferro Chemical Div.	PLC :	Phillips Petroleum Co.
GYR :	Goodyear Tire & Rubber Co.	RBC :	Fike Chemicals, Inc.
HXL :	Hexcel Corp., Hexcel Chemical Products	RCI :	Reichhold Chemicals, Inc.
IGI :	ICI Americas, Inc., Chemicals Div.	UPM :	UOP, Inc., UOP Process Div.
KPI :	Kenrich Petrochemicals, Inc.	USR :	Uniroyal, Inc., Uniroyal Chemical Div.
MCB :	Borg-Warner Corp., Borg Warner Chemicals	VCC :	Vinings Chemical Co.
		VNC :	Vanderbilt Chemical Corp.

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION X -- ELASTOMERS

STATISTICAL HIGHLIGHTS

Edward J. Taylor

202-523-3709

Elastomers (synthetic rubber) are high polymeric materials with properties similar to those of natural rubber. The term "elastomers" as used in this report means substances, whether in bale, crumb, powder, latex, or other crude form, which can be vulcanized or similarly processed into a material that can be stretched to at least twice their original length; and, after having been so stretched and the stress removed, will return with force to approximately their original length. U.S. production and sales of elastomers in 1985 are shown in table 1.¹

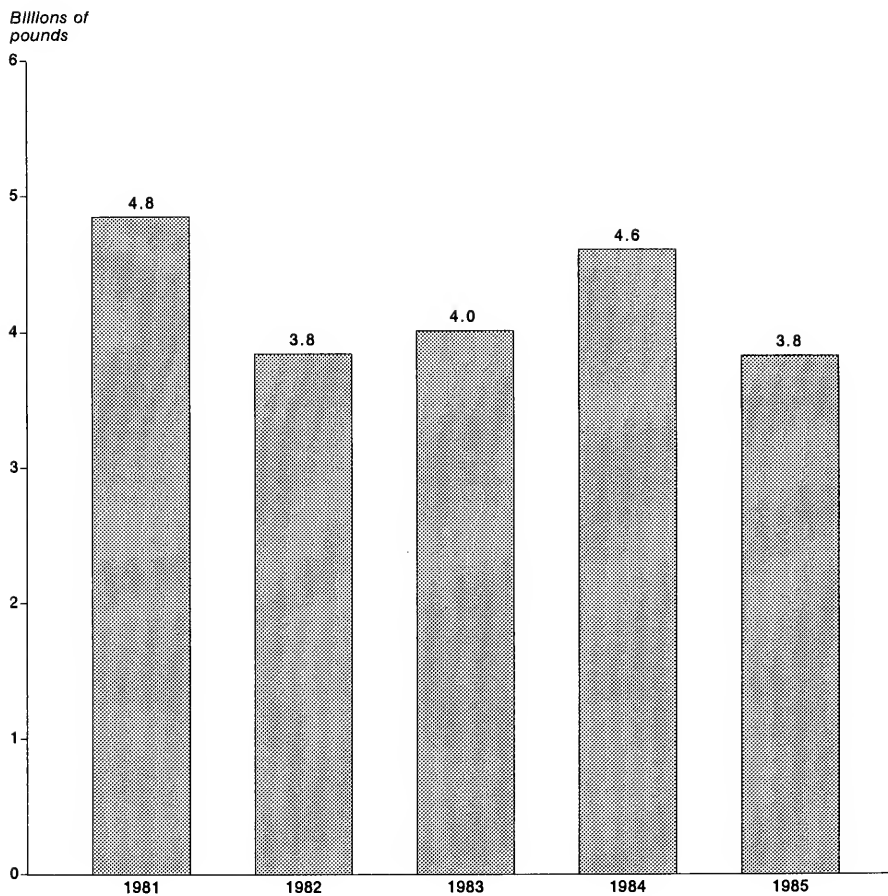
Total U.S. production² of synthetic rubber in 1985 amounted to 3,828 million pounds, a decrease of 16.9 percent from that produced in 1984. The production of synthetic rubber declined irregularly from 4,849 million pounds in 1981 to 3,828 million pounds in 1985, or by 21.1 percent. (see figure 1.). Total sales of elastomers in 1985 amounted 2,228 million pounds, a decrease of 17.1 percent from that sold in 1984.

Styrene-butadiene rubber (SBR-type rubber) in 1985 continued to be the elastomer produced in the greatest quantity as it has been for more than a quarter of a century. U.S. production of SBR-type rubber, including 11 million pounds of its vinylpyridine sub-type, amounted to 1,440 million pounds in 1985. Solution polymerized butadiene rubber, a stereo type elastomer, was produced domestically in 1985 in the next largest amount—600 million pounds. Other principal types of synthetic elastomers for which U.S. production data are reported separately are ethylene-propylene rubber, production of which was 440 million pounds in 1985; and butadiene-acrylonitrile (NBR-type) rubber, production of which was 118 million pounds.

Sales of SBR-type rubber by U.S. producers in 1985 amounted to 651 million pounds. Sales of solution polymerized butadiene rubber amounted to 268 million pounds, and those of ethylene-propylene rubber to 311 million pounds. Sales of NBR-type rubber in 1985 amounted to 104 million pounds.

¹ See also table 2 which lists these products and indicates the manufacturers of each by code. The codes are identified by company name in table 3.

² Urethane type elastomers are now included in the section "Plastics and Resin Materials."

Figure 1.—Elastomers (synthetic rubber).

Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

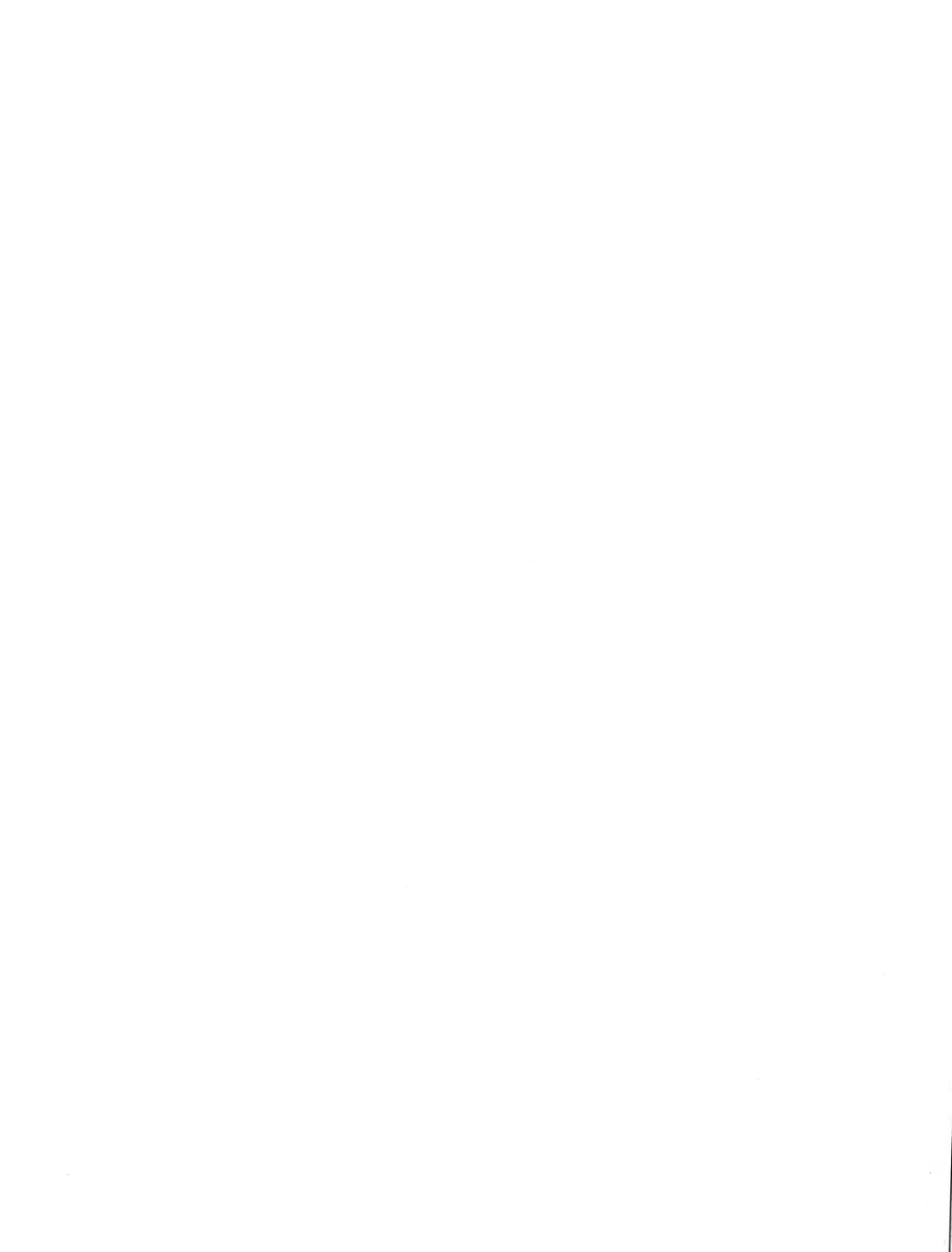


TABLE 1.--ELASTOMERS (SYNTHETIC RUBBER):¹ U.S. PRODUCTION AND SALES, 1985

[Listed below are elastomers (synthetic rubber) for which reported data on production or sales may be published. (Leaders (...)) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all elastomers for which data on production and/or sales were reported and identifies the manufacturers of each]

ELASTOMERS	PRODUCTION ²	SALES		
		QUANTITY ²	VALUE	UNIT VALUE ³
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
Grand total-----	3,827,941	2,227,856	2,054,060	\$0.92
Butadiene-acrylonitrile type (NBR-type)-----	117,987	104,456	94,489	1 .90
Ethylene-propylene type (EP-type)-----	439,887	310,832	236,420	.76
Polyacrylate (ACM) ester type-----	6,202	3,870	8,506	2.20
Polybutadiene (solution polymerized) type (BR-type)---	600,071	268,380	149,465	.56
Styrene-butadiene type (SBR-type) ⁴ -----	1,428,086	651,012	248,537	.38
Styrene-butadiene-vinylpyridine type-----	10,904	...	...	...
All other elastomers ⁵ -----	1,224,804	889,306	1,316,643	1.48

¹The term "elastomers" is defined as substances in bale, crumb, powder, latex, and other crude forms which can be vulcanized or similarly processed into materials that can be stretched at 68° F. to at least twice their original length and, after having been stretched and the stress removed, will return with force to approximately their original length.

²Includes oil content of oil-extended elastomers.

³Calculated from unrounded figures.

⁴Virtually all production of SBR elastomer is the dry type of product.

⁵Includes acrylic ester, butyl, chlorinated natural rubber, epichlorohydrin, fluoroelastomers, polybutadiene type (emulsion), polychloroprene (neoprene) type, polyisobutylene type, polyisoprenes (including cyclorubber), polysulfide, silicone type, styrene-butadiene-vinylpyridine type (sales only), and miscellaneous elastomers.

TABLE 2.---ELASTOMERS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*);
CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND
MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3]

ELASTOMERS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC ELASTOMERS	
CYCLIC ELASTOMERS:	
Cyclized polyisoprene (Cyclorubber)---	WAY.
Bischlorobutyl elastomers (CO, ECO) type---	DUP.
*STYRENE-BUTADIENE (S OR SBR) TYPE:	
Styrene-butadiene, dry type---	BFG, CPY, FRS, GRD, GYR, PIR, SPO.
Styrene-butadiene, latex type---	BFG, GNI, HHH.
*Styrene-butadiene-vinylpyridine---	BFG, FRS, GYR.
Styrene-butadiene type elastomers, other---	FRS, LC.
CYCLIC ELASTOMERS, ALL OTHER:	
Cyclic elastomers, all other---	HPC, SHC.
ACYCLIC ELASTOMERS:	
*Butadiene-acrylonitrile (NBR) type---	BFG, CPY, GYR, MMH, USR.
Butyl(isobutylene-isoprene) type---	ADC, ENJ.
*Ethylene-propylene (EP) type---	ADC, CPY, DUP, ENJ, USR.
Fluorelastomers (CFM, FKM, FFKM) type---	DUP, MMH.
*POLYACRYLATE ESTER TYPE:	
Polyacrylic (ACM) ester type elastomers---	ACY, BFG.
Polybutadiene oxide---	FGC.
Polybutadiene acrylic acid acrylonitrile terpolymer (PBAM)---	ASY.
POLYBUTADIENE (BR) TYPE:	
Polybutadiene, emulsion-polymerized---	GYR.
*Polybutadiene, solution-polymerized---	ASY, FRS, PLG.
Polychloroprene (Neoprene) (CR) type---	DKA, DUP, GRY, LC.
Polyisobutylene, type elastomers---	ENJ.
Polyisoprene (IR) type elastomers---	GYR, LC.
Polyulfide (T) type elastomers---	MRT.
Silicone (Q) type elastomers---	DCC, KF, LC, SPD, SMS.
ACYCLIC ELASTOMERS, ALL OTHER:	
Acyclic elastomers, all other---	DUP, HPC.

TABLE 3.--ELASTOMERS (SYNTHETIC RUBBER): DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of elastomers to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
ACY	American Cyanamid Co.	KF	Dynamit Nobel of America, Dynamit Nobel Chemical Div.
ADC	Anderson Development Co.		
ASY	American Synthetic Rubber Corp.	LC	Lord Corp., Chemical Products Group
BFG	B. F. Goodrich Co., B. F. Goodrich Chemical Group	MMM	Minnesota Mining and Manufacturing Co.
CFY	Copolymer Rubber & Chemical Corp.	MRT	Morton-Thiokol, Inc., Morton Chemical Co. Div.
DCC	Dow Corning Corp.	PLC	Phillips Petroleum Co.
DKA	Denka Chemical Corp.	PLR	Polysar, Inc., Latex Div.
DUP	E. I. duPont de Nemours & Co., Inc.	PRC	Products Research & Chemical Corp.
ENJ	Exxon Chemical Americas	SHC	Shell Oil Co., Shell Chemical Co. Div.
FRS	Firestone Tire & Rubber Co., Firestone Synthetic Rubber & Latex Co. Div.	SPD	General Electric Co., Silicone Products Dept.
GNT	Diversitech General (Gencorp Co.)	SPO	Synpol, Inc.
GRD	W. R. Grace & Co., Polymers & Chemical Div.	SWS	Stauffer Chemical Co., Stauffer-Wacker Silicones Div.
GYR	Goodyear Tire & Rubber Co.	USR	Uniroyal, Inc., Chemical Group
HPC	Hercules, Inc.	WAY	Philip A. Hunt Chemical Corp., Organic Chemical Div.

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985

SECTION XI -- PLASTICIZERS

STATISTICAL HIGHLIGHTS

Jesse Lawrence Johnson

202-523-0127

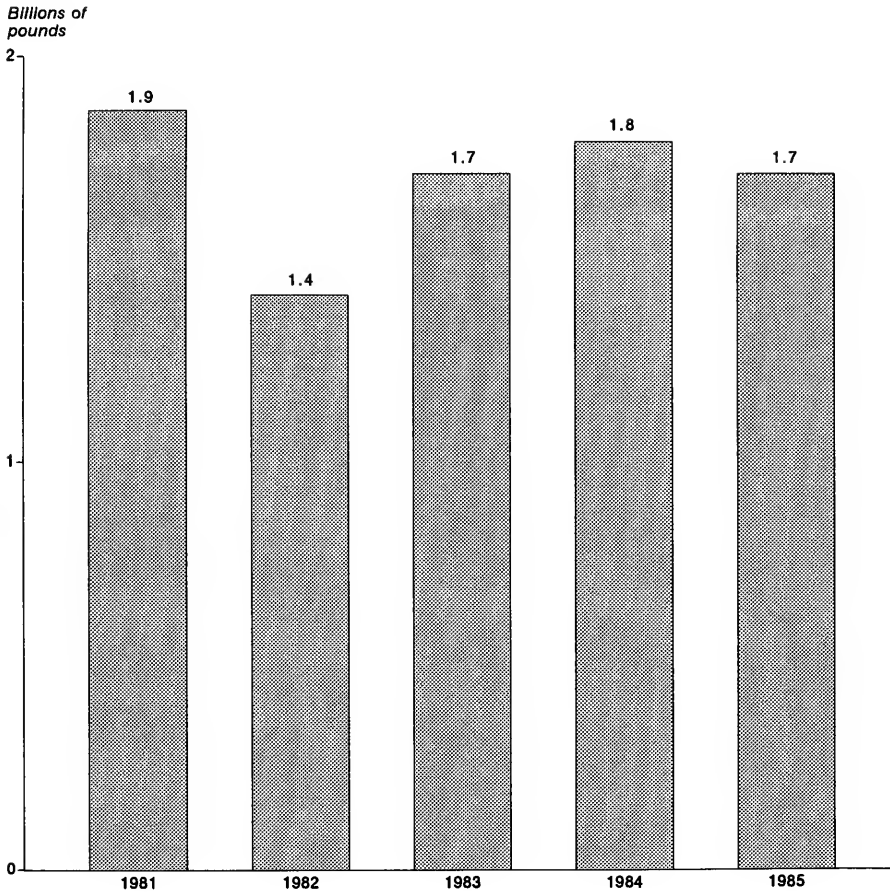
Plasticizers are organic chemicals that are added to synthetic plastics and resin materials to (1) improve workability during fabrication, (2) extend or modify the natural properties of these materials, or (3) develop new improved properties not present in the original material. Table 1 presents statistics on U.S. production and sales of plasticizers in as great a detail as is possible without revealing the operations of individual producers.

U.S. production of plasticizers totaled 1,710 million pounds in 1985, a decrease of 4.3 percent from the 1,788 million pounds reported for 1984. The trend of production of these products is shown in the graph in figure 1. Sales of plasticizers totaled 1,470 million pounds, valued at \$741 million, in 1985, compared with 1,685 million pounds, valued at \$849 million, in 1984.

Production of cyclic plasticizers in 1985, which consisted chiefly of the esters of phthalic anhydride, phosphoric acid, and trimellitic acid, amounted to 1,286 million pounds, a decrease of 3.9 percent from the 1,338 million pounds reported for 1984. Sales of cyclic plasticizers in 1985 totaled 1,118 million pounds, valued at \$499 million, compared with 1,307 million pounds, valued at \$578 million, in 1984. The most important cyclic plasticizers were the dioctyl phthalates, with production of 275 million pounds, in 1985.

Production of acyclic plasticizers in 1985 totaled 424 million pounds, a decrease of 5.6 percent from the 449 million pounds reported for 1984. Sales of acyclic plasticizers totaled 351 million pounds, valued at \$243 million, in 1985, compared with 378 million pounds, valued at \$271 million, in 1984. Epoxidized soya oils were the most important acyclic plasticizers in 1985 with production of 96 million pounds.

Figure 1.—Plasticizers.



Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

VI -- PLASTICIZERS

TABLE 1.--PLASTICIZERS:¹ U.S. PRODUCTION AND SALES, 1985

[Listed below are plasticizers for which any reported data on production or sales may be published. (Leaders (...)) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all plasticizer chemicals for which data on production and/or sales were reported and identifies the manufacturers of each]

PLASTICIZERS	PRODUCTION		SALES		
	1,000 pounds	1,000 pounds	QUANTITY	VALUE	UNIT VALUE ²
			1,000 dollars	Per pound	
Grand total-----	1,709,859	1,469,748	741,347		\$0.50
Benzenoid ³ -----	1,447,293	1,233,402	585,898		.48
Nonbenzenoid-----	262,566	236,346	155,449		.66
CYCLIC					
Total-----	1,285,753	1,118,334	498,761		.45
Phosphoric acid esters ⁴ -----	50,526	...	...		...
Phthalic anhydride esters, total-----	1,135,963	970,346	384,443		.40
Dibutyl phthalates (including diisobutyl phthalates)-----	21,732	19,435	8,442		.43
Diethyl phthalate-----	17,151	14,311	18,887		1.32
Diisodecyl phthalate-----	146,269	133,384	45,490		.34
Dimethyl phthalate-----	7,650	7,997	4,060		.51
Diocetyl phthalates-----	275,392	288,313	87,724		.30
Di-tridecyl phthalate-----	21,790	21,228	11,662		.55
All other phthalic anhydride esters-----	645,979	485,678	208,178		.43
Trimellitic acid esters-----	48,545	53,211	37,399		.70
All other cyclic plasticizers ⁵ -----	50,719	94,777	76,919		.81
ACYCLIC					
Total-----	424,106	351,414	242,586		.69
Adipic acid esters, total-----	125,186	86,736	57,243		.66
Di(2-ethylhexyl) adipate-----	36,991	34,335	17,479		.51
Diisobutyl adipate-----	212	...	...		...
Diisodecyl adipate-----	1,400	1,000	739		.74
Diisooctyl adipate-----	1,496	1,445	824		.57
Di-tridecyl adipate-----	8,952	9,290	8,028		.86
m-Octyl m-decyl adipate-----	5,331	4,169	2,813		.67
All other adipic acid esters-----	70,804	36,497	27,360		.75
Complex linear polyesters and polymeric plasticizers-----	49,527	26,306	25,423		.97
Epoxidized esters, total-----	112,479	112,434	65,321		.58
Epoxidized soya oils-----	95,617	96,282	53,308		.55
All other epoxidized esters-----	16,862	16,152	12,013		.74
Oleic acid esters, total-----	11,511	11,223	7,600		.68
Butyl oleate-----	1,676	1,581	1,028		.65
All other oleic acid esters-----	9,835	9,642	6,572		.68
Palmitic acid esters-----	3,405	3,369	2,769		.82
Phosphoric acid esters-----	17,855	14,262	14,825		1.04
Di(2-ethylhexyl) sebacate-----	3,613	3,477	5,468		1.57

See footnotes at end of table.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--PLASTICIZERS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

PLASTICIZERS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ²
	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>	<u>Per</u>
	<u>pounds</u>	<u>pounds</u>	<u>dollars</u>	<u>pound</u>
ACYCLIC--Continued				
Stearic acid esters, total-----	9,907	13,265	9,254	\$.70
n-Butyl stearate-----	7,683	11,186	7,044	.63
All other stearic acid esters-----	2,224	2,079	2,210	1.06
All other acyclic plasticizers ⁶ -----	90,623	80,342	54,683	.68

¹Includes data for compounds used principally (but not exclusively) as primary plasticizers. Does not include clearly defined extenders or secondary plasticizers.

²Calculated from unrounded figures.

³Includes benzenoid products as defined in part 1, schedule 4, of the Tariff Schedules of the United States Annotated.

⁴Includes data for cresyl diphenyl phosphate, dibutyl phenyl phosphate, diphenyl octyl phosphate, tricresyl phosphate, triphenyl phosphate, and other cyclic phosphoric acid esters.

⁵Includes data for glycol dibenzoates, toluenesulfonamides, tetrahydrofurfuryl oleate, and other cyclic plasticizers.

⁶Includes data for azelaic acid esters, citric and acetylcitric acid esters, myristic acid esters, pelargonic acid esters, ricinoleic and acetylricinoleic acid esters, glyceryl and glycol esters, and other acyclic plasticizers.

TABLE 2.--PLASTICIZERS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT]

PLASTICIZERS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC	
n-n-Butyl benzeneulfonamide-----	TNA
Comarone-indene plasticizers-----	NEU
Diethylene glycol dibenzoate-----	KLM, YEL
Dipropamediol dibenzoate (Dipropylene glycol dibenzoate)-----	KLM, YEL
n-Ethyl-p-toluenesulfonamide-----	MON, RES
*PHOSPHORIC ACID ESTERS:	
Diphenyl octyl phosphate-----	MON
Isodecyl diphenyl phosphate-----	SFS
Tricresyl phosphate-----	FHC, SFS
Triphenyl phosphate-----	EK, MON, SFS
Phosphoric acid esters, all other-----	FHC, MON, SFS, SH
*PHTHALIC ANHYDRIDE ESTERS:	
Bis(2-ethylhexyl)terephthalate-----	EKT
Butyl benzyl phthalate-----	MON
Butyl 2-ethylhexyl phthalate-----	DBC
Butyl octyl phthalates-----	RCT, USS
Di(2-butoxyethyl) phthalate-----	HML
*Di-butyl phthalate (including diisobutyl phthalate)-----	DBC, EKT, HCC, MOD, RCI, USS, WTH
Dicyclohexyl phthalate-----	X
Diethylene glycol phthalate-----	CHB
Diethyl isophthalate-----	X
*Diethyl phthalate-----	DBC, EKT, KF, MON, MRF
Di-(n-heptyl-n-nonyl) undecyl phthalate-----	ENJ
*Diisodecyl phthalate-----	DBC, ENJ, HCC, MOD, RCI, TEK, USS
Diisohexyl phthalate-----	ENJ
Diisononyl phthalate-----	DBC, ENJ, MOD, TEK, USS
Di(2-methoxyethyl) phthalate-----	EKT
Dimethyl isophthalate-----	X
*Dimethyl phthalate-----	EKT, KF, WTC, X
Dinonyl phthalate-----	ENJ
Dinonyl undecyl phthalate-----	NOB
*Ditridecyl phthalate-----	ENJ, HCC, MOD, SH, TEK, USS
Diumdecyl phthalate-----	MON
Hexyl n-decyl phthalate-----	VST

TABLE 2.--PLASTICIZERS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PLASTICIZERS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
*PHTHALIC ANHYDRIDE ESTERS--CONTINUED:	
n-octyl n-decyl phthalate	RCI, USS.
Phthalic acid, diallyl ester	TWA.
*DIOCTYL PHTHALATES:	
Di(2-ethylhexyl) phthalate	DBC, EKT, ENJ, HCC, MRF, MOD, RCI, TEK, USS, VST.
Diisooctyl phthalate	ENJ, MOD, RCI, TEK.
Di-n-octyl phthalate	EK.
Dioctyl phthalates, all other	DBC, WTH.
GLYCOL PHTHALATE ESTERS:	
Butyl phthalyl butyl glycolate	X.
*Phthalic anhydride esters, all other	DBC, HCC, MON, MOD, TEK.
Polyethylene glycol dibenzoate	VEL.
Tetrahydrofurfuryl oleate	EMR.
Toluenesulfonamide o-, p-mixtures	MON.
*TRIMELLITIC ACID ESTERS:	
Tri(2-ethylhexyl) trimellitate	DBC, HCC, TEK.
Triisodecyl trimellitate	ENJ, HCC, MOD.
Triisononyl trimellitate	TEK, USS.
Triisooctyl trimellitate	ENJ, MOD, RCI, TEK.
Trimethyl trimellitate	FER.
Tri-n-octyl n-decyl trimellitate	RCI, TEK.
Triooctyl trimellitate	EKT, RCI, USS.
Trimellitic acid esters, all other	HCC, TEK, USS, X, X.
*Cyclic plasticizers, all other	DBC, NEV, MOD, SBC, X.
ACYCLIC	
*ADIPIC ACID ESTERS:	
Butylene glycol adipate	HAL.
Di(2-(2-butoxyethoxy)ethyl) adipate	HAL, MON, RCI.
Dibutoxyethyl adipate	HAL.
*Di(2-ethylhexyl) adipate	DBC, EKT, ENJ, HAL, HCC, MRF, MOD, RCI, TEK, USS, WTH.
Di-n-hexyl adipate	EKT, MON.
*Diisobutyl adipate	EKT, HAL, HCC.
*Diisodecyl adipate	EMR, HAL, HCC, MRF, MOD, RCI, SM.
Diisononyl adipate	ENJ, TEK, USS.
*Diisooctyl adipate	ENJ, HCC, RCI, TEK.
Diisopropyl adipate	VND, WTH.

TABLE 2.--PLASTICIZERS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PLASTICIZERS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ADIPIC ACID ESTERS--CONTINUED:	
Dimethyl adipate-----	MRP, X.
Di-n-octyl adipate-----	WTH.
Di-n-propyl adipate-----	HCC.
*Ditridecyl adipate-----	EMR, HCC, MOP, SM, WM.
Ethylene glycol adipate-----	HAL.
n-Hexyl n-decyl adipate-----	EHR.
Neopentyl glycol adipate-----	HAL.
*n-Octyl n-decyl adipate-----	HCC, MOM, RCI, TEK, USS.
Propylene glycol adipate-----	HAL.
*Adipic acid esters, all others-----	DBC, EKT, HAL, HCC, WTC.
AZELAIC ACID ESTERS:	
Bis(hydroxypropyl) azelate-----	EMR.
Di(2-ethylhexyl) azelate-----	EKT, EMR, HAL, RCI.
Diiso-octyl azelate-----	EMR.
CITRIC AND ACETYLCITRIC ACID ESTERS:	
Tributyl acetyl citrate-----	X.
Tributyl citrate-----	X.
Triethyl acetyl citrate-----	X.
Triethyl citrate-----	X.
Citric and acetylcitric acid esters, all other-----	X.
*COMPLEX LINEAR POLYESTERS AND POLYMERIC PLASTICIZERS:	
Adipic acid type complex linear polyesters and polymeric plasticizers-----	HAL, MRF, SHK, TEK, WTC, WTH.
Complex linear polyesters and polymeric plasticizers, all other-----	EKK, EHR, RCI, SFS, SM, VMD, WM, WTC.
Poly(2,2,4-trimethyl-1,3-pentanediol) maleate-----	EKT.
*EPOXIDIZED ESTERS:	
*Epoxidized linseed oils-----	FER, VIK, WTC.
Epoxidized pentaerythritol tetraphthalate-----	UCC.
*Epoxidized soya oils-----	FER, FMC, TEK, UCC, VIK, WTC.
2-Ethylhexyl epoxytallates-----	UCC.
Octyl epoxytallates-----	WTC.
*Epoxidized esters, all other-----	EKT.
Glycerol tripropionate-----	EKT.
GLUTARIC ACID ESTERS:	
Neopentyl glycol glutarate-----	HAL.
Propylene glycol glutarate-----	HAL.
Glutaric acid esters, all other-----	HAL.

TABLE 2.---PLASTICIZERS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PLASTICIZERS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
MYRISTIC ACID ESTERS:	
Isopropyl myristate	WM, WTH.
Myristyl ethoxy myristate	SCP.
OCTANOIC ACID ESTERS:	
Palmityl octanoate	SBC.
Octanoic acid esters, all other	HAL.
*OLEIC ACID ESTERS:	
2-Butoxyethyl oleate	HAL.
*Butyl oleate	CHL, EHR, HAL, WTC, WTH.
Decyl oleate	SBC, SCP, VND.
2-Ethylhexyl oleate	HAL.
Glyceryl trioleate (Triolein)	EHR, WTC.
Isocetyl oleate	HAL.
Methyl oleate	DA, EHR, TCH, WTC.
Neopentyl glycol dioleate	HCC.
Oleyl oleate	SBC.
PROPYL OLEATES:	
n-Propyl oleate	EHR.
Trimethylolpropane trioleate	HCC.
Oleic acid esters, all other	DA, EHR, HAL.
*PALMITIC ACID ESTERS:	
n-Butyl palmitate	EKT.
2-Ethylhexyl palmitate	VND, WTH.
Isopropyl palmitate	WM, WTH.
2-Methoxyethyl palmitate	EKT.
PELAGONIC ACID ESTERS:	
Glycol pelargonate	EHR, TCH.
Isodecyl pelargonate	EHR.
*PHOSPHORIC ACID ESTERS:	
Tri(2-butoxyethyl) phosphate	PMC, MON, SFS.
Tri(2-chloroethyl) phosphate	SFS.
Tri(2-chloropropyl) phosphate	FER, SFS.
Triethyl phosphate	EKT.
Trioctyl phosphate	SFS.
Phosphoric acid esters, all other	SFS.
RICINOLEIC AND ACETYLRICINOLEIC ACID ESTERS:	
n-Butyl acetylricinoleate	CAS.
Butyl ricinoleate	CAS.
Ethyl glycol monoricinoleate	CAS.

TABLE 2.--PLASTICIZERS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED,
IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PLASTICIZERS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
RIGINOLEIC AND ACETYLRIGINOLEIC ACID ESTERS--CONTINUED	
Glyceryl monoricinoleate	CAS
Glyceryl tri(acetylricinoleate)	CAS
Methyl acetylricinoleate	CAS
Methyl ricinoleate	CAS, DA
Propylene glycol monoricinoleate	CAS
SEBACIC ACID ESTERS:	
Dibutoxyethyl sebacate	HAL
Dibutyl sebacate	EKT, X
*Di(2-ethylhexyl) sebacate	HAL, HCC, X
Diisopropyl sebacate	SBC, X
Dimethyl sebacate	X
Propylene glycol sebacate	HAL
*STEARIC ACID ESTERS:	
*n-Butyl stearate	CHL, EMR, TCH, WM, WTC, WTH
Diethylene glycol succinate	CMR
2-ethylhexyl stearate	STC, TCH
Hexadecyl stearate	STC
Isobutyl stearate	DA, TCH, WTH
Isodecyl stearate	WM
Methyl pentachlorostearate	VDM
Myristyl stearate	VND
2-ocetyldecyl-12-stearoyl stearate	VND
Tridecyl stearate	HCC
*Stearic acid esters, all other	SBC, SCF, WTC
Sucrose acetate isobutyrate	EKT
Tetraethylene glycol di(2-ethylhexanoate)	HAL
Triethylene glycol di(caprylate-caprate)	HAL, UCC, WM
Triethylene glycol di(2-ethylbutyrate)	HAL
Triethylene glycol di(2-ethylhexanoate)	HAL, UCC
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	EKT
*Acyclic plasticizers, all other	ARZ, EMR, HCC, HFC, TCH

XI -- PLASTICIZERS

TABLE 3.--PLASTICIZERS: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

(Names of manufacturers that reported production and/or sales of plasticizers to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2)

CODE :	NAME OF COMPANY	CODE :	NAME OF COMPANY
ARZ :	Arizona Chemical Co.	NES :	Ruetgers-Nease Chemical Co.
CAS :	Caschem, Inc.	NEV :	Neville Chemical Co.
CHL :	Chemol Co.	NOD :	Nuodex, Inc.
CMB :	Cambridge Industries Co.	RCI :	Reichhold Chemicals, Inc.
DA :	Diamond Shamrock Corp., Chemicals Div.	SBC :	Scher Chemicals, Inc.
DBC :	Badische Corp.	SCP :	Henkel Corp.
DIX :	Dixie Chemical Co., Inc.	SFS :	Stauffer Chemical Co., Specialty and Intermediates Div.
EK :	Eastman Kodak Co.:	SHX :	Sherex Chemical Co., Inc.
EKT :	Tennessee Eastman Co. Div.	SM :	Mobil Oil Corp., Mobil Chemical Co., Chemical Products Div.
EKK :	Texas Eastman Co. Div.	STC :	American Hoechst Corp., Sou-Tex Works
EMR :	Emery Chemicals Div. of National Distillers & Chemical Corp.	TCH :	Emery Industries, Inc., Trylon Div.
ENJ :	Exxon Chemical Americas	TEK :	Teknor Apex Co.
FER :	Ferro Corp.:	TNA :	Ethyl Corp.
:	Ferro Chemical Div.	UCC :	Union Carbide Corp.
:	Grant Chemical Div.	USS :	U.S. Steel Corp., USS Chemicals Div.
FMC :	FMC Corp.	VDM :	Van De Mark Chemical Co., Inc.
HAL :	C. P. Hall Co.	VEL :	Vesicol Chemical Corp.
HCC :	Hatco Chemical Corp.	VIK :	Viking Chemical Co.
HPC :	Hercules, Inc.	VND :	Van Dyk Div. of Mallinckrodt, Inc.
KF :	Dynamit Nobel of America, Dynamit Nobel Chemical Div.	VST :	Vista Polymers, Inc.
KLM :	Kalama Chemical, Inc.	WM :	Inolex Chemical Co.
MON :	Monsanto Co.	WTC :	Witco Chemical Corp.
MRF :	Morflex Chemical Co., Inc.	WTH :	Union Camp Corp.

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION XII -- SURFACE-ACTIVE AGENTS

STATISTICAL HIGHLIGHTS

Eric Land

202-523-0491

The surface-active agents included in this report are organic chemicals that reduce the surface tension of water or other solvents and are used chiefly as detergents, dispersing agents, emulsifiers, foaming agents, or wetting agents in either aqueous or nonaqueous systems. Waxes and products used chiefly as plasticizers are excluded. Surface-active agents are produced from natural fats and oils, from silvichemicals such as lignin, rosin, and tall oil, and from chemical intermediates derived from coal tar and petroleum. A major part of the output of the bulk chemicals shown in this report is consumed in the form of packaged soaps and detergents for household and industrial use. The remainder is used in the processing of textiles and leather, in ore flotation and oil-drilling operations, and in the manufacture of agricultural sprays, cosmetics, elastomers, foods, lubricants, paint, pharmaceuticals, and many other products.

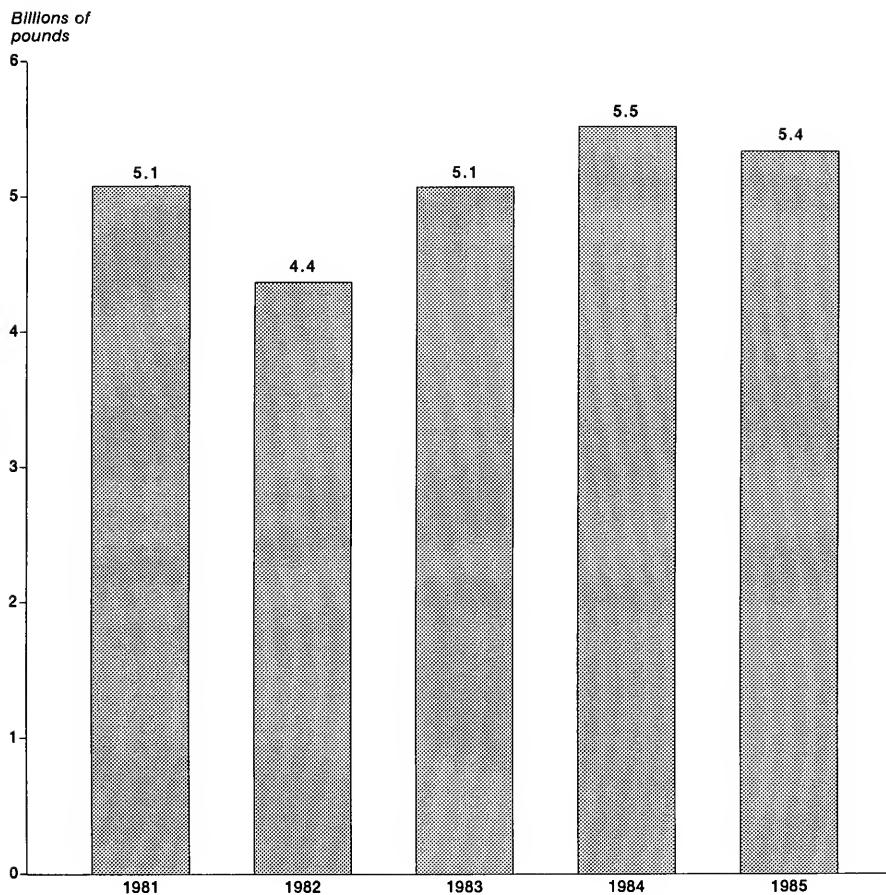
The statistics for production and sales of surface-active agents are grouped by ionic class and by chemical class and subclass. All quantities are reported in terms of 100-percent organic surface-active ingredients and thus exclude all inorganic salts, water, and other diluents. Sales statistics reflect sales of bulk surface-active agents only; sales of formulated products are excluded. Data for "all other" in each of the categories, which was published in previous editions, can be derived by subtracting from the totals of each category the sum of the enumerated items within that category. Data for the production of surface-active agents during 1981-85 are shown in figure 1.

Total U.S. production of surface-active agents in 1985 amounted to 5,363 million pounds, or 2.8 percent less than the 5,519 million pounds reported for 1984. Sales of bulk surface-active agents in 1985 amounted to 3,328 million pounds, valued at \$1,574 million, compared with sales in 1984 of 3,443 million pounds, valued at \$1,874 million. In terms of quantity, sales in 1985 were 3.3 percent less than in 1984.

Production of anionic surface-active agents in 1985 amounted to 3,355 million pounds, or 62.6 percent of the total surfactant output reported for 1985. Sales of anionics in 1985 amounted to 1,684 million pounds, valued at \$538 million.

Production of cationic surface-active agents in 1985 amounted to 418 million pounds, 8.3 percent less than the 456 million pounds reported in 1984. Production of nonionic surface-active agents amounted to 1,564 million pounds in 1985, 1.4 percent more than the 1,543 million pounds reported in 1984. Sales of cationic surface-active agents in 1985 decreased by 3.2 percent in terms of quantity, and by 14.3 percent in terms of value when compared with sales as reported in 1984. Sales of nonionics in 1985 decreased by 2.0 percent in terms of quantity, and by 25.6 percent in terms of value when compared with sales as reported in 1984.

The difference between production and sales reflects inventory changes and captive consumption of surface-active agents by synthetic rubber producers, and by manufacturers of cosmetics, packaged detergents, bar soaps, and other formulated consumer products. In some instances the difference may also reflect quantities of surface-active agents used as chemical intermediates, e.g., nonionic alcohol and alkylphenol ethoxylates which may be converted to anionic surface-active agents by phosphation or sulfation.

Figure 1.—Surface-active agents.

Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.



XII -- SURFACE-ACTIVE AGENTS

TABLE 1.--SURFACE-ACTIVE AGENTS: U.S. PRODUCTION AND SALES, 1985

[Listed below are the surface-active agents for which reported data on production or sales may be published. (Leaders (...) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all surface-active agents for which data on production and/or sales were reported and identifies the manufacturers of each]

SURFACE-ACTIVE AGENTS	PRODUCTION ¹		SALES ²	
	QUANTITY ¹	VALUE	UNIT	VALUE ³
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
Grand total-----	5,363,183	3,327,828	1,574,310	\$0.47
AMPHOTERIC				
Total-----	25,369	22,026	24,973	1.13
(Carboxymethyl)[3-(coconut oil amido)propyl] dimethylammonium hydroxide, inner salt-----	970	935	1,591	1.70
N-Dodecyl-3-iminodipropionic acid, disodium salt-----	254	254	377	1.48
(Mixed alkyl) sulfobetaine-----	1,099	...	...	...
ANIONIC				
Total-----	3,355,178	1,683,542	537,646	.32
Carboxylic acids (and salts thereof), total-----	831,989	157,871	71,970	.46
Amine salts of fatty, rosin, and tall oil acids-----	2,625	1,292	1,603	1.24
Coconut oil acids, potassium salt-----	...	329	193	.59
Coconut oil acids, sodium salt-----	104,125	3,236	1,307	.54
Oleic acid, sodium salt-----	417	133	175	1.32
Palm oil acids, sodium salt-----	222	56	28	.50
Stearic acid, potassium salt-----	682	490	462	.94
Tallow acids, sodium salt-----	324,940	21,540	5,950	.28
Phosphoric and polyphosphoric acid esters (and salts thereof), total-----	43,642	33,618	33,138	.99
Alcohols and phenols, alkoxylated and phosphated, total-----	30,441	27,534	24,296	.88
Decyl alcohol, ethoxylated and phosphated-----	1,459	1,317	945	.72
Dinonylphenol, ethoxylated and phosphated-----	843	797	762	.96
Mixed linear alcohols, ethoxylated and phos- phated-----	5,695	5,106	5,082	1.00
Nonylphenol, ethoxylated and phosphated-----	12,478	11,531	6,988	.61
Phenol, ethoxylated and phosphated-----	2,963	2,863	3,181	1.11
Tridecyl alcohol, ethoxylated and phosphated-----	760	...	...	...
All other phosphoric and polyphosphoric acid esters: (and salts thereof), total-----	13,201	6,084	8,842	1.45
Decyl and octyl phosphate-----	756	721	425	.59
2-Ethylhexyl phosphate, sodium salt-----	300	248	335	1.35
Mixed alkyl phosphate-----	2,697	1,055	1,670	1.58
Sulfonic acids (and salts thereof), total-----	1,769,507	1,276,125	284,340	.22
Alkylbenzenesulfonates, total-----	568,642	187,798	97,427	.52
Dodecylbenzenesulfonic acid-----	234,372	122,819	56,534	.46
Dodecylbenzenesulfonic acid, calcium salt-----	7,062	3,793	3,865	1.02
Dodecylbenzenesulfonic acid, isopropylamine salt--	5,067	4,158	3,347	.80
Dodecylbenzenesulfonic acid, sodium salt-----	168,941	47,927	26,105	.54
Dodecylbenzenesulfonic acid, triethanolamine salt-----	7,188	6,874	3,998	.58
Tridecylbenzenesulfonic acid, sodium salt-----	118,987	...	...	...

See footnotes at end of table.

TABLE 1.--SURFACE-ACTIVE AGENTS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	PRODUCTION ¹	SALES ²		
		QUANTITY ¹	VALUE	UNIT VALUE ³
		1,000 pounds	1,000 dollars	Per pound
ANIONIC--Continued				
Sulfonic acids (and salts thereof)--continued				
Benzene-, cumene-, toluene-, and xylensulfonates, total-----	105,833	91,137	24,217	\$0.27
Cumenesulfonic acid, sodium salt-----	8,007	7,922	3,095	.39
Xylensulfonic acid, sodium salt-----	68,732	60,209	13,795	.23
Ligninsulfonates and naphthalenesulfonates, total--	979,824	924,765	92,768	.10
Diisopropynaphthalenesulfonic acid, sodium salt--	1,648	1,280	2,697	2.11
Ligninsulfonic acid, ammonium salt-----	6,307	6,334	496	.08
Ligninsulfonic acid, calcium salt-----	560,077	520,637	23,749	.05
Ligninsulfonic acid, chromium salt-----	54,908	53,748	8,416	.16
Ligninsulfonic acid, sodium salt-----	289,389	278,051	22,606	.08
Mixed alkane sulfonic acid, sodium salt-----	9,089	7,672	5,944	.77
Sulfosuccinamic acid derivatives-----	2,167	1,839	2,148	1.17
Taurine derivatives-----	1,690	1,702	3,131	1.84
Sulfonic acids having ester or ether linkages, total-----	76,599	35,416	44,318	1.25
Sulfosuccinic acid esters, total-----	21,172	19,652	22,554	1.15
Sulfosuccinic acid, bis(2-ethylhexyl)ester, sodium salt-----	14,565	14,013	16,560	1.18
Sulfosuccinic acid, ditridecyl ester, sodium salt-----	193	158	212	1.34
All other sulfonic acids (and salts thereof)-----	25,663	25,616	14,387	.56
Sulfuric acid esters (and salts thereof), total-----	668,704	199,195	139,574	.70
Acids, amides, and esters, sulfated-----	9,926	6,488	3,530	.54
Alcohols, sulfated, total-----	275,925	90,289	66,634	.74
Dodecyl sulfate, sodium salt-----	1,725	1,517	1,312	.86
Dodecyl sulfate, ammonium salt-----	28,052	19,597	10,281	.52
Dodecyl sulfate, diethanolamine salt-----	1,486	1,584	1,158	.73
Dodecyl sulfate, magnesium salt-----	273	221	245	1.11
Dodecyl sulfate, sodium salt-----	42,926	40,826	26,987	.66
Dodecyl sulfate, triethanolamine salt-----	13,167	10,562	7,694	.73
2-Ethylhexyl sulfate sodium salt-----	1,412	1,331	4,212	3.17
Mixed linear alcohols, sulfated, ammonium salt--	48,556	3,778	3,566	.94
Mixed linear alcohols, sulfated, triethanolamine salt-----	20,119	4,623	3,996	.86
Octyl sulfate, sodium salt-----	209	213	314	1.47
Ethers, sulfated, total-----	357,558	78,207	52,770	.67
Alkylphenols, ethoxylated and sulfated-----	7,012	7,207	7,343	1.02
Dodecyl alcohol, ethoxylated and sulfated, ammonium salt-----	1,926	1,645	1,168	.71
Dodecyl alcohol, ethoxylated and sulfated, sodium salt-----	11,201	10,351	9,764	.94
Mixed linear alcohols, ethoxylated and sulfated, ammonium salt-----	...	29,893	18,013	.60
Mixed linear alcohols, ethoxylated and sulfated, sodium salt-----	180,907	28,526	15,693	.55
Natural fats and oils, sulfated, total-----	25,295	24,211	16,641	.69
Castor oil, sulfated, sodium salt-----	3,176	2,874	2,106	.73
Coconut oil sulfated, sodium salt-----	33	...	...	...
Mixed fish oils, sulfated, sodium salt-----	2,232	2,355	865	.37
Neatsfoot oil, sulfated, sodium salt-----	811	...	...	...
Tall oil, sulfated, sodium salt-----	948	798	327	.41
Tallow sulfated, sodium salt-----	750	613	247	.40
All other anionic surface-active agents-----	41,336	16,733	8,624	.52

See footnotes at end of table.

TABLE 1.--SURFACE-ACTIVE AGENTS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	PRODUCTION ¹	SALES ²		
		QUANTITY ¹	VALUE	UNIT VALUE ³
		1,000 pounds	1,000 dollars	Per pound
CATIONIC				
Total-----	418,466	311,759	298,840	\$.96
Amine oxides and oxygen-containing amines (except those having amide linkages), total-----	90,310	41,596	34,671	.83
Acyclic, total-----	82,766	35,253	28,142	.80
(Coconut oil alkyl)amine, ethoxylated-----	2,379	3,507	3,016	.86
(Mixed alkyl)amine, ethoxylated-----	686	...	...	...
(9-Octadecenyl)amine, ethoxylated-----	1,001	...	...	...
(Tallow alkyl)amine, ethoxylated-----	6,548	6,310	3,576	.57
N-(Tallow alkyl)trimethylenediamine, ethoxylated-----	...	1,924	1,530	.79
Cyclic (including imidazoline and oxazoline derivatives), total-----	7,544	6,343	6,529	1.03
1-(2-Hydroxyethyl)-2-nor(tall oil alkyl)-2-imidazoline-----	594	377	1,255	3.33
Amines and amine oxides having amide linkages, total-----	29,112	14,037	13,962	.99
3-Lauramido-N,N-dimethylpropyl amine oxide-----	300	325	628	1.93
Stearic acid-diethylenetriamine condensate-----	670	556	858	1.54
Stearic acid-ethylenediamine condensate, mono-ethoxylated-----	169	163	134	.82
Tall oil acids polyalkylenepolysamine condensate-----	10,446	...	...	...
Amines, not containing oxygen (and salts thereof), total-----	108,383	75,587	68,250	.90
Amine salts-----	585	...	...	...
Diamines and polyamines-----	25,480	19,895	17,030	.86
Imidazoline derivatives-----	9,198	9,475	7,749	.82
N-(9-Octadecenyl)trimethylenediamine-----	973	...	...	...
N-(Tallow alkyl)dipropylenetriamine-----	548	191	169	.88
N-(Tallow alkyl)trimethylenediamine-----	7,414	3,903	3,185	.82
Honoamines, total-----	82,318	54,129	49,492	.91
(Coconut oil alkyl)amine-----	...	1,477	1,799	1.22
N,N-Dimethyloctadecylamine-----	1,337	323	510	1.58
(Hydrogenated tallow alkyl)amine-----	5,419	4,367	3,689	.84
9-Octadecenylamine-----	8,519	6,017	4,676	.78
Octadecylamine-----	2,007	1,475	1,555	1.05
(Soybean oil alkyl)amine-----	2,623	899	665	.74
(Tallow alkyl)amine-----	7,633	8,383	5,867	.70
Quaternary ammonium salts, containing oxygen-----	41,079	31,966	29,148	.91
Quaternary ammonium salts, not containing oxygen-----	...	...	...	...
Total-----	146,620	145,688	127,926	.88
Acyclic, total-----	116,452	119,570	105,614	.88
Bis(coconut oil alkyl)dimethylammonium chloride-----	...	1,584	2,402	1.52
Bis(hydrogenated tallow alkyl)dimethylammonium chloride-----	65,232	64,399	51,682	.80
N,N,N',N'-Pentamethyl-N-(tallow alkyl)trimethylene-bis(ammonium chloride)-----	...	1,071	898	.84
Trimethyl(tallow)ammonium chloride-----	718	1,205	1,218	1.01

See footnotes at end of table.

TABLE 1.--SURFACE-ACTIVE AGENTS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	PRODUCTION ¹	SALES ²		
		QUANTITY ¹	VALUE	UNIT VALUE ³
		1,000 pounds	1,000 dollars	Per pound
CATIONIC--Continued				
Quaternary ammonium salts, not containing oxygen--				
Continued				
Benzenoid, total ⁴ -----	30,168	26,118	23,312	\$0.85
Benzyl(coconut oil alkyl)dimethylammonium chloride-----	2,665	...	...	...
Benzyl(mixed alkyl)ammonium chloride-----	12,418	11,137	7,520	.68
1-Benzylpyridinium chloride-----	139	139	157	1.13
Benzyltrimethylammonium chloride-----	3,913	3,445	2,611	.76
All other cationic surface-active agents-----	2,955	2,885	24,883	8.62
NONIONIC				
Total-----	1,564,163	1,310,501	712,851	.54
Carboxylic acid amides, total-----	52,931	48,257	40,243	.83
Diethanolamine condensates (amine/acid ratio=2/1), total-----	16,664	13,834	10,256	.74
Coconut oil acids-----	7,767	6,346	5,121	.81
Coconut oil and tallow acids-----	3,206	3,061	1,576	.51
Lauric and myristic acids-----	787	237	255	1.08
Oleic acid-----	742	505	372	.74
Stearic acid-----	88	...	...	...
Tall oil acids-----	1,880	1,660	1,197	.75
Diethanolamine condensates (other amine/acid ratios), total-----	26,838	24,171	20,382	.84
Coconut oil acids (amine/acid ratio=1/1)-----	19,051	17,449	14,154	.81
Lauric acid (amine/acid ratio=1/1)-----	3,592	2,806	2,915	1.04
Lauric and myristic acids (amine/acid ratio=1/1)- -----	1,633	1,586	1,514	.95
Linoleic acid (amine/acid ratio=1/1)-----	493	512	460	.90
Oleic acid (amine/acid ratio=1/1)-----	136	83	57	.69
Soybean oil acids (amine/acid ratio=1/1)-----	1,027	987	604	.61
Stearic acid (amine/acid ratio=1/1)-----	118	87	63	.72
Other carboxylic acid amides, total-----	16,428	10,252	9,605	.94
Coconut oil acid-ethanolamine condensate (amine/ acid ratio=1/1)-----	4,466	1,963	1,822	.93
Carboxylic acid esters, total-----	259,137	206,463	170,960	.83
Anhydrosorbitol esters, total-----	33,686	31,535	22,761	.72
Anhydrosorbitol monolaurate-----	4,883	4,844	3,570	.74
Anhydrosorbitol mono-oleate-----	6,765	4,993	4,003	.80
Anhydrosorbitol monostearate-----	17,763	17,605	11,872	.67
Anhydrosorbitol trioleate-----	2,250	1,999	1,473	.74
Diethylene glycol esters, total-----	17,367	1,447	1,075	.74
Diethylene glycol monolaurate-----	423	432	281	.65
Diethylene glycol monostearate-----	71	81	82	1.01
Ethoxylated sorbitol and anhydrosorbitol esters, total-----	30,841	28,424	22,342	.79
Ethoxylated anhydrosorbitol monolaurate-----	5,573	5,304	4,537	.86
Ethoxylated anhydrosorbitol mono-oleate-----	7,636	7,149	4,845	.68
Ethoxylated anhydrosorbitol monostearate-----	11,087	9,859	7,430	.75
Ethoxylated anhydrosorbitol triester of tall oil acids-----	532	528	325	.62
Ethoxylated anhydrosorbitol trioleate-----	2,094	2,035	1,724	.85
Ethoxylated anhydrosorbitol tristearate-----	921	807	668	.83

See footnotes at end of table.

TABLE 1.--SURFACE-ACTIVE AGENTS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	PRODUCTION ¹	SALES ²		
		QUANTITY ¹	VALUE	UNIT VALUE ³
		1,000 pounds	1,000 dollars	Per pound
NONIONIC--Continued				
Carboxylic acid esters--Continued				
Ethylene glycol monostearate-----	2,715	2,641	2,102	.80
Glycerol esters, total-----	60,700	53,366	46,874	.88
Complex glycerol esters-----	11,339	8,207	10,817	1.32
Glycerol esters of chemically defined acids, total-----	18,004	14,772	12,352	.84
Glycerol mono-oleate-----	6,123	4,347	3,803	.87
Glycerol monoricinoleate-----	55	52	77	1.46
Glycerol monostearate-----	11,149	10,090	8,987	.80
Glycerol esters of mixed acids-----	31,357	30,387	23,705	.78
Natural fats and oils, ethoxylated, total-----	32,995	24,090	21,457	.89
Castor oil, ethoxylated-----	13,756	9,859	7,167	.73
Hydrogenated castor oil, ethoxylated-----	5,064	3,639	4,295	1.18
Lanolin, ethoxylated-----	1,894	1,366	1,202	.88
Polyethylene glycol esters, total-----	46,570	38,827	29,231	.75
Polyethylene glycol diester of tall oil acids-----	3,825	1,449	817	.56
Polyethylene glycol dilaurate-----	857	901	924	1.03
Polyethylene glycol dioleate-----	2,916	661	537	.81
Polyethylene glycol monoester of tall oil acids-----	664	503	419	.83
Polyethylene glycol monolaurate-----	5,019	4,436	3,403	.77
Polyethylene glycol mono-oleate-----	3,563	2,458	2,059	.84
Polyethylene glycol monopelargonate-----	1,431	...	...	...
Polyethylene glycol monostearate-----	5,934	5,124	4,296	.84
Polyethylene glycol sesquiester of tall oil acid-----	2,054	1,764	1,190	.67
Polyglycerol esters, total-----	1,555	1,488	2,076	1.40
Polyglycerol mono-oleate-----	640	640	791	1.24
1,2-Propanediol monostearate-----	1,665	1,328	1,907	1.44
Ethers, total-----	1,215,350	1,044,620	484,219	.46
Benzenoid ethers, total ⁴ -----	432,013	379,536	178,788	.47
Dinonylphenol, ethoxylated-----	4,173	3,343	2,763	.83
Dodecylphenol, ethoxylated-----	15,548	13,954	7,440	.53
Nonylphenol, ethoxylated-----	323,314	297,738	113,983	.38
Nonylphenol, ethoxylated and propoxylated-----	825	...	...	...
Phenol, ethoxylated-----	1,853	770	642	.83
Nonbenzenoid ethers, total-----	703,976	605,177	260,440	.43
Chemically-defined linear alcohols, ethoxylated, total-----	28,045	24,022	24,439	1.02
Decyl alcohol, ethoxylated-----	6,913	4,953	2,534	.51
Dodecyl alcohol, ethoxylated-----	3,221	2,757	2,285	.83
9-Octadecenyl alcohol, ethoxylated-----	1,213	680	730	1.07
Octadecyl alcohol, ethoxylated-----	1,471	...	...	...
Oleyl alcohol, ethoxylated-----	2,365	2,357	2,750	1.17
Mixed linear alcohols, alkoxylated, total-----	675,931	581,155	236,001	.41
Mixed linear alcohols, ethoxylated-----	607,747	516,148	204,392	.40
Mixed linear alcohols, ethoxylated and propoxylated-----	25,220	28,708	18,700	.65

See footnotes at end of table.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--SURFACE-ACTIVE AGENTS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	PRODUCTION ¹	SALES ²			UNIT VALUE ³
		QUANTITY ¹	VALUE	UNIT VALUE ³	
	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>	<u>Per</u>	<u>pound</u>
	<u>pounds</u>	<u>pounds</u>	<u>dollars</u>	<u>pound</u>	
NONIONIC--Continued					
Ethers--Continued					
Other ethers and thioethers, total-----	79,282	59,772	44,991		\$0.75
Mixed alcohols, ethoxylated-----	6,460	...	...		...
Poly(mixed ethylene, propylene) glycol-----	12,979	...	...		...
Tridecyl alcohol, ethoxylated-----	13,481	8,699	4,887		.56
All other nonionic surface-active agents-----	36,745	11,161	17,429		1.56

¹All quantities are given in terms of 100 percent organic surface-active ingredient.

²Sales include products sold as bulk surface-active agents only.

³Calculated from unrounded figures.

⁴The term "benzenoid" used in this report, describes any surface-active agent, except lignin derivatives, whose molecular structure includes 1 or more 6-membered carbocyclic or heterocyclic rings with conjugated double bonds (e.g., the benzene ring or the pyridine ring).

NOTE: Data for "all other" categories, which were published in previous editions of this report, can be derived by subtracting from the totals of each category the sum of the enumerated items within that category.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT]

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
AMPHOTERIC	
1,1-Bis(carboxymethyl)-2-undecyl-2-imidazolinium chloride, disodium salt	BRD.
1,1-Bis(carboxymethyl)-2-undecyl-2-imidazolinium hydroxide, disodium salt	X.
Bis(2-hydroxyethyl)allo ammonium ethanoate	MIR.
3-(Caprylamido)ethylene-(2-hydroxyethyl)amino-propionic acid	MIR.
Caprylamphopropionate	MOA.
1-Carboxyethyl-1-(2-ethoxycarboxyethyl)-2-cocoimidazolinium, disodium salt	SBC.
1-Carboxyethyl-1-(2-hydroxyethyl)-2-heptyl-2-imidazolinium hydroxide, sodium derivative, sodium salt	MIR.
1-Carboxyethyl-1-(2-hydroxyethyl)-2-nonyl-2-imidazolinium hydroxide, sodium derivative, sodium salt	MIR.
(1-Carboxyheptadecyl)trimethylammonium hydroxide, inner salt	DUP.
(Carboxymethyl)-3-cocamidopropylidimethylammonium chloride, sodium salt	ENJ.
*Dimehylammonium [3-(coconut oil amide)propyl]-dimehylammonium hydroxide, inner salt	CYL, JOR, MIR, OMX, SCP, SHX.
1-Carboxymethyl-2-heptadecyl-1-(2-hydroxyethyl)-2-imidazolinium hydroxide, sodium derivative, sodium salt	BRD, MIR.
1-Carboxymethyl-1-(2-hydroxyethyl)-2-heptyl-2-imidazolinium hydroxide, sodium derivative, sodium salt	MIR.
1-Carboxymethyl-1-(2-hydroxyethyl)-2-nonyl-2-imidazolinium hydroxide, sodium derivative, sodium salt	BRD, MIR.
1-Carboxymethyl-1-(2-hydroxyethyl)-2-undecyl-2-imidazolinium hydroxide, sodium derivative, sodium salt	MIR.
1-Carboxymethyl-1-(2-hydroxyethyl)-2-undecyl-2-imidazolinium hydroxide, sodium derivative, sodium salt	MIR.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
AMPHOTERIC--CONTINUED	
(Carboxymethyl)-3-(laurylamidopropyl)dimethyl ammonium hydroxide, inner salt	JOR, MIR.
Cocoamidophoglycinate	MOA
Cocoamidopropyl betaine	CRD, MOA.
3-[3-(Cocoamidopropyl)dimethylammonio]-2-hydroxypropane sulfonate	MIR.
(3-Cocoamidopropyl)(2-hydroxy-3-sulfopropyl)dimethyl hydroxide, inner salt	SBC.
(3-Cocoamidopropyl)-(2-hydroxy-3-sulfopropyl)-dimethyl ammonium hydroxide, inner salt	SHX.
3-Cocoamidopropyl-2-hydroxy-3-sulfopropylidimethyl ammonium hydroxide, inner salt	SCP.
Cocosamphocarboxylate	MOA.
Cocosamphocarboxylate	MOA.
Cocosamphopropionate	MOA.
N-(Coconut oil alkyl)-8-alanine, partial sodium salt	SCP.
N-(Coconut oil alkyl)-8-alanine, sodium salt	DUF, WM.
3-(Coconut oil alkyl)amidoethylene-(2-hydroxyethyl)-aminopropionic acid	MIR.
N-(Coconut oil alkyl)aminobutyric acid	ARC.
N,N-Di(hydroxyethyl)-n-carboxymethyl tallow ammonium quat, inner salt	SHX.
Di-(hydrogenated tallow)methylammonium tallowate	SHX.
Dimethylolylethylammonium ethanoate	MIR.
N-Dodecyl-3-aminopropionic acid	MOA.
*N-Dodecyl-3-aminopropionic acid, disodium salt	IAC, MIR, MOA, SCP.
N-Dodecyl-3-aminopropionic acid, monosodium salt	MIR.
N-Dodecyl-3-aminopropionic acid, monosodium salt	SCP.
Heptadecylmethylbenzimidazolinium sulfonic acid, sodium salt	BRD
1-(2-Hydroxyethyl)-2-heptyl-3-carboxyethylimidazolinium, sodium salt	SCP.
1-Hydroxyethyl-1-(2-hydroxy-3-sodium sulfonatopropyl)-2-capryl-2-imidazolinium hydroxide	MIR.
1-Hydroxyethyl-1-(2-hydroxy-3-sodium sulfonatopropyl)-2-nor-coconut oil fatty acids-2-imidazolinium hydroxide	MIR.
1-Hydroxyethyl-1-(2-hydroxy-3-sodium sulfonatopropyl)-2-oleyl-2-imidazolinium hydroxide	MIR.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
AMPHOTERIC--CONTINUED	
1-(2-Hydroxyethyl)-1-(sodium carboxymethyleneoxyethylene)-2-nor-coconut oil fatty acids-2-imidazolium hydroxide-----	MIR.
Isodecylpropyliminopropionic acid, monosodium salt-----	ENJ.
Isostearyl amphopropionate-----	MOA.
Laurylamidopropyl betaine-----	MOA.
Laurylamphoglycinatate-----	MOA.
*[Mixed alkyl]sulfobetaine-----	BRD, JOR, MOA, X.
Oleic acid-ethylenediamine condensate, propoxylated and sulfated, sodium salt-----	MOA.
Oleyl betaine-----	SCP.
1-(Sodium carboxyethylene)-1-(sodium carboxymethylene-oxyethylene)-2-nor-(tall oil fatty acids)-2-imidazolium hydroxide-----	MIR.
1-(Sodium carboxymethyl)-1-(sodium carboxymethylene-oxyethylene)-2-nor-(coconut oil fatty acids)-2-imidazolium lauryl sulfate-----	MIR.
N-(Tallow alkyl)-3-iminodipropionic acid, disodium salt-----	MIR, MOA, SCP.
Tridecylpoly(ethyleneoxy)propionic acid, potassium salt-----	MRV.
Amphoteric surface-active agents, all other-----	DUP, S, WTC, X.
AMPHOTERIC	
CARBOXYLIC ACIDS (AND SALTS THEREOF):	
AMINE SALTS OF FATTY, ROSIN, AND TALL OIL ACIDS:	
Coconut oil acids, triethanolamine salt-----	SKX.
Coconut oil acids, ethanolamine salt-----	SPF.
Coconut oil acids, triethanolamine salt-----	DA.
Isostearyl acid, triethanolamine salt-----	FCI.
Oleic acid, triethanolamine salt-----	X.
Oleic acid, diethylamine salt-----	WTC.
Oleic acid, morpholine salt-----	X.
Oleic acid, triethanolamine salt-----	CPC, X.
3-Propanoic acid, coco-amino, sodium salt-----	PCI.
Rosin acids, triethanolamine salt-----	CPC.
Stearic acid, N,N,N',N'-tetrakis(2-hydroxyethyl)-ethylenediamine salt-----	ICI.
Stearic acid, triethanolamine salt-----	AAC, CPC, GGL, PCI, X.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC--CONTINUED	
CARBOXYLIC ACIDS (AND SALTS THEREOF)--CONTINUED	
AMINE SALTS OF FATTY, ROSIN, AND TALL OIL	
ACIDS--CONTINUED	
Tall oil acids, diethanolamine salt (Condensate)	SHY
Tallow acids, ethanolamine salt	SBP
Tallow acids, triethanolamine salt	SBP
Amine salts of fatty, rosin, and tall oil acids, all other	S, WM
CARBOXYLIC ACIDS HAVING AMIDE, ESTER, OR OTHER LINKAGES:	
5 (or 6)-Carboxy-4-hexyl-2-cyclohexene-1-octanoic acid, reaction products with castor oil	X
N-(Coconut oil acyl)sarcosine	HMP
N-(Coconut oil acyl)sarcosine, sodium salt	HMP
Dodecylxypoly(ethyleneoxy)acetic acid, sodium salt	MIR
N-Lauroyliminodiacetic acid	HMP
N-Lauroylsarcosine	HMP
N-Lauroylsarcosine, ammonium salt	HMP
N-Lauroylsarcosine, sodium salt	HMP
Mixed(secondary linear alcohol)polyethylene propionic acid, sodium salt	CHP
N-Oleylsarcosine, sodium salt	GHF
N-Oleylsarcosine	HMP
Poly(oxy-1,2-ethanediyl)- α -carboxy methyl, omega- (tri-decyloxy), potassium salt	PCI
Tridecylxypoly(ethyleneoxy)acetic acid, sodium salt	HMP
Carboxylic acids with amide, ester or ether linkage, other	DA, WTC
POTASSIUM AND SODIUM SALTS OF FATTY, ROSIN, AND TALL OIL ACIDS:	
Animal grease, sodium salt	NMC
5 (or 6) carboxy-4-hexyl-2-cyclohexene-1-octanoic acid, potassium/sodium salt	X
Castor oil acids, sodium salt	DEX, HEW
Citric acid, sodium salts (50% in sodium phosphates (20%))	STC
*Coconut oil acids, potassium salt	AGP, CON, ESS, HEW, HFP, HNT, LAS, LUR, NMC, PG, PNX, SOP
*Coconut oil acids, sodium salt	BSW, CON, CF, HEW, LAS, LEV, NMC, NFR, PG, SOP, X
Corn oil acids, potassium salt	HNT, NMC

TABLE 2.---SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985---CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
AMTOMIC---CONTINUED	
CARBOXYLIC ACIDS (AND SALTS THEREOF)---CONTINUED	
POTASSIUM AND SODIUM SALTS OF FATTY, ROSIN, AND	
TALL OIL ACIDS---CONTINUED	
2-Ethylhexanoic acid, potassium salt	UPF.
Gluconic acid, potassium and sodium salts with	
20 percent mix of sodium bisulfite-formaldehyde	STC.
Heptanoic acid, potassium salt	X.
Hexyl(isononyl anide)carboxylic acid, mono-and	
triethanolamine salts	STC.
Hexyl(isononyl anide)carboxylic acid, triethanol-	
di- and triethanolamine salts	STC.
Isonanoic acid, sodium salt	STC.
Isostearic acid, isopropoxy titanium salt	KEL.
Mixed vegetable fatty acids, potassium salt	GEL, QCP.
Mixed vegetable fatty acids, sodium salt	NMC, QCP.
Mixed vegetable fatty acids, triethanolamine salt	WBG.
Naphthenic acid, potassium salt	CCC.
Oleic acid, ammonium salt	SCP.
Oleic acid, epoxidized, ammonium salt	BSW, DA, HAL, HMT, PG, WBG, X.
Oleic acid, potassium salt	BSW, DA, USR, WBG, WTC.
*Oleic acid, sodium salt	HMT.
Olive oil acids, sodium salt	PG.
Palm kernel oil acids, potassium salt	NMC, PG.
*Palm oil acids, sodium salt	BSW, HEM, LAS.
Rosin acids, potassium salt	ARZ, X.
Soybean oil acids, sodium salt	SLM(E), X.
Stearic acid, ammonium salt	DA, PNX.
*Stearic acid, potassium salt	BSW, CCC, CON, DA, HEM, WTC.
Tall oil acids	CON, DA, NOC, STP, WTC.
Tall oil acids, potassium salt	WVA.
Tall oil acids, sodium salt	CCC, CON, DA, DAN, ESS, HIF, HMT, PNX, SOP.
Tallow acids, potassium salt	CON, GDC, NHC, WVA, X.
*Tallow acids, sodium salt	AGF, LAS, PG, PNX.
Potassium and sodium salts of fatty, rosin, and	BSW, CON, CP, DA, HEM, LAS, LEV, NMC, NFR, PG,
tall oil acids, all other	PNX, X.
	DA, USR.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC--CONTINUED	
PHOSPHORIC AND POLYPHOSPHORIC ACID ESTERS (AND SALTS THEREOF):	
ALCOHOLS AND PHENOLS, ALKOXYLATED AND PHOSPHATED:	
Amyl alcohol, ethoxylated and phosphated	GAF.
Butyl alcohol, ethoxylated and phosphated	GAF.
*Decyl alcohol, ethoxylated and phosphated	GAF, MCB, MCP, RFC, STC, TCH.
Decyl alcohol, potassium salt	RFC.
*Dinonylphenol, ethoxylated and phosphated	CFC, GAF, WTC.
Dodecyl alcohol, ethoxylated and phosphated	GAF.
Dodecylphenol, ethoxylated and phosphated	DEX, GAF.
2-Ethylhexanol and ethoxylated nonylphenol, polyphosphated	CCC.
2-Ethylhexanol and ethoxylated nonylphenol, polyphosphated, sodium salt	CCC.
2-Ethylhexanol, ethoxylated and phosphated	DA, SOS, STC.
2-Ethylhexanol, ethoxylated end phosphated, potassium salt	CHP.
2-Ethylhexanol, phosphated	MCB.
2-Ethylhexanol, phosphated, potassium salt	MCB.
Hexyl alcohol, ethoxylated and phosphated	GAF.
Hexyl alcohol, phosphated, potassium salt, solubilized	MCB.
Mixed linear alcohols, alkoxyated and phosphated, potassium salt	PCI.
*Mixed linear alcohols, ethoxylated and phosphated	HRT, JOR, MCB, MOA, HRV, RFC, SCP, TCH, WTC, X, X.
Mixed linear alcohols, ethoxylated and phosphated, sodium salt	CHP.
Mixed tridecyl alcohol and 2-ethylhexanol, phosphated, potassium salt	CHP.
*Nonylphenol, ethoxylated and phosphated	CRT, CTL, CYL, DA, DEX, ESS, FTX, GAF, GDC, HRT, JOB, LVR, MCB, MCP, MOA, MZC, OMC, RFC, SCP, SOP, STC, TCC, WVA(E), WTC, X.
Nonylphenol, ethoxylated and phosphated, barium salt	WTC.
9-Octadecenyl alcohol, ethoxylated and phosphated	GAF, GLX, STC.
9-Octadecenyl alcohol, ethoxylated and phosphated	GAF.
Octylphenol, ethoxylated and phosphated	RH, RFC, WTC.
Octylphenol, ethoxylated and phosphated, magnesium salt	OMX.

TABLE 2.---SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1965---CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC---CONTINUED	
PHOSPHORIC AND POLYPHOSPHORIC ACID ESTERS (AND SALTS THEREOF)---CONTINUED	
ALCOHOLS AND PHENOLS, ALKOXYLATED AND PHOSPHATED---CONTINUED:	
Nonylphenol, ethoxylated and phosphated	OMC.
*Phenol, ethoxylated and phosphated	GAF, JOR, MCB, MCP, MIL, MOA, MZC, RH, TCH, WTC.
Polyhydric alcohol, ethoxylated and phosphated	GAF, GAF.
Tridecyl alcohol, ethoxylated and phosphated.	X.
polyalkylene polyamine salt	DAN, DEX, GAF, HFP, MLL, OMC, X.
*Tridecyl alcohol, ethoxylated and phosphated	
Tridecyl alcohol, ethoxylated and phosphated, potassium salt	DEX.
Alcohols and phenols, alkoxyated and phosphated or polyphosphated, all other	GAF, WTC.
ALCOHOLS, PHOSPHATED OR POLYPHOSPHATED:	
Butyl methyl pyrophosphate isopropoxy titanium salt octyl phosphite adduct	KFI.
Butyl phosphate, potassium salt	DUP.
*Decyl and octyl phosphate	DA, MZC, STC.
2-Ethylhexyl phosphate	GHP, MCP, OHC.
2-Ethylhexyl phosphate, potassium salt	PCI.
*2-Ethylhexyl phosphate, sodium salt	GHP, DAN, WTC.
2-Ethylhexyl polyphosphate	SFS.
Hexyl phosphate	DEX, SFS.
Hexyl phosphate, potassium salt	ICI, STC.
Hexyl polyphosphate, potassium salt	ICI.
Methylbutyl phosphate ethylenedioxytitanium salt/W,N-dimethylaminoethylmethacrylate salt	SCP.
Mixed alkyl phosphate, sodium salt	KFI.
*Mixed alkyl phosphate	X.
Mixed alkyl phosphate, alkylamine salt	DUP, SFS, STC, WTC, X.
Mixed alkyl phosphate, diethanolamine salt	DUP, SCP.
Mixed alkyl phosphate, potassium salt	STC, X.
Mixed alkyl phosphate, triethanolamine salt	X.
Octyl phosphate	SCP, WTC.
Octyl phosphate, alkylamine salt	X.
Octyl phosphate, isopropoxy titanium salt	KFI.
Octyl phosphate nealkoxy titanium salt	KFI.
Octyl phosphate, potassium salt	DEX.
Octyl polyphosphate	DEX.
Octyl pyrophosphate, ethylenedioxy titanium salt	KFI.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC--CONTINUED	
PHOSPHORIC AND POLYPHOSPHORIC ACID ESTERS (AND SALTS THEREOF)--CONTINUED	
ALCOHOLS, PHOSPHATED OR POLYPHOSPHATED--CONTINUED	
Octyl pyrophosphate, ethylenedioxy titanium salt/dimethylaminomethacrylate salt	KPI.
Octyl pyrophosphate, isopropoxy titanium salt	KPI.
Octyl pyrophosphate neoalkoxy titanium salt	KPI.
Octyl pyrophosphate, oxethylenedioxy titanium salt	KPI.
Tridecyl phosphate	STC.
Phosphated and polyphosphated alcohols, all other	DA, HRT, KPI, WTC.
OTHER PHOSPHORIC AND POLYPHOSPHORIC ACID ESTERS:	
Blend of fatty and phosphate esters	MIL.
Ethanolamine, N,N-dimethylene phosphonic acid	OMC.
Glycerol, ethoxylated and phosphated	X.
Glycerol monoester of mixed fatty acids, phosphated	WTC.
Polyoxyalkylate(fatty alcohol), phosphate ester	BAS.
Stearyl amine polyphosphoric acid, ethoxylated	GDC.
Phosphoric and polyphosphoric acid esters, all other	BAS, MOA, SFS, X, X.
SULFONIC ACIDS (AND SALTS THEREOF):	
ALKYLBENZENESULFONATES:	
*Dodecylbenzenesulfonic acid	CTL, EMK, JLF, LEV, MOH, PIL, PLX, STP(E), TCI, TEN, VST, WTC, WVA(E), X.
Dodecylbenzenesulfonic acid, (mixed alkyl)amine salt	ECC, HIP, X.
*Dodecylbenzenesulfonic acid, ammonium salt	CCG, X.
*Dodecylbenzenesulfonic acid, calcium salt	ICI, RH, STC, STP, TWH, WTC, X.
Dodecylbenzenesulfonic acid, ethoxylated, oleyl amine salt	STC.
Dodecylbenzenesulfonic acid, diethanolamine salt	VPC, WTC.
Dodecylbenzenesulfonic acid, isopropanolamine salt	PIL.
*Dodecylbenzenesulfonic acid, isopropylamine salt	CTL, ICI, STP, WTC.
Dodecylbenzenesulfonic acid, isopropoxy titanium salt	KPI.
Dodecylbenzenesulfonic acid, monoethanolamine salt	FTX, PCI, RCI.
Dodecylbenzenesulfonic acid, potassium salt	GDC, PCI.
*Dodecylbenzenesulfonic acid, sodium salt	AAC, BIA, OP, CPG, CRT, CTL, DUP, ECC, JLF, LEV, NMC, PCI, PG, PII, PLX, PMK, RPO, SOP, STP(E), TEN, VST, WTC, WVA(E).
*Dodecylbenzenesulfonic acid, triethanolamine salt	AAC, BRD, CCC, CPC, CTL, ESS, FTX, PII, STP, WTC.
Dodecylbenzene sulfonates, all other	HK, MRV.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANTONIC--CONTINUED	
SULFONIC ACIDS (AND SALTS THEREOF)--CONTINUED	
ALKYLBENZENESULFONATES--CONTINUED	
Benzenesulfonic acid, mixed linear (C ₉ -1 ₃)--	LEV.
Didodecylbenzenesulfonic acid-----	WTC.
Tridecylbenzenesulfonic acid-----	PLX.
*Tridecylbenzenesulfonic acid, sodium salt--	BLA, CMT, CP, LAS, NFR, PG, STP.
Alkylbenzenesulfonates, all other-----	WTC.
BENZENE-, CUMENE-, TOLUENE-, AND XYLENESULFONATES:	
Benzenesulfonic acid, 3,3'-(1-methylethylidene)- bis(6-hydroxydisodium salt), polymer with formaldehyde and 4,4'-sulfonylbis(phenol)	DA.
*Cumenesulfonic acid, ammonium salt-----	NES.
*Cumenesulfonic acid, sodium salt-----	DA, NES, STP, WTC.
Toluenesulfonic acid, potassium salt-----	NES.
Toluenesulfonic acid, sodium salt-----	NES, PG, VST.
Xylenesulfonic acid, ammonium salt-----	NES, STP, WTC.
Xylenesulfonic acid, potassium salt-----	NES.
*Xylenesulfonic acid, sodium salt-----	ICI, NES, PII, SDC, STP, WTC.
LIGHTNESULFONATES:	
Ligninsulfonic acid, aluminum salt-----	DA.
*Ligninsulfonic acid, ammonium salt-----	MAR, PSP, RAY, SPA.
*Ligninsulfonic acid, calcium salt-----	FGC, LKI, MAR, PSP.
*Ligninsulfonic acid, chromium salt-----	MAR, PSP, RAY.
Ligninsulfonic acid, iron salt-----	MAR, PSP.
Ligninsulfonic acid, magnesium salt-----	MAR.
Ligninsulfonic acid, mixed chromium and iron salts--	PSP.
Ligninsulfonic acid, potassium salt-----	FSP.
Ligninsulfonic acid, propoxylated, sodium salt--	STP.
*Ligninsulfonic acid, sodium salt-----	MAR, PSP, RAY, WVA.
Ligninsulfonic acid, zinc salt-----	ENJ, MAR, PSP.
NAPHTHALENESULFONATES:	
Butyl-naphthalenesulfonic acid, sodium salt-----	DA, EGC, UDI.
Butyl-o-phenylphenol sulfonic acid, sodium salt--	EBG.
Di(C-6, alkyl)naphthalenesulfonic acid-----	X.
Dibutyl-naphthalenesulfonic acid-----	UDI.
*Diisopropyl-naphthalenesulfonic acid, sodium salt--	DA, DUP, UDI.
Isopropyl-naphthalenesulfonic acid-----	UDI.
Methyl-naphthalenesulfonic acid, sodium salt-----	CPC, DA, UDI.
Methylnonyl-naphthalenesulfonic acid, sodium salt--	UDI.
Naphthalenesulfonic acid, ammonium salt-----	DA.
4,4'-Sulfonyldiphenol-naphthalenesulfonic acid--	PCI.
Naphthalenesulfonates, all other-----	HAL, ICI, UDI.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC--CONTINUED	
SULFONIC ACIDS (AND SALTS THEREOF)--CONTINUED	
SULFONIC ACIDS HAVING AMIDE LINKAGES:	
SULFOSUCCINAMIC ACID DERIVATIVES:	
N-(Coconut oil alkyl)sulfosuccinamic acid, disodium salt----	SCP.
N-(1,2-bicarboxylethyl)-N-octadecylsulfosuccinamic acid, tetrasodium salt----	ACY, MOA.
Lauric alkanolamidesulfosuccinate, sodium salt----	TCH.
N-octadecylsulfosuccinamic acid, disodium salt----	ACY, WTC.
Oleamidosulfosuccinamic acid, disodium salt----	SBC.
N-(Oleoyloxyisopropyl)sulfosuccinamic acid----	WTC.
TAURINE DERIVATIVES:	
N-(Coconut oil acyl)-N-methyltaurine, sodium salt----	GAF.
N-Methyl-N-oleoyltaurine, sodium salt----	CPC, GAF, STC.
N-Methyl-N-palmitoyltaurine, sodium salt----	GAF.
N-Methyl-N-(tall oil acyl)taurine, sodium salt----	CCC, GAF, WVA.
Sulfonic acids having amide linkages, all other-----	STC.
SULFONIC ACIDS HAVING ESTER OR ETHER LINKAGES:	
SULFOSUCCINIC ACID ESTERS:	
Sulfosuccinic acid bis(diisobutyl)ester, amidosodium salt----	MOA.
Sulfosuccinic acid, bis(2,6-dimethyl-4-heptyl)-ester, sodium salt----	MOA, NSC.
*Sulfosuccinic acid, bis(2-ethylhexyl)ester, sodium salt-----	ACC, ACY, CCC, CHP, CRT, ECC, EHK, ENJ, FTX, HDG, MCP, MOA, RH, REC, SCO, STC, WTC.
Sulfosuccinic acid, dihexyl ester, sodium salt-----	ACY, MOA.
Sulfosuccinic acid, dodecyl ester, sodium salt-----	ACY.
Sulfosuccinic acid, dioctyl ester, sodium salt-----	DA, SOS.
Sulfosuccinic acid, dioctyl ester, sodium salt-----	MOA.
Sulfosuccinic acid, dipentyl ester, sodium salt-----	ACY, DA.
*Sulfosuccinic acid, dodecyl ester, sodium salt-----	ACY, DA, MOA.
Sulfosuccinic acid, (coconut oil alkyl)-iminoisopropanol half-ester, sodium salt-----	MOA.
Sulfosuccinic acid, mixed linear alcohols, ethoxylate ester, sodium salt-----	AMC.
Sulfosuccinic acid, monolauramido ester, disodium salt-----	MOA.
Sulfosuccinic acid, monoauryl(polyethoxy)ester, disodium salt-----	TCH.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC--CONTINUED	
SULFONIC ACIDS (AND SALTS THEREOF)--CONTINUED	
SULFONIC ACIDS HAVING ESTER OR OTHER LINKAGES-- CONTINUED	
SULFOSUCCINIC ACID ESTERS--CONTINUED	
Sulfosuccinic acid mono-oleamidopolyethyleneglycol ester, disodium salt-----	SCP.
Sulfosuccinic acid esters, all other-----	MIR, WTC.
ALL OTHER SULFONIC ACIDS HAVING ESTER OR OTHER LINKAGES:	
Coconut oil acids, 2-sulfoethyl ester, sodium salt--	DA, FTK, GAF, JOR, LEV.
Dipolyethersulfonic acid, diethanolamine salt-----	VFC.
Dodecylphenyloxidesulfonic acid-----	X.
Dodecylphenyloxidesulfonic acid, disodium salt--	CTL, DOM, X.
Dodecyl sulfoacetate-----	DA.
Dodecyl sulfoacetate, sodium salt-----	STP.
Glycerol monostearate sulfoacetate, sodium salt--	WTC.
Iso-octylphenol, ethoxylated and sulfonated, sodium salt-----	GAF, RH.
n-Octylphenol, ethoxylated and sulfonated, sodium sodium salt-----	AAC, CRT, PG.
Sulfonic acids with ester linkages, all other-----	WTC.
Sulfonic acids with other linkages, all other-----	DA, WTC.
OTHER SULFONIC ACIDS:	
Allyl sulfonate, sodium salt-----	ARD.
Diphenylsulfone sulfonic acid, potassium salt-----	UPF.
(Mixed alkane)sulfonic acid, sodium salt-----	AAC, AZS, CCL, DUP, ONK, WTC, WVA(E), X, X.
Oleyloxyethylamide oxypropanol sulfonic acid-----	S.
Petroleumsulfonic acid, water soluble (Acid layer), sodium salt-----	PIL, WTC.
Tall oil, sulfonated, potassium salt-----	X.
Sulfonic acids, all other-----	CLU, HAL, SLM, STP, WTC.
SULFURIC ACID ESTERS (AND SALTS THEROF):	
ACIDS, AMIDES, AND ESTERS, SULFATED:	
CARBOXYLIC ACID ESTERS (EXCEPT NATURAL FATS AND OILS), SULFATED:	
ESTERS OF SULFATED OLEIC ACID:	
Butyl oleate, sulfated, sodium salt-----	HIP, ICI, MCP, MERV, MSC.
Butyl and propyl oleate, sulfated, sodium salt--	CRT, LUR.
Isopropyl oleate, sulfated, sodium salt-----	DEK.
Methyl oleate, sulfated, sodium salt-----	DA, ICI.
Oleic acid, sulfated-----	ACT.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985.--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANTONIC--CONTINUED	
SULFURIC ACID ESTERS (AND SALTS THEREOF)--CONTINUED	
ACIDS, AMIDES, AND ESTERS, SULFATED--CONTINUED	
CARBOXYLIC ACID ESTERS (EXCEPT NATURAL FATS AND OILS), SULFATED--CONTINUED	
ESTERS OF SULFATED OLEIC ACID--CONTINUED	
Oleic acid, sulfated, disodium salt	MCP, TEN.
Oleic acid, sulfated, sodium salt	ACY.
Propyl oleate, sulfated, sodium salt	CHP, HRV.
Esters of sulfated oleic acid, all other	DA.
OTHER CARBOXYLIC ACID ESTERS:	
Coconut oil acids--ethanolamine salt, sulfated, potassium salt	EMK.
Glycerol monoester of coconut oil acids, sulfated, sodium salt	CP.
Mixed alkyl phenol sulfates, ethoxylated, triethanolamine salt	MIL.
9-Octadecenyl acetate, sulfated, sodium salt	DUP.
Tall oil acids, sulfated, sodium salt	ICI.
ALCOHOLS, SULFATED:	
DODECYLSULFATE SALTS:	
*Dodecyl sulfate, ammonium salt	AAC, BRD, CTL, CYL, JRG, LEV, ONX, STP(E), TCH, TMI, WTC, WVA(E).
*Dodecyl sulfate, diethanolamine salt	BRD, DUP, JRG, ONX, STP, TCH, WTC.
Dodecyl sulfate, N,N-diethylcyclohexylamine salt	DUP.
Dodecyl sulfate, isopropanolamine salt	BRD, JRG.
*Dodecyl sulfate, magnesium salt	AAC, BRD, CYL, ONX, WTC.
Dodecyl sulfate, potassium salt	FG.
*Dodecyl sulfate, sodium salt	AAC, BRD, DUP, ONX, STP, TCH, WTC, WVA(E).
*Dodecyl sulfate, triethanolamine salt	AAC, BRD, CYL, ONX, SHX, STP(E), TCH, TMI, WTC, WVA(E).
*Decyl sulfate, sodium salt	AAC, SCP, WTC.
3,9-Diethyl-6-tridecyl sulfate, sodium salt	NCC.
*2-Ethylhexyl sulfate, sodium salt	AAC, BRD, NCC, PCI, SCP, SOS, TCH, WTC.
7-Ethyl-2-methyl-4-undecyl sulfate, sodium salt	NCC.
Hexadecyl sulfate, sodium salt	CTL.
Hexyl sulfate, potassium salt	DEX.
Lauryl sulfate, sodium salt	ROA.
Linear alcohols, sulfated, all other	DA, WTC.
*Mixed linear alcohols, sulfated, ammonium salt	CP, NTL, PG, S, SCP, WTC, X.
*Mixed linear alcohols, sulfated, diethanolamine salt	SCP.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURERS, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC--CONTINUED	
SULFURIC ACID ESTERS (AND SALTS THEREOF)--CONTINUED	
ALCOHOLS, SULFATED--CONTINUED	
Mixed linear alcohols, sulfated, sodium salt-----	DA, DUF, ONX, PG, SCP, SEA, WTC.
*Mixed linear alcohols, sulfated, triethanolamine salt-----	AAC, CTL, ONX, PG, SCP, WTC.
*Octyl sulfate, sodium salt-----	AAC, AFX, DUP.
*Oleyl sulfate, sodium salt-----	DUF.
Polyglycidol sulfate-----	GAF.
Tridecyl sulfate, sodium salt-----	AAC.
ETHERS, SULFATED:	
ALXLEPHENOLS, ETHOXYLATED AND SULFATED:	
(Mixed alkyl)phenol, ethoxylated and sulfated, sodium salt-----	PREL.
1-naphthol, ethoxylated and sulfated, free acid-----	TCH.
Nonylphenol, ethoxylated and phosphated, partial sodium salt-----	GAF.
Nonylphenol, ethoxylated and sulfated, ammonium salt-----	GAF, RFC, STP.
Nonylphenol, ethoxylated and sulfated, sodium salt-----	GAF, WTC.
Octylphenoxypolyethoxyethyl sulfate-----	RH.
Sulfated cyclic ethers, all other-----	STP(E), WVA(E).
Decyl alcohol, propoxylated and sulfated, sodium salt-----	AFX.
*Dodecyl alcohol, ethoxylated and sulfated, ammonium salt-----	AAC, MOA, STP(E), WTC.
*Dodecyl alcohol, ethoxylated and sulfated, sodium salt-----	AAC, CTL, ONX, SCP, STP(E), TCH, WTC.
Dodecyl and tetradecyl alcohols, ethoxylated and sulfated, ammonium salt-----	X.
Dodecyl and tetradecyl alcohols, ethoxylated and sulfated, potassium salt-----	AFX.
Isobutanol, ethoxylated and sulfated, ammonium salt-----	X.
Mixed linear alcohol, ethoxylated and sulfated, mixed sodium and cocamphocarboxylate salts-----	AAC.
*Mixed linear alcohols, ethoxylated and sulfated, ammonium salt-----	BRD, ONX, PG, SCP, SHC, STP(E), VST, WTC, X, X.
Mixed linear alcohols, ethoxylated and sulfated, diethanolamine salt-----	SCP.
Mixed linear alcohols, ethoxylated and sulfated, potassium salt-----	SVC.
*Mixed linear alcohols, ethoxylated and sulfated, sodium salt-----	AAC, BRD, DUF, GAF, ONX, PG, PFL, SCP, SHC, SHX, STP, TCH, TCI, VST, WTC, WVA.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC--CONTINUED	
SULFURIC ACID ESTERS (AND SALTS THEREOF)--CONTINUED	
ETHERS, SULFATED--CONTINUED	
Tridecyl alcohol, ethoxylated and sulfated, ammonium salt	ARC.
Tridecyl alcohol, ethoxylated and sulfated, sodium salt	AAC.
NATURAL FATS AND OILS, SULFATED:	
*Caster oil, sulfated, sodium salt	ACT, ACY, APX, ABL, CRT, DA, DEX, HIP, ICI, LUR, MEV, SOP, SLM, WHW.
*Coconut oil, sulfated, sodium salt	ACT, CIN, RHO.
Cod oil, sulfated, sodium salt	SEA, WHW.
Grease, other than wool, sulfated, sodium salt	WHW.
Herring oil, sulfated	SLM.
Herring oil, sulfated, sodium salt	SEA, SLM.
Lard, sulfated, sodium salt	CRT, MED, WHW.
Mixed fish oils, sulfated, ammonium salt	CIN.
*Mixed fish oils, sulfated, sodium salt	CIN, MRD, SLM, WHW.
Mixed vegetable oils, sulfated, sodium salt	CIN, CPC.
Mustard seed oil, sulfated, sodium salt	DA.
*Neatsfoot oil, sulfated, sodium salt	CIN, SEA, SLM.
Peanut oil, sulfated, sodium salt	ACT, CIN.
Pine oil, sulfated	CRT.
Ricebean oil, sulfated	SCM.
Soybean oil, sulfated, sodium salt	DA.
Tall oil, sulfated, ammonia salt	ACT, WHW.
*Tall oil, sulfated, sodium salt	CIN.
*Tallow, sulfated, sodium salt	ACT, APX, CIN, SOS, WHW, WVA.
	ACY, CCC, ECC, LUR, MED, NSC, SLM, SOS, WHW.
Natural fats and oils, sulfated, all other	DA.
All other sulfuric acid esters	BFT, DA, SLM.
OTHER ANIONIC SURFACE-ACTIVE AGENTS:	
Alkylalcohol, ethoxylated and carbonated, sodium salt	S.
Blend of hydrocarbons and esters	MIL.
Ethoxylated acetic acid, sodium salt	S.
Half-phthalic acid ester of tallow alkanolamide/monoglyceride	EFH.
Isobutyl phthalate	SHX.
Lignin, sodium salt	WVA.
Maleated esterified tall oil	ENP.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC--CONTINUED	
OTHER ANIONIC SURFACE-ACTIVE AGENTS--CONTINUED	
Maleated linseed oil-----	ENP.
Mixed linear alcohols, ethoxylated and carbonated, sodium salt-----	S.
Tridecyl alcohol, ethoxylated and carbonated, sodium sodium salt-----	S.
Anionic surface-active agents, all other-----	DAM, DUP, MIF, SLM.
CATIONIC	
AMINE OXIDES AND OXYGEN-CONTAINING AMINES (EXCEPT THOSE HAVING AMTDR LINKAGES):	
ACYCLIC:	
3-(C ₁₂₋₁₈ alkoxy)-1-propanamine-----	ENJ.
N-(C ₁₂₋₁₈ alkoxy)-1-propanamine-----	ENJ.
N-(C ₁₂₋₁₈ alkoxy)propyl trimethylene diamine-----	ENJ.
Bis-hydroxyethyl-cococamine oxide, phosphated potassium salt-----	JOR.
N,N-Bis(2-Hydroxyethyl)-(cocunut oil alkyl)amine oxide-----	ARC.
Bis-(2-Hydroxyethyl)isodocylpropylamine oxide-----	ENJ.
N,N-Bis(2-Hydroxyethyl)octadecylamine-----	ARC, SHX.
N,N-Bis(2-Hydroxyethyl)(tallow alkyl)amine-----	ARC, MZC, SHX.
N,N-Bis(2-Hydroxyethyl)(tallow alkyl)amine acetate-----	MZC.
Cocamidopropyl dimethyl amine-----	SOS.
*Cocunut oil alkylamine, ethoxylated-----	ARC, ENJ, MZC, SHX, SVC, TCH, X.
Cocoylamidopropyl dimethylamine oxide-----	SCF.
Diethylenetriamine, ethoxylated and propoxylated-----	X.
N,N-Dimethylcocunut oil alkylamine oxide-----	ARC.
N,N-Dimethyldodecylamine oxide-----	ARC, BRD, ONK.
N,N-Dimethylhexadecylamine oxide-----	ARC, BRD, JOR, PG, SHX, X.
N,N-Dimethyl(mixed alkyl)amine oxide-----	PG, S.
N,N-Dimethyl oleyl amine oxide-----	SCF.
Di(pyrrolidonyl)ethyimine-----	PCI.
Ethoxylated and quaternized hydrogenated tallow alkyl amine-----	SVC.
Ethylenediamine, alkoxylated-----	X.
Hexyloxypropyl amine-----	ENJ.
(Hydrogenated tallow alkyl)amine, ethoxylated-----	ENJ, SHX.
N-(2-Hydroxyethyl)-N,N',N'-tris(2-hydroxypropyl)- ethylenediamine-----	ONK, WTC, X.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
AMINE OXIDES AND OXYGEN-CONTAINING AMINES (EXCEPT THOSE HAVING AMIDE LINKAGES)--CONTINUED	
ACYCLIC--CONTINUED	
Isodecylpropylamine	ENJ
Isodecylpropylamine, ethoxylated	ENJ
3-(3-Isodecylpropylaminopropyl) amine	SHX
N-Isodecylpropyl trimethylene diamine	ENJ
Isopropoxy-tris(2-ethylenediamino)ethyl titanate	KFI
Isotridecyloxypropylamine	ENJ
N-Isotridecyloxypropyl trimethylene diamine	ENJ
3-(Mixed alkoxy)propylamine, ethoxylated oxides	SHX
3-(3-Mixed alkoxy)propylaminopropyl amine	SHX
*(Mixed alkyl)amine, ethoxylated	ICI, RH, SHX, SVC
(Mixed alkyl)oxypropylamine	AZS
Mixed tert-alkyl primary amines, ethoxylated	X
*(9-Octadecenyl)amine, ethoxylated	ARC, GAF, STG, TCH, X
Octadecylamine, ethoxylated	ARC, TCH
3-Octyloxy and 3-decylxy-propylamine	ARC
Oleylamine, ethoxylated	MCB
Polyalkylene polyamine, ethoxylated	X
Polyether amine, ethoxylated	RH
1-Propanamine, alkoxyated	SHX
1,3-Propanediamine, alkoxyated	SHX
(Soybean oil alkyl)amine, ethoxylated	ARC, BAS, ENJ, MCB, SHX, SVC, TCH
*(Tallow alkyl)amine, ethoxylated	ARC, DA, DDF, ENJ, GAF, MCB, S, SHX, STP, TCH, WVA(E), X
(Tallow alkyl)amine, propoxylated	ARC
*(Tallow alkyl)trimethylenediamine, ethoxylated	ARC, BAS, ENJ
N-(Tallow alkyl)trimethylenediamine, propoxylated	ARC
Tallow ethyl alkylamine, ethoxylated, sulfate	RPC
N,N,N'-Tetrakis(2-hydroxyethyl)ethylenediamine	MZC
N,N,N'-Tetrakis(2-hydroxypropyl)-ethylenediamine, propoxylated and ethoxylated	BAS, MZC
3-(3-Tridecyloxy)propylaminopropyl amine	SHX
Triethanolamine, ethoxylated	MIL, RSA, TCH
Triethanolamine salicylate	EFH
Amine oxides and oxygen-containing amines (except those with amide linkages), acyclic, all other	BAS, DA, SDH, X

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CATIONIC--CONTINUED	
AMINE OXIDES AND OXYGEN-CONTAINING AMINES (EXCEPT THOSE HAVING AMIDE LINKAGES)--CONTINUED	
CYCLIC:	
Aniline, ethoxylated-----	MIL.
2-Butenedioic acid-(α)diamine - 1-(2-aminoethyl)-2-(tall oil alkyl)-2-imidazole condensate-----	X.
2,5-Dimethoxyamine, ethoxylated-----	MIL.
2-Hexadecyl-1,4-hydroxymethyl-4-ethyl-2-oxazoline-----	BRD.
N-Hexadecylmorpholine-----	BRD.
N-(2-Hydroxyethyl)-1,2-diphenylethylenediamine-----	MIR.
1-(2-Hydroxyethyl)-2-nonyl-2-imidazole-----	BRD, MIR, MOA, MZC, SCP, SHK.
1-(2-Hydroxyethyl)-2-nor(coconut oil alkyl)-2-imidazole-----	MOA, TCH.
1-(2-Hydroxyethyl)-2-nor(soya oil alkyl)-2-imidazole-----	MIR.
*1-(2-Hydroxyethyl)-2-nor(tall oil alkyl)-2-imidazole-----	BRD, HDG, MIR, MOA, WTC, X.
1-(2-Hydroxyethyl)-2-(tall oil alkyl)imidazole, fatty acid salt-----	X.
Lignin amine-----	WVA.
1-(2-Naphthhenic acid amidoethyl)-2-naphthyl-2-imidazole-----	ARC.
Rosin amine, ethoxylated-----	HPC, WTC, X.
m-Toluidine, ethoxylated-----	ML.
Amine oxides and oxygen-containing amines (Except those having amine linkages), cyclic, all other-----	DA, TCH, WTC.
AMINES AND AMINE OXIDES HAVING AMIDE LINKAGES:	
CARBOXYLIC ACID - DIAMINE AND POLYAMINE CONDENSATES:	
Acetic acid, amides with polyalkylene polyamines, salt-----	X.
Caprylic acid tetraethylene-pentamine condensate-----	ICI.
Carboxylic acid-diamine and polyamine condensates, all other-----	DA, MOA, WTC.
Coconut acids, dimethylpropylamine condensate, carboxylated-----	AAC.
Coconut oil acids-N,N-dimethyltrimethylenediamine condensate-----	FTX, SCP.
Mixed fatty acids-polyalkylenepolyamine condensate-----	TCH.
Naphthhenic acids-polyalkylene polyamine condensate-----	X.
Naphthhenic acids-tall oil fatty acids-polyalkylene polyamine condensate-----	X.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CATIONIC--CONTINUED	
AMINES AND AMINE OXIDES HAVING AMIDE LINKAGES--CONTINUED	
CARBOXYLIC ACID - DIAMINE AND POLYAMINE CONDENSATES-- CONTINUED	
2-Nor tall oil alkyl-1-tall oil amidoethyl imidazoline-----	SHX.
Oleic acid-diethylenetriamine condensate-----	DA, ICI.
Oleic acid-N,N-dimethyltrimethylenediamine condensate-----	CCW.
Pelargonic acid-tetraethylenepentamine condensate-----	ICI, STC.
Stearic acid-diethylenetriamine condensate-----	CRT, DA, JOR, S, SHW.
Stearic acid-diethylenetriamine condensate, ethyl sulfate-----	GDC.
Stearic acid-ethylenediamine condensate-----	CLD, SOS.
Stearic acid-ethylenediamine condensate, monoethoxylated ethyl sulfate-----	GDC.
Stearic acid mixed amine condensate-----	STC.
Stearic acid-tetraethylenepentamine condensate-----	ONX.
Stearic acid-tetraethylenepentamine condensate, acetate salts-----	X.
Tall oil acids/aminoethylpiperazine condensate-----	ENJ.
Tall oil acids-diethylenetriamine condensate-----	SCP, WVA.
Tall oil acids-N,N-dimethylpropylenediamine condensate-----	FER.
Tall oil acids/ethylene/amine distillation residue, condensate-----	ENJ.
Tall oil acids-mixed polyamine condensate-----	WVA.
*Tall oil acids-polyalkylenepolyamine condensate-----	QCP, WVA, X.
Tall oil acids-polyalkylenepolyamine condensate, salts, with dodecylbenzene sulfonic acid and/or tall oil fatty acids-----	X.
CARBOXYLIC ACID - DIAMINE AND POLYAMINE CONDENSATES, ALKOXYLATED:	
Mixed fatty acids-diethylene triamine diethyl- sulfate condensate-----	JOR.
*Stearic acid-ethylenediamine condensate, monoethoxylated-----	DEX, ICI, STC.
Carboxylic acid-diamine and polyamine condensates, alkoxylated, all other-----	SHX, STP, WVA(E).

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CATIONIC--CONTINUED	
AMINES AND AMINE OXIDES HAVING AMIDE LINKAGES--CONTINUED	
OTHER AMINES AND AMINE OXIDES HAVING AMIDE LINKAGES:	
Cocamidopropyl dimethyl amine oxide	ONX, SBC.
N,N'-(Di-tall oil acid)amidoethylamine	X.
3-Lauramido-N,N-dimethylpropylamine oxide	JOR, ONX, SNW.
Stearamidoethyl-diethylamine	S.
Stearamidoethyl-ethanolamine acetate	S.
Stearic acid, diethanolamine condensate, methyl sulfate	DUP.
Stearic acid-imino-bis(propyl amine) condensate	JOR.
AMINES, NOT CONTAINING OXYGEN (AND SALTS THEREOF):	
AMINE SALTS:	
N,N-Dimethyl-N-alkylamine phosphate (Hydrogenated tallow alkyl)amine acetate	X.
(Mixed alkyl)amine phosphate	ARC, MTC.
Octadecylamine acetate	X.
(Tallow alkyl)amine acetate	ARC, STC.
N-(Tallow alkyl)trimethylenediamine acetate	ARC, X.
N-(Tallow alkyl)trimethylenediamine oleate	ARC.
Amine salts (not containing oxygen), all other	ARC, JTO.
DA.	
DIAMINES AND POLYAMINES:	
IMIDAZOLINE DERIVATIVES:	
1-(2-aminomethyl)-2-nor(tall oil alkyl)-2-imidazoline	WTC.
2-heptadecyl-2-imidazoline	CGI, SCO.
Stearamidoethyl-2-heptadecyl imidazoline	ICI.
N-(Coconut oil alkyl)trimethylenediamine	ARC, JTO, SHK.
N-(Dimercaptoalkyl)trimethylenediamine	ENO.
Dimethylaminopropylamine	AZS.
N-(Docosyl and eicosyl)trimethylenediamine	ENO.
N-(Ethylheptyl)trimethylenediamine	ARC.
N-(Mixed alkyl)polyethylenepolyamine	CCW, WTC.
*N-(9-Octadecenyl)trimethylenediamine	ARC, JTO, SHK.
Polyalicyclic polyamines and salts and quats	X.
2-Propyl-3-tallow-1,3-tetrahydropyrimidine	ARC.
N-(Soybean oil alkyl)trimethylenediamine	ENO.
3-(Tall oil amino)propyl amine	SHK.
*N-(Tallow alkyl)di-propylenetriamine	ARC, ENJ, JTO, SHK.
*N-(Tallow alkyl)tri-methylenediamine	ARC, ENJ, ENO, JTO.
N-(Tallow alkyl)-N,N',N'-trimethyl-1,3-propane diamine	ARC.
3-tetraethylaminopropyl amine	SHK.
Diamines and polyamines, all other	SHK, X.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CATIONIC--CONTINUED	
AMINES, NOT CONTAINING OXYGEN (AND SALTS THEREOF)--	
CONTINUED	
PRIMARY MONOAMINES:	
Alkyl dimethylamine oxide-----	STC.
Arachidylbenzylalkyl amine-----	ENO.
* (Coconut oil alkyl)amine-----	ARC, JTO, MCB, SHX.
Dimeric dialkyl amine-----	ENO.
Dodecylamine-----	ARC, SHX.
(Erucyl alkyl)amine-----	ENO.
Hexadecylamine-----	ARC, ENO.
* (Hydrogenated tallow alkyl)amine-----	ARC, ENO, JTO, SHX.
(Mixed alkyl)amine-----	SHX.
*9-Octadecylamine-----	ARC, ENO, JTO, SHX.
*Octadecylamine-----	ARC, ENO, SHX.
* (Soybean oil alkyl)amine-----	ARC, ENO, JTO.
(Tall oil alkyl)amine-----	ARC.
* (Tallow alkyl)amine-----	ARC, ENJ, ENO, JTO, SHX.
SECONDARY AND TERTIARY MONOAMINES:	
Bis (coconut oil alkyl)amine-----	ARC.
Bis (hydrogenated tallow alkyl)amine-----	ARC, SHX.
Bis (tallow alkyl)amine-----	ARC.
N,N-Dimethyl (coconut oil alkyl)amine-----	ARC, ARC, ONX, TNA.
N,N-Dimethyl dodecylamine-----	ARC, ONX.
N,N-Dimethyl hexadecylamine-----	ARC, ONX.
N,N-Dimethyl (hydrogenated tallow alkyl)amine-----	ARC.
N,N-Dimethyl (mixed alkyl)amine-----	BRD, ONX.
N,N-Dimethyl-9-octadecylamine-----	ARC.
*N,N-Dimethyl octadecylamine-----	ARC, ENO, ONX, SHX.
N,N-Dimethyl (soybean oil alkyl)amine-----	ARC, ENO.
N,N-Dimethyl (tall oil alkyl)amine-----	ARC.
N,N-Dimethyl (tallow alkyl)amine-----	ENO.
N,N-Dimethyl tetradecylamine-----	ARC, BRD.
N-Methyl bis (coconut oil alkyl)amine-----	ARC, SHX.
N-Methyl bis (hydrogenated tallow alkyl)amine-----	ARC, ENO, SHX.
N-Methyl bis (octyl-decyl)amine-----	ONX, TNA.
Methyl diodecylamine-----	ONX, TNA.
N-Methyl dioctadecylamine-----	ARC.
(Mixed C ₈ -C ₁₀) tertiary amine-----	AZS.
Tri (hydrogenated tallow) amine-----	SHA.
Trisodecylamine-----	SCF.
Trilaurylamine-----	SCF.
Tri (mixed alkyl) amine-----	SHX, TNA.
Trioctylamine-----	BRD, SCF, SHX.
Secondary and tertiary monoamines, all other-----	ARC, SHX.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CATIONIC--CONTINUED	
OXYGEN-CONTAINING QUATERNARY AMMONIUM SALTS:	
(2-Aminoethyl)ethyl(hydrogenated tallow alkyl)(2-hydroxyethyl)ammonium ethyl sulfate	LUR.
Benzene-methan ammonium-N-(3-aminopropyl)-N'-dimethyl-N-cococetyl derivatives-chlorides	X.
Benzene-methan ammonium-N,N-dimethyl-N-tetradecylchloride	X.
Benzyl(cococut oil alkyl)bis(2-hydroxyethyl)ammonium chloride	X.
1-Benzyl-1-(2-hydroxyethyl)-2-nor(tall oil alkyl)-2-imidazolone	X, X.
Benzyl(polyoxyethylene-cococamine)ammonium chloride with benzyl (polyoxyethylene, tallow amine) ammonium chloride	S.
Benzyl(polyoxyethylene, octadecylamine) ammonium chloride with benzyl(polyoxyethylene, tallow amine) ammonium chloride	S.
Benzyl(rosin amine)ammonium chloride, ethoxylated	X.
Benzyl(tallow alkyl)bis(2-hydroxyethyl)ammonium chloride	DUP.
Bis(N-amidopropyl, N,N-dimethyl, N-benzylammonium chloride)	SBC
Bis(N-amidopropyl)-N,N-dimethyl-N-ethylammonium ethyl sulfate, dimer acid	SBC.
Bis(N,N'-ethyl(cisarcic/arachidic/behemic)amide)-cyanoethyl ethylammonium ethosulfate	PCI.
Bis(2-Hydroxyethyl, ethoxylated)methyl(9-octadecenyl)-ammonium chloride	ARC.
Bis(2-Hydroxyethyl, ethoxylated)-methyloctadecylammonium chloride	ARC.
Bis-2-Hydroxyethyl-hydrogenated tallo-ethyl sulfate	ICI.
Bis(2-Hydroxyethyl)methyl(tallow alkyl)ammonium chloride	ARC, MZC.
Bis-2-Hydroxyethyl-octyl-methyl-p-toluene sulfonate	HKL.
Bis(2-Hydroxypropyl)methyl(tallow alkyl)-methosulfate	ARC.
1,3-Bis(Stearyldimethylammonium chloride)-2-propanol (Cococut oil alkyl)bis(2-hydroxyethyl, ethoxylated)-methylammonium chloride	JOR.
Cococut oil fatty acid polyoxyethylene	ARC, EMJ, GAF, SHK.
Dimethyldodecylethylammonium ether sulfate	S. PCI.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CATIONIC--CONTINUED	
OXIGEN-CONTAINING QUATERNARY AMMONIUM SALTS--CONTINUED	
Ethanaminium, 2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-, salt with silicic acid	TCH.
Ethoxylated(hydrogenated tallow amine), methyl ammonium chloride	ENJ.
Ethoxylated, quaternized (C ₁₂₋₁₈ alkyl) oxypropyl trimethylene diamine	ENJ, MCB.
Ethoxylated, quaternized reaction product of formaldehyde and tallow diamine	ENJ.
Ethoxylated tallow amine, potassium Propionate derivative	SVC.
N-Ethyl-N,N-bis(polyoxyethylene)tallow ammonium ethyl sulfate	SHK.
1-Ethyl-2-(8-heptadecenyl)-1-(2-hydroxyethyl)-2-imidazolinium ethyl sulfate	ICI, SHK.
N-Ethyl-N-hexadecylmorpholinium ethyl sulfate	BRD, ICI.
1-Ethyl-2-isohexadecyl-1-(2-hydroxyethyl)-2-imidazolinium ethyl sulfate	SBC.
Ethyl(polyoxyethylene, cocamine)ethylsulfate	S.
N-Ethyl-N-(soybean oil alkyl)morpholinium ethyl sulfate	ICI.
α -Glycomamidopropyl dimethyl-2-hydroxyethyl ammonium ammonium chloride	VND.
(2-Hydroxyethyl)dimethyl(3-stearamidopropyl)-ammonium dihydrogen phosphate	ACY.
(2-Hydroxyethyl)dimethyl(3-stearamidopropyl)-ammonium nitrate	ACY.
Hydroxyethyl-2-undecyl-2,3-imidazoline	MOA.
N-2-Hydroxypropyl-N-methyl-N,N-bis(tallow amido ethyl)-ammonium ethyl sulfate	X.
(3-Lauramidopropyl)trimethylammonium methyl sulfate	SHK.
2-(2-Lauroyloxyethyl)carbamoyl-1-methylpyridinium chloride	ACY.
Methyl, bis-(2-hydroxyethyl)hydrogenated tallow alkylammonium chloride	WTC.
Methyl, bis-(2-hydroxyethyl)isodecyloxypropyl-ammonium chloride	ENJ.
Methyl, bis-(2-hydroxyethyl)isotridecylxypropyl-ammonium chloride	ENJ.
Methyl, bis-(2-hydroxyethyl)-(soyaalkyl) ammonium chloride	ENJ.
Methyl dioleoyl ethoxy ammonium methyl sulfate	ENJ.
	SHK.

TABLE 2. -- SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CATIONIC--CONTINUED	
OXYGEN-CONTAINING QUATERNARY AMMONIUM SALTS--CONTINUED	
1-Methyl-2-(8-heptadecyl)-1-(9-octadecyl)amido ethyl	SHX.
1-Methyl-2-nor-tallow-1-2-tallow amidoethyl-imidazolinium methyl sulfate	SHX.
N-Methyl-N-polyoxyethylene-N,N-bis(hydrogenated allow amidoethyl)ammonium	SHX.
N-Methyl-N-polyoxyethylene-N,N-bis(tallow amidoethyl)	SHX.
1-Methyl-2-(2-stearoyloxyethyl)carbamoylepyridinium chloride	BRD, WTC.
Methyltallowdiethylenetriamine condensate, polyethoxylated, methyl sulfate	SVC.
Methyltallowdiethylenetriamine condensate, polypropoxylated, methyl sulfate	SVC.
Mixed (coco and soya fatty acids), reaction products with chloromethane and diethylenetriamine, ethoxylated, quaternized	ENJ.
Mixed fatty acid amide with diethylene triamine/ethyl sulfate	EPH.
Oxygen-containing quaternary ammonium salts (Except those having amide linkages), all other-- N,N',N'',N''',Penta-(2-hydroxyethyl)-N-(tallow alkyl)-1,3-diaminopropane diacilate	DA, MOA, SHX, VND, X, X. ARC.
Polyethylenimine methyl ammonium sulfate	STC.
1-Propanaminium, N-ethyl-N,N-dimethyl-3-(1-oxooctadecyl)amino-, ethyl sulfate	SBC.
Soya fatty acids, reaction products with chloromethane and diethylenetriamine, ethoxylated, quaternized	ENJ.
Soya fatty acids, reaction products with chloromethane and diethylenetriamine, propoxylated, quaternized	ENJ.
Stearylaminopropylidimethylmyristyl acetate ammonium chloride	VND.
Stearyltrimethylammoniummethosulfate quaternary	SVC.
Stearyltrimethylammonium ethyl sulfate	JOK.
Tallow amine, ethoxylated, quaternary ammonium salt	DUP, VND.
Tetra-butylammonium hydrogen sulfate	HXL.
Tricetyl-p-methylbenzylammonium chloride	PCI.
Tris(2-hydroxyethyl)-(tallow alkyl)ammonium diacilate	ARC.
Oxygen containing quaternary ammonium salts, all other--	MOA, X.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1965--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
QUATERNARY AMMONIUM SALTS, NOT CONTAINING OXYGEN:	
ACYCLIC:	
*Bis(coconut oil alkyl)dimethylammonium chloride	ARC, ENJ, JTO, ONX, SHX, SVC, WTC.
*Bis(coconut oil alkyl)dimethylammonium nitrate	ARC.
*Bis(hydrogenated tallow alkyl)dimethylammonium chloride	ARC, ENO, ONX, SHX, SVC.
Bis(hydrogenated tallow alkyl)-dimethylammonium methyl sulfate	ARC, ONX, SHX.
Bis(tallow alkyl)dimethyl ammonium chloride	SHX.
Cocodimethylammonium ethyl sulfate	SHX.
N-(Cococut oil alkyl)aminobutyric acid, sodium salt	ARC, BRD, JTO, ONX, SHX.
Didecylidimethylammonium chloride	HNT, ONX.
Dimethyl(C ₁₂₋₁₈)ammonium chloride (mixed straight and branched chains)	SHX.
Dimethyldioctadecylammonium chloride	ARC, SHX.
Dimethyldioctadecylammonium methyl sulfate	ARC, SHX.
N,N-Dioctyl-N,N-dimethylammonium chloride	BRD, HNT.
Di-tallow-amidammonium sulfate	CRD.
Dodecyltrimethylammonium chloride	ARC, SHX.
Ethyl(dimethyl(mixed alkyl)ammonium ethyl sulfate	DEX, JOR.
Ethylhexadecyldimethylammonium bromide	HXL.
Hexadecyltrimethylammonium chloride	ARC, BRD, SHX.
(Hydrogenated tallow alkyl)trimethylammonium chloride	ARC, SHX.
Methyl-1-tallowamidoethyl-2-tallowimidazolium-methyl sulfate	CRD.
Methyl tri(C ₁₀)ammonium chloride	SHX.
Methyltrioctylammonium chloride	BRD, SCP.
(Mixed alkyl)ammonium chloride	MI.
Mixed linear alkyl dimethylammonium methyl sulfate	STC.
(Mixed linear alkyl)trimethylammonium bromide	DOP.
Mixture of N-octyl, N-decyl, N,N-dimethyl ammonium chloride and benzyl, dimethyl, (mixed alkyl)ammonium chloride	BRD.
Octyl-decyl-dimethyl ammonium chloride	HNT.
N-Octyl, N-decyl, N,N-dimethyl ammonium chloride	BRD, HNT.
*N,N',N'',N'''-Pentamethyl-N-(tallow alkyl)-trimethylene-bis(ammonium chloride)	ARC, JTO, SHX.
(Stearic acid)-ethylenediamine methylammonium sulfate	STC.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
QUATERNARY AMMONIUM SALTS, NOT CONTAINING OXYGEN--	
CONTINUED:	
ACYCLIC--CONTINUED	
Tetrabutylammonium bromide	EK, HXL, RSA.
1-Tetradecanaminium,N,N-trimethyl-chloride	SHX.
Tetraethanolammonium hydroxide	RSA.
Tetraethylammonium bromide	EK, RSA.
Tetraethylammonium chloride	EK.
Tetraethylammonium bromide	EK.
Tetra methylammonium bromide	RSA.
Tetramethylammonium chloride	RSA.
Tetramethylammonium hydroxide	RSA.
Tetrapropylammonium hydroxide	RSA.
Tributylmethylammonium chloride	INA.
Trihydrogenated tallow ammonium chloride	ENO.
Trimethyldodecylammonium chloride	ONK.
Trimethyl(dodecyl)ammonium chloride	ARC, JTO, SHX.
*Trimethyl(tallow alkyl)ammonium chloride	ARC, ENO, JTO, SHX.
Trimethyltetradecylammonium bromide	HXL.
Quaternary ammonium salts, not containing oxygen, acyclic, all other	DA, MOA, WTC, X.
BENZENOID:	
Benzyl(alkylpyridinium)chloride	X.
*Benzyl(cocconut oil alkyl)dimethylammonium chloride	ENO, CDC, HRT, ONK, SHX, TCC, WTC.
Benzyl-di(hydrogenated tallow alkyl)- methylammonium chloride	ARC.
*Benzyl(dimethyl(mixed alkyl)ammonium chloride	ARC, BRD, CRD, FTX, HNT, JOR, ONK, PCI, SCP, SHX, X.
Benzyl dimethyloctadecylammonium chloride	ONK, SHX, TMI.
Benzyl dimethyl oleyl ammonium chloride	JOR.
Benzyl dimethyl(tallow alkyl)ammonium chloride	ENO, HLI, SHW, WTC.
Benzyl dimethyl tetradecylammonium chloride	BRD, HXL.
Benzyl dodecyl dimethylammonium chloride	HXL, ONK.
Benzyl hexadecyl dimethylammonium chloride	BKH, ONK.
Benzyl(hydrogenated tallow alkyl)dimethylammonium chloride	ARC, ENO, SHX.
Benzyl-methyl-bis(hydrogenated tallow)ammonium chloride	ENO.
Benzylpicolinium chloride	S.
*1-Benzylpyridinium chloride	BRD, CDC, PCI.
Benzyltriethylammonium chloride	RSA.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED BY MANUFACTURER, 1984--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CATIONIC--CONTINUED	
QUATERNARY AMMONIUM SALTS, NOT CONTAINING OXYGEN	
CONTINUED	
BENZENOID--CONTINUED	
*Benzyltrimethylammonium chloride	CRT, HIF, PCI, RSA, SHX, TCC.
2,4-Dichlorobenzylmethyl(mixed alkyl)ammonium chloride	X.
(3,4-Dichlorobenzyl)dodecylmethylammonium chloride	ONX.
1-Dodecylpyridinium chloride	CCL, DAN.
(Ethylbenzyl)dimethyl(mixed alkyl)ammonium chloride	HRT, ONX.
(Mixed alkyl)dibenzyltrimethyl-1,3-propane diammonium chloride	GDC.
α -Naphthyl-dodecyl-dimethylammonium chloride	OMX.
1-Phenethyl-2-picolinium bromide	HLL.
Phenethyl pyridinium bromide	HLL.
Quaternary ammonium salts not containing oxygen, benzenoid, all other	ICI, X, X.
Cationic surface-active agents, all other	DUP, MIR, MOA, RPC, SCP, WTC.
NONIONIC	
CARBOXYLIC ACID AMIDES:	
DIETHANOLAMINE CONDENSATES (AMINE/ACID RATIO = 2/1):	
Capric acid (Ratio = 2/1)	SCP, TCH.
Castor oil acids (Ratio = 2/1)	CAS, CLI, NSC.
*Coconut oil acids (Ratio = 2/1)	ARD, CCL, CLI, CON, CTL, CYL, DA, ECC, EFH, FTX, GDC, HRT, HHT, HTM, JOR, LJR, MCP, MOA, HRV, MZC, ONK, PXY, RBC, SBC, SCP, SHA, SOP, STP, TCH, VAL, WTC.
*Coconut oil and tallow acids (Ratio = 2/1)	BRD, CRT, CTL, ESS, JOR, MOA, SBC, URN, WTC.
Lard oil acids	FER.
Lard oil and tall oil acids	FER.
Lauric acid (Ratio = 2/1)	CRD, MOA, MZC, WTC.
*Lauric and myristic acids (Ratio = 2/1)	CRD, HRT, MOA, PG, SEC, STP.
Linoleic acid (Ratio = 2/1)	MOA.
Mixed carboxylic acids	SOS.
*Oleic acid (Ratio = 2/1)	CLI, EFH, EHR, MZC, STP.
Palmitic and stearic acids (Ratio = 2/1)	RPC.
Pelargonic acid (Ratio = 2/1)	TCH.
Soybean oil acids (Ratio=2/1)	MZC.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
NONIONIC--CONTINUED	
CARBOXYLIC ACID AMINES--CONTINUED	
DIETHANOLAMINE CONDENSATES (AMINE/ACID RATIO = 2/1)-- CONTINUED	
*Stearic acid (Ratio = 1/1)-----	CLI, EFH, VAL, WVA.
*Tall oil acids (Ratio = 1/1)-----	ECC, MOA, MZC, PNZ, SEC, STC, WTC, WVA.
*Tallow acids (Ratio = 1/1)-----	CLI, ICI, MOA.
Diethanolamine condensates (amine/acid Ratio= 2/1), all others-----	WTC.
DIETHANOLAMINE CONDENSATES (OTHER AMINE/ACID RATIOS):	
Cepric acid (Ratio = 1/1)-----	MOA.
*Coconut oil acids (Ratio = 1/1)-----	AOA, ABD, BRD, CLI, CTL, DA, EMK, FTX, HNT, HRT, HIM, JOR, JSG, MOA, MZC, ONK, PEL, PII, S, SEC, SCP, SHH, STP, TCC, WTC, X.
*Lauric acid (Ratio = 1/1)-----	CLI, CYL, MOA, ONK, SEC, TGH, THH.
*Lauric and myristic acid (Ratio = 1/1)-----	BRD, CLI, CYL, HTW, MOA, SBC, WTC.
*Linoleic acid (Ratio = 1/1)-----	CLI, JOR, MOA, SBC, VHD.
Mixed carboxylic acids (Ratio = 1/1)-----	SOS.
Myristic acid (Ratio = 1/1)-----	MOA.
*Oleic acid (Ratio = 1/1)-----	DA, SBC, THH, WTC.
Palmitic and stearic acids (Ratio = 1/1)-----	BRD.
*Soybean oil acids (Ratio = 1/1)-----	MOA, MZC, SBC.
*Stearic acid (Ratio = 1/1)-----	CHP, ECC, ENJ, HIP, MRV.
Tall oil acids (Ratio = 1/1)-----	CHP, WTC.
Tallow acids (Ratio = 1/1)-----	BRD, MOA, VPC.
ALL OTHER CARBOXYLIC ACID AMIDES:	
Castor oil acids-polyalkylene polyamine maleic anhydride condensate-----	X.
Cocaminoamide-----	DA.
Coconut oil acids-----	STP.
*Coconut oil acids (Ratio = 1/1)-----	JOR, MOA, PG, SCP, SOS, VND, WTC.
Coconut oil acids (Ratio = 2/1)-----	MOA, STP, WTC.
Coconut oil acids-----	DA, MOA.
Coconut oil acids-dimethylaminopropylamine condensate (Ratio = 1/1)-----	JRC.
Coconut oil acids-ethanolamine condensate, ethoxylated-----	BRD, STP.
Fatty acid alkenolamide-----	MGB.
Hydrogenated (tallow acids) aminoethylethanolamine condensate (Ratio=1/2)-----	DAN.
Hydrogenated tallow acids, (Ratio = 2/1)-----	ARC.
Hydrogenated tallow acids, aminoethylethanolamide, acetate salt-----	PCI.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
NONIONIC--CONTINUED	
CARBOXYLIC ACID AMIDES--CONTINUED:	
ALL OTHER CARBOXYLIC ACID AMIDES--CONTINUED:	
Hydrogenated tallow glycerides diethylenetriamine condensate	HFT.
Isononoic acid mono and triethanolamine salt	STC.
Isopropanolamine condensates, all other	WTC.
Isostearic acid, aminoethylmethanolamide, acetate salt	PCI.
Lauric acid	CLI, HTN, MOA.
Lauric acid - ethanolamine condensate, ethoxylated	MZC.
Lauric and myristic acids	DA.
Lauric and myristic acids (Ratio = 1/1)	MOA.
Myristic acid	CRN.
Oleic acid (Ratio = 1/1)	SBC.
Oleic acid (Ratio = 1/2)	EPH.
Oleic acid aminoethylmethanolamine-condensate (Ratio 1/1) ethyl sulfate	RPC.
Oleic acid-ethanolamine condensate, ethoxylated	OMX, SKX.
Stearic acid (Ratio = 1/1)	MDA, VND, WTC.
Stearic acid (Ratio = 1/2)	WTC.
Stearic acid (Ratio = 2/1)	CLI, ECC.
Stearic acid aminoethanolamine (Ratio = 1.0/1.65)	CHP.
Stearic acid-aminoethyl ethanolamine (Ratio = 1.75/1.0)	SBC.
Stearic acid-N-aminoethyl ethanolamine condensate	MRV.
Stearic acid diethanolamine (Ratio = 1.0/11.6)	CHF.
Stearic acid-ethylenediamine condensate (Ratio = 1/2)	TCH, WTC.
Tall oil acids-ethylenediamine condensate (Ratio = 1/2)	SCP.
Tall oil fatty acid, diethylene triamine condensate (amine/acid ratio=1/2)	STC.
Tall oil fatty acids (Ratio = 1/2)	EPH.
Tall oil fatty acids (Ratio = 2/1)	EPH.
Tall oil fatty acids-triethanolamine condensate	X.
Tallow alkyl amide, ethoxylated	MCB.
Alkenolamine condensates, all other	CPC, DA, TCH, VND, WTC.
Carboxylic acid - alkanolamine condensates, all other	DA, ROB, WTC.
Carboxylic acid-diamine and polyamine condensate, all other	OMX.
Carboxylic acid amides, all other	BCH, WTC, X.
Diethanolamine condensate, all other	DA.
Ethanolamine condensates, all other	WTC.
Ethanolamine condensates, (Ratio = 1/1), all other	VND.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED
OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC--CONTINUED	
CARBOXYLIC ACID ESTERS:	
ANHYDROSORBITOL ESTERS:	
Anhydrosorbitol diolate-----	ICI.
Anhydrosorbitol monoester of tall oil acids-----	HDG, MZC.
*Anhydrosorbitol monolaurate-----	BRD, GLY, ICI, MZC, TCH.
*Anhydrosorbitol mono-oleate-----	BRD, GLY, HDG, ICI, MZC, SVC, TCH.
Anhydrosorbitol monopalmitate-----	ICI, TCH.
*Anhydrosorbitol monostearate-----	BRD, GLY, HDG, ICI, MZC, TCH.
Anhydrosorbitol sesquiolate-----	GLY, TCH.
Anhydrosorbitol sesquistearate-----	TCH.
*Anhydrosorbitol trioleate-----	BRD, HDG, ICI, MZC, TCH.
Anhydrosorbitol tristearate-----	GLY.
Anhydrosorbitol esters, all other-----	BAS.
DIETHYLENE GLYCOL ESTERS:	
Diethylene glycol distearate-----	GLY, WTC.
Diethylene glycol monoester of tall oil acids-----	BRM.
*Diethylene glycol monolaurate-----	EGC, GLY, HDG, MZC.
*Diethylene glycol monostearate-----	CLI, EGC, HDG, STP, VND.
Diethylene glycol sesquiolate-----	EGC.
Diethylene glycol sesquistearate-----	GLY.
Diethylene glycol trioleate-----	WTC.
Diethylene glycol terephthalate-----	UPF.
Diethylene glycol esters, all other-----	DA.
ETHOXYLATED ANHYDROSORBITOL ESTERS:	
*Ethoxylated anhydrosorbitol monolaurate-----	BRD, ICI, MZC, TCH.
*Ethoxylated anhydrosorbitol mono-oleate-----	BRD, GLY, HDG, ICI, MZC, SVC, TCH.
Ethoxylated anhydrosorbitol monopalmitate-----	HDG, ICI.
*Ethoxylated anhydrosorbitol monostearate-----	GLY, HDG, ICI, MZC, SVC, TCH.
Ethoxylated anhydrosorbitol monotallate-----	TCH.
*Ethoxylated anhydrosorbitol triester of tall oil acids-----	GLY, ICI, STP(E), WVA(E).
*Ethoxylated anhydrosorbitol trioleate-----	BRD, GLY, HDG, ICI, MZC, TCH.
*Ethoxylated anhydrosorbitol tristearate-----	GLY, HDG, ICI, MZC.
ETHOXYLATED SORBITOL ESTERS:	
Ethoxylated sorbitol beeswax ester-----	ICI.
Ethoxylated sorbitol hexaester of tall oil acids-----	TCH.
Ethoxylated sorbitol hexooleate-----	GLY, ICI, MZC, TCH.
Ethoxylated sorbitol lanolin ester-----	ICI.
Ethoxylated sorbitol mono-oleate-----	ICI.
Ethoxylated sorbitol oleate, acetylated-----	ICI.
Ethoxylated sorbitol pentalaurate-----	MZC.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
NONIONIC--CONTINUED	
CARBOXYLIC ACID ESTERS--CONTINUED:	
ETHOXYLATED SORBITOL ESTERS--CONTINUED	
Ethoxylated sorbitol tetraester of lauric and oleic acids--	ICI.
Ethoxylated sorbitol tetraester of tall oil acids--	WTC.
Ethoxylated sorbitol tetraoleate--	ICI.
Ethoxylated sorbitol tetraacetate--	ICI.
Ethoxylated sorbitol trioleate--	BAS.
Ethoxylated sorbitol esters, all other--	X.
ETHYLENE GLYCOL ESTERS:	
Ethylene glycol distearate--	ICI, MZC, STP, WM, WTC.
Ethylene glycol mono-oleate--	EFH, EHR, TCH.
*Ethylene glycol monostearate--	BRD, CLI, CVL, GLY, HDG, HZC, STP, TCH,
Ethylene glycol esters, all other--	VND, WM, WTC.
GLYCEROL ESTERS:	
COMPLEX GLYCEROL ESTERS:	
Glycerol diacetyltertrate monostearate--	EKT.
Glycerol ester ethoxylates--	GLI.
Glycerol mono- and diesters of mixed fatty acids--	ICI.
Glycerol monoester of hydrogenated tallow fatty acid--	PCI.
Glycerol monoester of mixed fatty acids, acetylated--	EKT.
Glycerol monoester of mixed fatty acids, succinylated--	EKT.
Glycerol mono-oleate, acetylated--	WTC.
Glycerol mono-oleate, ethoxylated--	SCP.
GLYCEROL ESTERS OF CHEMICALLY DEFINED ACIDS:	
Glycerol dilaurate--	VND.
Glycerol dimerate--	PCI.
Glycerol dioleate--	GLY, STP.
Glycerol monocaprylate--	STP.
Glycerol monolaurate--	GLI.
*Glycerol mono-oleate--	EFH, EHR, GLY, HAL, HDG, HZC, STP, SVC, TCH, WTC.
*Glycerol monoricinoleate--	CAS, GLY, HDG, HZC.
*Glycerol monostearate--	CCC, CHL, CLD, CFC, CRT, CYL, EHR, GLY, HAL, HDG, HRT, LUR, MCB, MZC, SNW, SOS, STP, TCH, VND, WM, WTC, X.
Glycerol trioleate--	SVC.
Glycerol esters of chemically defined acids, all other--	DA.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
NONIONIC--CONTINUED	
CARBOXYLIC ACID ESTERS--CONTINUED:	
GLYCEROL ESTERS--CONTINUED:	
GLYCEROL ESTERS OF MIXED ACIDS:	
Glycerol mixed ester of soybean oil-trimethylolpropane-----	ENP.
Glycerol mono-, di-, and triesters of hydrogenated tallow acids-----	WFG.
Glycerol monoester of C ₈ -C ₁₀ acids-----	SVC.
Glycerol monoester of coconut oil acids-----	GLY.
Glycerol monoester of cottonseed oil acids-----	EKT.
Glycerol monoester of hydrogenated cottonseed oil acids-----	EKT, WM.
Glycerol monoester of hydrogenated lard acids-----	EKT.
Glycerol monoester of hydrogenated soybean oil acids-----	BFP, EKT, WTC.
Glycerol monoester of lard acids-----	EKT.
Glycerol monoester of mixed fatty acids-----	PCI, SVC.
Glycerol monoester of palm oil acids-----	EKT.
Glycerol monoester of safflower oil acids-----	EKT.
Glycerol monoester of tall oil acids-----	EFH, FER.
Glycerol monoester of tallow acids-----	EKT.
Glycerol sequester of hydrogenated tallow acids-----	WTC.
Glycerol sequester of tall oil acids-----	SLM.
Glycerol triester of mixed fatty acids-----	SVC.
Glycerol trilaurate-----	SVC.
Glycerol esters of mixed acids, all other-----	BFP, DA.
NATURAL FATS AND OILS, ETHOXYLATED:	
*Castor oil, ethoxylated-----	BAS, GAS, DA, GAF, GLY, HTM, ICI, MCB, MIL, S, STC, STP(E), SVC, TCH, TWH, WVA(E), X.
Coconut oil, ethoxylated-----	STC.
*Hydrogenated castor oil, ethoxylated-----	GAS, DA, ICI, MCB, MIL, S, STC, TCH.
*Lanolin ethoxylated-----	CFD, CEN, STC, TCH.
Oleic acid, ethoxylated-----	MIL.
Soybean oil, ethoxylated-----	DA.
Stearic acid, ethoxylated-----	GAF.
Tall oil acids, ethoxylated and propoxylated-----	X.
Tall oil, refined, ethoxylated-----	TCH, X.
Tallow fatty acids, ethoxylated-----	MCB.
POLYETHYLENE GLYCOL ESTERS:	
POLYETHYLENE GLYCOL ESTERS OF CHEMICALLY-DEFINED ACIDS:	
*Polyethylene glycol dilaurate-----	EFH, GLY, HAL, HDG, MZC, STP, TCH, WM.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ANIONIC--CONTINUED	
CARBOXYLIC ACID ESTERS--CONTINUED:	
POLYETHYLENE GLYCOL ESTERS--CONTINUED:	
POLYETHYLENE GLYCOL ESTERS OF CHEMICALLY-DEFINED ACIDS--CONTINUED:	
*Polyethylene glycol dioleate	CLD, DA, EFH, GLY, HAL, MIL, SOS, STP, TCH.
*Polyethylene glycol distearate	CHP, GLY, MZC, SBC, STP, TCH.
*Polyethylene glycol hydroxyacetate	CCA.
*Polyethylene glycol monocaprylate	ECC, GLY.
*Polyethylene glycol monolaurate	BAS, CCA, COY, ECC, EFH, GLX, HAL, ICI, MZC, STP, TCH, WH.
*Polyethylene glycol mono-oleate	ARC, BAS, CCA, GLD, CRT, DA, ECC, EFH, GAF, GDC, GLX, HAL, HDG, HRT, HRV, MZC, ONK, SHK, STP, SVC, TCH, WTC.
Polyethylene glycol mono-oleate, ethoxylated	ICI.
Polyethylene glycol monopalmitate	GLX, ICI.
Polyethylene glycol monopermyristate	SOS, STC, TCH.
Polyethylene glycol monostearate	ECC, S.
*Polyethylene glycol monoterginate	BAS, CCC, CFC, CRT, DA, DEX, EFH, GAF, GDC, GLY, HDG, HRT, ICI, MCP, MZC, SLC, SOS, STP, TCH, VND.
Polyethylene glycol sesquinoate	SOS, TCH, WTC.
Polyethylene glycol terephthalate	PCI.
Polyethylene glycol esters of chemically-defined acids, all other	
POLYETHYLENE GLYCOL ESTERS OF MIXED ACIDS:	
Polyethylene glycol diester of coconut oil and oleic acids	BAS, RFG, WTC.
Polyethylene glycol diester of mixed linear acid/oleic acid	EFH.
*Polyethylene glycol diester of tall oil acids	PCI.
Polyethylene glycol ester of mixed fatty acids	BRD, CCC, EFH, MZC, STP(E), WVA(E), X.
Polyethylene glycol monoester of coconut oil acids	SHK, SOS.
*Polyethylene glycol monoester of tall oil acids	ICI.
Polyethylene glycol (mixed ester) of tall oil acids	ARC, BRM, CCC, EFH, FER, MZC.
*Polyethylene glycol sesquieater of castor oil acids	DA.
Polyethylene glycol sesquieater of coconut oil acids	DA, LUR, MRT.
*Polyethylene glycol sesquieater of tall oil acids	ICI, SLM, STP(E), WTC, WVA(E).
Polyethylene glycol sesquieater of tallow acids	RPG, SHK, TCH.
Polyethylene glycol esters of mixed acids, all other:	WTC, STP(E), WVA(E).
Mixed oleic, lauric, stearic, and palmitic hexaglycerol esters	SVC.

TABLE 2. ---SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1965---CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
NONIONIC---CONTINUED	
CARBOXYLIC ACID ESTERS---CONTINUED:	
POLYGLYCEROL ESTERS---CONTINUED:	
Polyglycerol decolate	TCH.
Polyglycerol distearate	GLY.
*Polyglycerol mono-oleate	GLY, MZC.
Polyglycerol monostearate	HDC, MZC, WTC.
Polyglycerol esters, all other	GLY, HDG, WTC.
PROPANEDIOL ESTERS:	
1,2-Propanediol monolaurate	SBC.
1,2-Propanediol mono-oleate	EFH, HAL.
*1,2-Propanediol monostearate	EKI, GLY, HAL, MZC, SBC, TCH, WM, WTC.
Propanediol esters, all other	DA.
OTHER CARBOXYLIC ACID ESTERS:	
Caprylic amphopropionate	MOA.
Di-isobutylene maleate	RH.
Ethoxylated 1,3-butylene glycol stearate	STC.
Ethoxylated castor oil, ditridecylmaleate	UPF.
Ethoxylated glycerol mono- and diesters of hydrogenated tallow acids	SVC.
Ethoxylated glycerol and propylene glycol esters of coco fatty acids	SVC.
Ethoxylated 1,2-propanediol monostearate	ICI.
Ethoxylated and propoxylated glycerol mono- and diesters of tallow acids	SVC.
Lauric acid ester of glycerol and ethoxylated nonylphenol	TCC.
Linoleic acid dimers, alkoxylated	X.
Maleic anhydride, polypropylene glycol copolymer	PCI.
Methylglucoside dioleate	CRM.
Methylglucoside laurate	HDC.
Methylglucoside sesquistearate	CRM.
Mixed alkyl stearate	SOS.
Mixed di- and triethylene glycol monoester of tall tail oil acids	MCB, WVA.
Nonylphenol ethoxylate, oleate	EFH.
pentaerythritol stearate	SCP.
pentaerythritol, tall oil acid ester, alkoxylated	X.
Polycarboxylic acid, alkylate	X.
Polycarboxylic acid, alkylphenoxyalkoxylate	X.
Polypropylene glycol dioleate	CLD.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
NONIONIC--CONTINUED	
CARBOXYLIC ACID ESTERS--CONTINUED:	
OTHER CARBOXYLIC ACID ESTERS--CONTINUED:	
Propylene glycol esters of hydrogenated palm oil----	PC, VND.
Propylene glycol esters of hydrogenated soybean oil----	PC.
Tridecyl stearate-----	CLY.
Trimethylol propane trioleate-----	SPH.
Carboxylic acid esters, all other-----	CHF, CRN, DA, EMR, ROB, SYL, X.
ETHERS:	
BENZENOID ETHERS:	
Alkylphenol-formaldehyde condensates, alkoxylated, all other-----	WTC, X.
t-Amylphenol, ethoxylation-----	X.
*Dimethylphenol, ethoxylation-----	BAS, CFC, DA, GAF, HTN, MCB, MZC, RH, S, TCH.
*Dodecylphenol, ethoxylation-----	DA, GAF, MCB, MON, SOC, TCH, TMH.
Epichlorohydrin bisphenol A, ethoxylation-----	X.
Furfuryl alcohol, ethoxylation-----	SVC.
Iso-octylphenol, ethoxylation-----	AAC, BAS, GAF, MCB, MZC, RH, TMH.
(Mixed alkyl)phenol, alkoxylation-----	X.
(Mixed alkyl)phenol epichlorohydrin-formaldehyde, alkoxylation-----	X.
(Mixed alkyl)phenol, ethoxylation-----	BAS, MIL, NTL.
(Mixed alkyl)phenol, ethoxylation, butyl ether-----	RH.
(Mixed alkyl)phenol-formaldehyde, alkoxylation-----	MCB, STC, WTC, X.
(Mixed alkyl)phenol-formaldehyde, methoxylation-----	STC.
Mixed phenylstyrene, phenol, ethoxylation-----	STC.
Naphthalene sulfonic acid, polymer with formaldehyde-- sodium salt-----	PCI.
β-Naphthol, ethoxylation-----	X.
*Nonylphenol, ethoxylation-----	AAC, ARC, BAS, CFC, DA, GAF, HDG, HTN, ICI, MCB, MIL, MON, MZC, OMC, RH, S, STC, STP(E), TCH, TMH, TX, UCC, WTC, WVA(E), X, X, X.
*Nonylphenol, ethoxylation and propoxylated-----	GAF, RH, TMH, X.
Nonylphenol, ethoxylation with mixed fatty acids-----	SOS.
Nonylphenol-formaldehyde, alkoxylation-----	WTC, X.
Nonylphenol oleate, ethoxylation-----	SOS.
n-Octylphenol, ethoxylation-----	AAC, DA, TCH.
Octylphenol, ethoxylation and benzylated-----	GAF.
tert-Octylphenol-formaldehyde, ethoxylation-----	SDM.
*Phenol, ethoxylation-----	DA, GAF, ICI, MCB, MIL.

TABLE 2. --SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
NONIONIC--CONTINUED	
ETHERS--CONTINUED:	
BENZENOID ETHERS--CONTINUED:	
Poly(oxy-1,2 ethanediyl), α (phenylmethyl)-omega-hydroxy, ethoxylated nonyl phenol alkyl ethers	PCI.
Soya sterols, ethoxylated	SCP.
Benzenoid ethers all other	BAS, RH, SVC.
NONBENZENOID ETHERS:	
CHEMICALLY-DEFINED LINEAR ALCOHOLS, ALKOXYLATED:	
Butanol, ethoxylated	DA, GAF, MCB, X.
2-Butanol, ethoxylated and propoxylated	SVC, X.
*Decyl alcohol, ethoxylated	AAC, BAS, CFC, GAF, ICI, MCB, S, STC, TCH.
Decyl alcohol, ethoxylated and propoxylated	DA.
Decyloxypoly(ethyleneoxy)ethyl chloride	GAF.
*Dodecyl alcohol, ethoxylated	AAC, HDG, ICI, MIL, WTC, X.
Glycerol, ethoxylated	SVC.
Hexadecyl alcohol, ethoxylated	ICI, MZC, TCH.
N-Hexyl alcohol, ethoxylated	GAF.
Isosmyl alcohol, ethoxylated	GAF.
Isostearyl alcohol, ethoxylated	SHX.
Lauryl alcohol, ethoxylated	GAF.
Methyl alcohol, alkoxylated	X.
*9-Octadecenyl alcohol, ethoxylated	AAC, DA, GAF, ICI.
*Octadecyl alcohol, ethoxylated	CRN, DA, GAF, ICI, STC.
*Oleyl alcohol, ethoxylated	CFC, CRD, GLY, HTN, MZC, S, SHX, STC.
Stearyl alcohol, propoxylated and ethoxylated	TCH.
Trimethyl propane, alkoxylate	BAS.
Chemically defined linear alcohols, alkoxylated, all other	BAS, WTC.
Coconut oil alcohol, ethoxylated	GAF, GLX, HZC, STC, TX.
Decyl and octyl alcohols, ethoxylated	GAF, TX.
Developmental alcohol, ethoxylated	SHC.
Laolin alcohol, propoxylated	CRN.
Mixed linear alcohols, alkoxylated	X.
*Mixed linear alcohols, ethoxylated	AAC, BAS, DA, DUP, GAF, ICI, MCB, MIL, RH, S, SHC, SHX, STC, STP, TCH, TMH, TNA, TX, UCC, VST, WTC, X.
Mixed linear alcohols, ethoxylated, benzyl ether	X.
*Mixed linear alcohols, ethoxylated and propoxylated	BAS, DA, DUP, GAF, MCB, MIL, OMC, S, STP, SVC, TCH, UCC, WTC, X.
Mixed linear alkyloxy(ethyleneoxy)ethyl chloride	GAF.
Tallow alcohol, ethoxylated	AAC, MZC, SHX, STC, TX.
Wool wax alcohols, ethoxylated	CRD.
Nonbenzenoid ethers all other	CRN, DA, RH, VAL, WTC, X.

TABLE 2.--SURFACE-ACTIVE AGENTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE EITHER REPORTED OR ESTIMATED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

SURFACE-ACTIVE AGENTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
NONIONIC--CONTINUED	
ETHERS--CONTINUED:	
OTHER ETHERS AND THIOETHERS:	
Bis(alkyl-aryl)alcohols, ethoxylated	DA.
Bis-cumylphenyl-oxoethylene titanate	KPL
Butanediol, ethoxylated	GAF
Butyl carbitol, ethoxylated and propoxylated	STP, WVA(E).
1,3-Butylene glycol, ethoxylated	STC
Butynediol, ethoxylated	GAF
tert-Dodecyl mercaptan, ethoxylated	AAC, GAF, MET.
Glycerin, alkoxylated maleate	X.
Glycerine, ethoxylated	AAC, X.
Isodecyl alcohol, ethoxylated and propoxylated	MGB
Lignin, ethoxylated	WVA
*Mixed alcohols, ethoxylated	CRM, MGB, MIL, RH, TCH, X.
Polyethylene glycol, propoxylated	MIL
*Poly(mixed ethylene, propylene)lycol	S UCC, X, X
Polypropylene Glycol, ethoxylated	BAS, DA, MCB, MZC, WTC, X.
3-Propanonitrile methylphenyl ether	PCI
Rosin alcohol, ethoxylated	MZC
2,4,7,9-Tetramethyl-5-decyl-4,7-diol, ethoxylated	DA, TCH
Thiodiglycol, ethoxylated	MGB
*Tridecyl alcohol, ethoxylated	AAC, CPC, DA, DUP, GAF, HFN, ICI, MCB, MIL, MZC, OMC, S, STC, TCH, WTC, X.
Tridecyl alcohol, propoxylated and ethoxylated	DA, MCB, TX.
Trimethylnonyl alcohol, ethoxylated	TCH, UCC
Trimethylolpropane, alkoxylated	BAS, DA, MCB
Ethers and thioethers, all other	AAC, RH, WTC, X.
OTHER NONIONIC SURFACE-ACTIVE AGENTS:	
Formaldehyde, dicyandiamide, ethylene sulfate	
polymers	PCI.
(Mixed alkyl)phenol alkylenediamines/kanolamine	
formaldehyde	X
Mixed fatty acid-ethoxylated nonyl phenol ester	RPC
Nephthalene sulfonic acid polymer with formaldehyde and 4,4 dinitroxy diphenyl phenol, ammonium salt	PCI
Ocyl phosphate, ethoxylated	DUP
Tetra-(2,2-diallyloxymethylene)-1-butoxy titanium bis-(ditridecyl) phosphite	KPL
Tetra-isopropoxy titanium (bis-dioctyl) phosphite	KPL
Tetra-ocloxy titanium (bistridecyl) phosphite	KPL
Tri(castor oil alkyl)phosphate	GLY
Nonionic surface-active agents, all other	CRM, DUP, MIL, PG, X, X.

TABLE 3.--SURFACE-ACTIVE AGENTS: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of surface-active agents to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
AAC	Alcolac, Inc.	HOG	Hodag Chemical Corp.
ACT	Southland Corp., Chemical Div.	HIP	High Point Chemical Corp.
ACY	American Cyanamid Co.	HK	Occidental Chemical Corp., Industrial & Speciality Chemicals Div.
AGP	Dial, Corp.	HLI	Onyx Chemical Co.
APX	Apex Chemical Co., Inc.	HMP	W. R. Grace & Co., Hampshire Chemicals Div.
ARC	Akzo Chemie America, Armark Chemicals	HNT	Huntington Laboratories, Inc.
ARD	Ardmore Chemical Co. Inc.	HPC	Hercules, Inc.
ARL	Arol Chemical Products Co.	HRT	Hart Products Corp.
ARZ	Arizona Chemical Co.	HST	American Heochst Corp., Sou-Tex Works
AZS	AZS Corp., AZS Chemical Corp.	HTN	Heterene Chemical Co.
BAS	BASF Corp.	HXL	Hexcel Corp., Hexcel Chemical Products
BFP	Breddo Food Products Corp.	ICI	ICI Americas, Inc., Chemicals Div.
BKM	Buckman Laboratories, Inc.	JLP	J. L. Prescott Co.
BLA	Astor Products, Inc., Blue Arrow Div.	JOR	Jordan Chemical Co.
BRD	Lonze, Inc.	JRG	Andrew Jergens Co.
BSW	Original Bradford Soap Works, Inc.	JTO	Jetco Chemicals, Inc.
CAS	Gaschem, Inc.	KPI	Kenrich Petrochemicals, Inc.
CCA	Interstab Chemicals, Inc.	LAS	Los Angeles Soap Co.
CCC	C.N.C. Chemical Corp.	LEV	Lever Brothers Co.
CCL	Catawba-Charlab, Inc.	LKY	Lake States Div. of Rhinelander Paper Co.
CCW	Morton-Thiokol, Inc., Carstab Div.	LUR	Laurel Products Corp.
CGY	Giba-Geigy Corp.	MAR	Reed Lignin, Inc.
CHL	Chemol, Inc.	MCB	Borg-Werner Corp., Borg Warner Chemicals
CHF	C. H. Patrick & Co., Inc.	MCP	Moretex Chemical Products, Inc.
CIN	Stockhausen, Inc.	MIL	Milliken & Co., Milliken Chemical Div.
CLD	Colloids, Inc.	MIR	Miranol Chemical Co., Inc.
CLI	Clintwood Chemical Co.	MOA	Mons Industries, Inc.
CLU	CL Industries, Inc.	MON	Monsanto Co.
CMT	Chemithon Corp.	MRD	Marden-Wild Corp.
CON	Concord Chemicals Co., Inc.	MRT	Morton-Thiokol, Inc., Morton Chemical Co. Div.
CP	Colgate-Palmolive Co.	MRV	Marlowe-Van Loan Corp.
CPC	Grant Industries, Inc.	MZC	Mazer Chemicals, Inc.
CRD	Croda, Inc.	NCC	Niacet Corp.
CRN	CPC International, Inc., Amerchol Corp.	NES	Ruetgers-Nease Chemical Co.
CRT	Chemos Corp.	NMC	National Milling & Chemical Co.
CTL	Continental Chemical Co.	NOC	Norac Co., Inc., Mathe Div.
CYL	Cyclo Chemical Corp.	NPR	Safeway Stores, Inc.
DA	Diamond Shamrock Corp., Chemicals Co.	NSC	National Starch & Chemical Corp.
DAN	Dan River, Inc., Chemical Products Div.	NTL	NL Industries, Inc.
DEX	Dexter Chemical Corp.	OMC	Olin Corp.
DOW	Dow Chemical Corp.	ONX	Onyx Chemical Co.
DUP	E. I. duPont de Nemours & Co., Inc.	PCI	Piedmont Chemical Industries, Inc.
ECC	Eastern Color & Chemical Co.	PEL	Pelron Corp.
EFH	E. F. Houghton & Co.	PG	Procter & Gamble Co., Procter & Gamble Mfg. Co.
EK	Eastman Kodak Co.	PIL	Pilot Chemical Co.
EKT	Tennessee Eastman Co. Div.	PLX	Desoto, Inc.
EMK	Emkey Chemical Co.	PNX	Murphy-Phoenix Co.
EMR	Emery Chemicals Div. of National Distillers & Chemical Corp.	PSP	Georgia-Pacific Corp., Bellingham Div.
ENJ	Exxon Chemical Americas	QCP	Quaker Chemical Corp.
ENO	Enenco, Inc.	RAY	ITT Rayonier, Inc.
ENP	Insilco Corp. Enterprise Companies Div.	RBC	Fike Chemical Co.
ESS	Essential Chemicals Corp.	RH	Rohm & Haas Co.
FER	Ferro Corp., Keil Chemical Div.	ROB	Robeco Chemicals, Inc.
FPC	Flambeau Paper Corp.	RPC	Millmaster Onyx Group, Lyndall Chemical Co. Div.
FTX	Finetex, Inc.	RSA	R.S.A. Corp.
GAF	GAF Corp., Chemical Group		
GDC	Gresto, Inc.		
GLY	Glyco, Inc.		
GRL	Vestal Laboratories, Inc.		
HAL	C. P. Hall Co.		
HEW	Hewitt Soap Co., Inc.		

XII -- SURFACE-ACTIVE AGENTS

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TABLE 3.--SURFACE-ACTIVE AGENTS: DIRECTORY OF MANUFACTURERS, 1985--CONTINUED

CODE :	NAME OF COMPANY	CODE :	NAME OF COMPANY
S :	Sandoz, Inc., Colors & Chemicals Div.	TCC :	Sybron Chemicals, Inc.
SBC :	Scher Chemicals, Inc.	TCH :	Emery Industries, Inc., Tylon Div.
SBP :	SBS Products Inc.	TCI :	Dow Chemical Co., Textize Div.
SCM :	SCM Corp., Organic Chemicals Div.	TEN :	Tennessee Chemical Co.
SCO :	Scholler, Inc.	TMH :	Thompson Hayward Chemical Co.
SCP :	Henkel Corp.	TNA :	Ethyl Corp.
SDC :	Sandoz Chemicals Corp.	TNI :	Gillette Co., Chemical Div.
SDH :	Sterling Drug, Inc.:	TX :	Texaco, Inc., Texaco Chemical Co.
SDW :	Hilton Davis Chemical Co.	UCC :	Union Carbida Corp.
SEA :	Sterling Organics Div.	UDI :	Petrochemicals/Desoto, Inc.
SFB :	Seaboard Chemicals, Inc.	UNN :	United Chemical Corp. of Norwood
SFS :	Stauffer Chemical Co., Specialty & Intermediates Div.	UPF :	Jim Walter Resources, Inc., CIC Div.
SHC :	Shell Oil Co., Shell Chemical Co. Div.	USR :	Uniroyal, Inc., Uniroyal Chemical Div.
SHX :	Sherex Chemical Co., Inc.	VAL :	United Merchants & Manufacturers, Inc., Valchem Div.
SLC :	Soluol Chemical Co., Inc.	VND :	Van Dyk, Div. of Mallinckrodt, Inc.
SLM :	Salem Oil & Grease Co.	VPC :	Mobay Chemical Corp., Dye & Pigment Div.
SNW :	Sun Chemical Corp., Chemicals Div.	VST :	Vista Polymers, Inc.
SOC :	Chevron Corp., Chevron Chemical Co.	WBG :	White & Bagley Co.
SOP :	Southern Chemical Products Co.	WHW :	Whittemore-Wright Co., Inc.
SOS :	SSC Industries, Inc.	WM :	Inolex Chemicals Co.
SPA :	Scott Paper Co.	WPG :	West Point-Pepperell, Inc., Griffitex Chemical Co. Sub.
STC :	American Hoechst Corp., Sou-Tex Works	WTC :	Witco Chemical Corp.
STP :	Stepan Chemical Co.	WVA :	Westvaco Corp.
SVC :	Capital City Products Co., Armstrong Chemical Plant		
SYL :	Sylvachem Corp.		
SYP :	Plastic Specialties & Technology, Inc., Synthetic Product Co. Div.		

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION XIII -- PESTICIDES AND RELATED PRODUCTS

STATISTICAL HIGHLIGHTS

Edmund Cappuccilli

202-523-0490

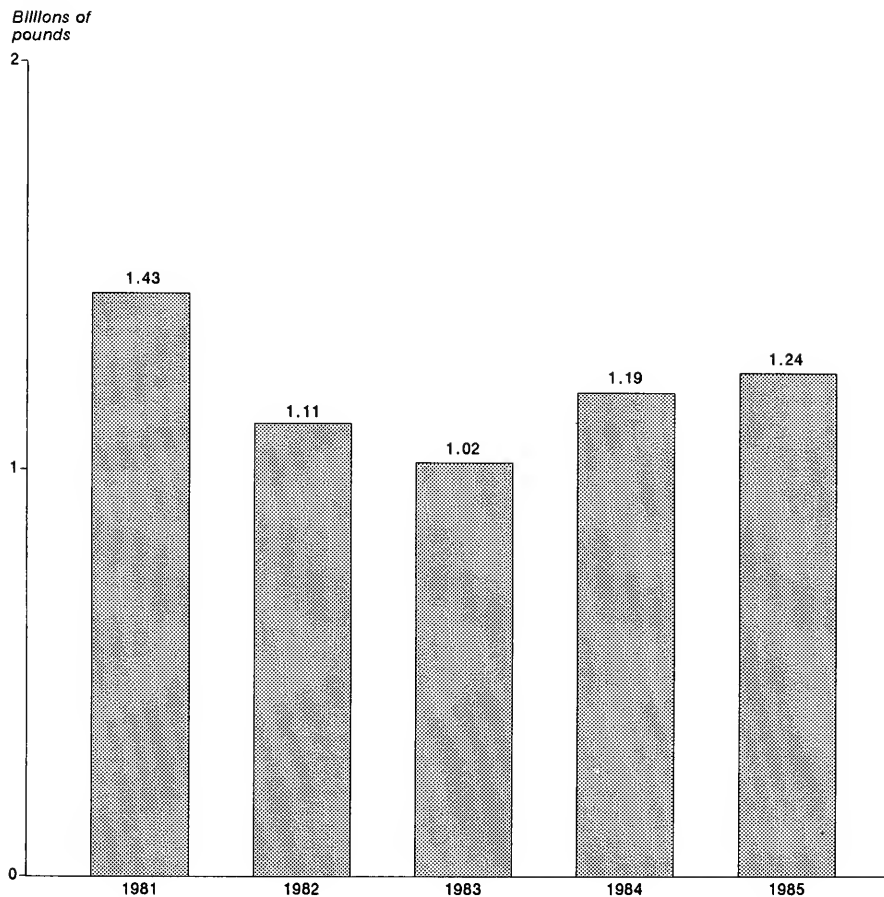
Pesticides and related products include fungicides, herbicides, insecticides, rodenticides, and related products such as plant growth regulators, seed disinfectants, soil conditioners, soil fumigants, and synergists. The data are given in terms of 100 percent active materials; they exclude such materials as diluents, emulsifiers, and wetting agents.

U.S. production of pesticides and related products in 1985 amounted to 1,235 million pounds—3.9 percent greater than the 1,189 million pounds reported for 1984 (table 1).¹ Sales in 1985 were 1,022 million pounds, a decline of 7.8 percent, as compared with 1,108 million pounds reported in 1984; the value of sales was \$4,437 million in 1985, compared with \$4,730 million in 1984—a decline of 6.2 percent. Data for production of pesticides and related products during 1981-85 are shown in figure 1.

The output of cyclic pesticides and related products amounted to 876 million pounds in 1985—4.0 percent greater than the 843 million pounds produced in 1984. Sales in 1985 were 713 million pounds, valued at \$3,266 million, compared with 809 million pounds, valued at \$3,557 million, in 1984.

Production of acyclic pesticides and related products in 1985 amounted to 359 million pounds, compared with 347 million pounds reported for 1984. Sales in 1985 were 309 million pounds, compared with 299 million pounds reported for 1984; the value of sales were \$1,171 million in 1985, compared with \$1,174 million in 1984.

¹ See also table 2, which list these products and identifies the manufacturers by codes. These codes are given in table :

Figure 1.—Pesticides and related products.

Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

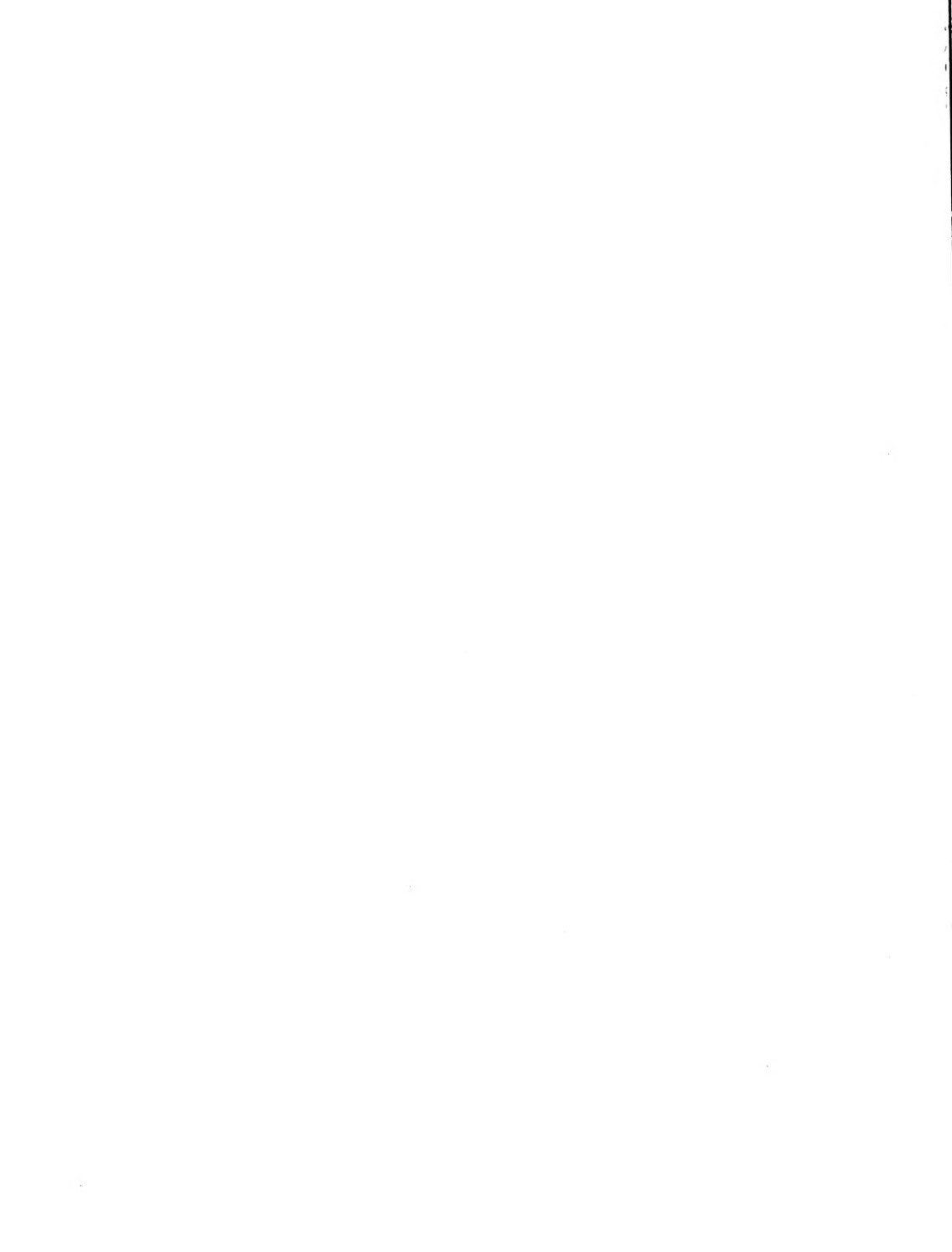


TABLE 1.--PESTICIDES AND RELATED PRODUCTS: U.S. PRODUCTION AND SALES, 1985

[Listed below are all pesticides and related products for which any reported data on production or sales may be published. (Leaders (...)) are used where the reported data are accepted in confidence and may not be published or where no data were reported). Table 2 lists all pesticides and related products for which data on production and/or sales were reported and identifies the manufacturers of each]

PESTICIDES AND RELATED PRODUCTS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
Grand total-----	1,234,914	1,021,715	4,436,835	\$4.34
CYCLIC				
Total-----	876,212	712,722	3,266,051	4.58
Fungicides, total-----	96,282	74,500	220,228	2.96
Naphthenic acid, copper salt-----	3,516	2,122	2,071	.98
All other cyclic fungicides ² -----	92,766	72,378	218,157	3.01
Herbicides and plant growth regulators, total-----	631,224	519,886	2,288,826	4.40
3',4'-Dichloropropionanilide (Propanil)-----	12,993	...	...	...
All other cyclic herbicides ³ -----	618,231	519,886	2,288,826	4.40
Insecticides and rodenticides, total-----	148,706	118,336	756,997	6.40
Cypermethrin-----	3,291	2,249	62,395	27.74
Organophosphorus insecticides ⁴ -----	74,960	52,012	258,265	4.97
All other cyclic insecticides and rodenticides ⁵ -----	70,455	64,075	436,337	6.81
ACYCLIC				
Total-----	358,702	308,993	1,170,784	3.79
Fungicides ⁶ -----	12,756	19,602	42,267	2.16
Herbicides and plant growth regulators ⁷ -----	124,620	115,691	594,733	5.14
Insecticides, rodenticides, soil conditioners, and fumigants, total-----	221,326	173,700	533,784	3.07
Organophosphorus insecticides ⁸ -----	82,525	51,763	245,552	4.74
Trichloronitromethane (chloropicrin)-----	10,885	6,388	6,274	.98
All other acyclic insecticides, rodenticides, soil conditioners, and fumigants ⁹ -----	127,916	115,549	281,958	2.44

¹Calculated from unrounded figures.

²Includes benomyl, captafol, captan, chlorothalonil, DMTT, folpet, PCP, PHA, and others.

³Includes alachlor, stazefin, benefin, bensulide, 2,4-D and other 2,4-D esters and salts, dicamba, dinitrophenol compounds, diuron, DNBP, isopropyl phenylcarbamates (IPC and CIPC), maleic hydrazide, molinate, NPA, picloram, triazines, trifluralin, uracils, plant growth regulators, and others.

⁴Includes diazinon, methyl parathion, and other phosphorothioates and phosphorodithioates.

⁵Includes carbaryl, chlorinated insecticides (chlordan, heptachlor, and others), insect attractants, DEET and other insect repellents, small amounts of rodenticides, and others.

⁶Includes dithiocarbamates.

⁷Includes butylate, dalapon, EPTC, methanearsonic acid salts, thiocarbamates, and organophosphorus herbicides, and others.

⁸Includes acephate, disulfoton, ethion, malathion, phorate, and other organophosphorus insecticides.

⁹Includes aldicarb, methomyl, methyl bromide, soil conditioners and fumigants, small quantities of rodenticides, and others.

Note.--Does not include data for the insect fumigant, p-dichlorobenzene, nor the fungicide, o-phenylphenol. These data are included in the section on "Cyclic Intermediates." It also does not include data for the fungicides, dimethyldithiocarbamic acid, sodium salt and dimethyldithiocarbamic acid, zinc salt (i.e., ziram). These data are included in the section on "Rubber-Processing Chemicals." The data for ethylene dibromide, a fumigant, are included in the "Miscellaneous End-Use Chemicals and Chemical Products" section.

TABLE 2.--PESTICIDES AND RELATED PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

[CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*). CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT]

PESTICIDES AND RELATED PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC	
*FUNGICIDES:	
2-Bromo-4'-hydroxyacetophenone	BKM.
1-(4-Chlorophenoxy)-3,3-dimethyl-1-(1,2,4-triazol-1-yl)-butan-2-one	CHG.
α -(2-Chlorophenyl)- α -(4-chlorophenyl)-5-pyrimidinemethanol	LIL.
α -(2-Chlorophenyl)- α -(4-fluorophenyl)-5-pyrimidinemethanol	LIL.
2,4-Dichloro-6-(<i>o</i> -chloromethyl)-5-triazine	CHC.
1,4-Dichloro-2,5-dimethoxybenzene (Chloroneb)	CHF.
Dl[Phenylmercuric]dodeceny succinate	TRQ.
Hexahydro-1,3,5-triethyl-8-triazine	VNC.
2-Mercaptobenzothiazole, sodium salt	X.
Mercury fungicides, cyclic, all other	MOD.
Mercury fungicides, cyclic, all other	VNC.
Methyl-1-(butylcarbonyl)-2-benzimidazolecarbamate (Benomyl)	DUP, USR.
2,2'-Methylenebis(4-chlorophenol) (dichlorophene)	GIV.
3-(2-Methylpiperidino)propyl-3,4-dichlorobenzoate (Piperalin)	DUP.
5-Methyl-1,2,4-triazolo[3,4-b]benzothiazole (Tricyclazole)	LIL.
*Naphthemic acid copper salt	LIL.
2-n-Octyl-4-isothiazolin-3-one	CCA, MCI, MOD, TRQ.
Pentachlorophenol (PCP)	FER, RH.
Pentachlorophenol, sodium salt	RCI.
Phenylmercuric acetate (PMA)	COS.
Phenylmercuric ammonium acetate	COS, TRQ.
Phenylmercuric oleate	MOD, SOL.
8-Quinolol, copper salt	FMT.
8-Quinolol, magnesium salt	MOD, SOL.
8-Quinolol, sulfate salt	FMT.
cis-N-(1,1,2-Tetrachloroethylthio)-1-cyclohexene-1,2-dicarboximide (Captafol)	SOL.
2,4,5,6-Tetrachloroisophthalonitrile	SOC.
	SDS.

TABLE 2.--PESTICIDES AND RELATED PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PESTICIDES AND RELATED PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
*FUNGICIDES--CONTINUED:	
Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione (DMTT)	MRK, USR, VCC.
2-(Thiocyanomethylthio)benzothiazole	BKH.
N-[(Trichloromethyl)thio]-4-cyclohexene-1, 2-dicarboximide (Captan)	SEA, SFC, VNC.
N-(Trichloromethylthio)phthalimide (Folpet)	SEA, SFC, VNC.
1,3,5-Tri(2-isopropenyl)-s-triazine	EFH.
Cyclic fungicides, all other	NOD.
*HERBICIDES AND PLANT GROWTH REGULATORS:	
3-Amino-2,5-dichlorobenzoic acid, ammonium salt (2,5-Dichloro-3-aminobenzoic acid, ammonium salt)	GAF, UCC.
4-Amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-5-(4H)-one	GHG, DUP.
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	DOM.
4,6-Bis(isopropylamino)-2-methoxy-s-triazine (Prometon)	CGY.
2,4-Bis(isopropylamino)-6-(methylthio)-s-triazine (Prometryn)	CGY.
5-Bromo-3-sec-butyl-6-methyluracil (Bromacil)	DUP.
2-(tert-Butylamino)-4-ethylamino-6-(methylthio)-s-triazine	CGY.
3-tert-Butyl-5-chloro-6-methyluracil	DUP.
N-Butyl-N-ethyl- α , α -trifluoro-2,6-dinitro-p-toluidine (Benefin)	LLL.
Butyl 2-[[4-[[5-(trifluoromethyl)-2-pyridinyloxy]phenoxy]propanoate	X.
N-(Chloroacetyl)-N-(2,6-diethylphenyl)glycine, ethyl ethyl ester	FSN.
2-Chloro-4,6-bis(ethylamino)-s-triazine (Simazine)	CGY.
2-Chloro-4,6-bis(isopropylamino)-s-triazine (Propazine)	CGY.
2-Chloro-2',6'-diethyl-N-(n-butoxymethyl)acetanilide (Butachlor)	MON.
2-Chloro-2',6'-diethyl-N-(methoxymethyl)acetanilide (Alachlor)	MON.
2-Chloro-N-ethoxymethyl-N-(2-ethyl-6-methylphenyl)-acetamide (Acetochlor)	MON.
2-Chloro-1-(3-ethoxy-4-nitrophenoxy)-4-(trifluoromethyl)benzene (Oxyfluorfen)	RH.
2-Chloro-4-(ethylamino)-6-(isopropylamino)-s-triazine (Atrazine)	CGY, SHC.

TABLE 2.--PESTICIDES AND RELATED PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PESTICIDES AND RELATED PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
*HERBICIDES AND PLANT GROWTH REGULATORS--CONTINUED:	
2-[4-Chloro-6-(ethylamino)-2-triazin-2-ylamino]-2-methylpropionitrile (Cyanazine)	SHC
N-(2-Chloroethyl)- α , α , α -trifluoro-2,6-dinitro-N-propyl-p-toluidine (Fluchloralin)	SOL
2-Chloro-N-isopropylacetanilide (Propachlor)	MON
2-Chloro-N-[4-methoxy-6-methyl-1,3,5-triazin-2-yl]amino-carbonylbenzenesulfonamide	DUP
2-(4-Chloro-2-methylphenoxy)propionic acid, dimethylamine salt	RIV
3-Cyclohexyl-6-(dimethylamino)-1-methyl-1,3,5-triazine-2,4-(1H,3H)-dione	DUP
3,5-Dibromo-4-hydroxybenzotriazole (Bromoxynil)	RA
3,6-Dichloro-2-aminic acid (Dicamba)	VEL
2,6-Dichlorobenzotriazole	USR
2-(2,4-Dichlorophenoxy)propionic acid, isooctyl ester	RIV
3-(3,4-Dichlorophenyl)-1,1-dimethylurea (Diuron)	DUP
3-(3,4-Dichlorophenyl)-1-methoxy-1-methylurea (Linuron)	DUP
*3',4'-Dichloropropanamide (Propanil)	CYI, RH, VTC
S-(O,0-Diisopropyl phosphorodithioate) ester of N-(α -mercaptoethyl)benzenesulfonamide (Bensulfide)	SFA
1,1'-Dimethyl-4,4'-bipyridinium dichloride	X
N,N-Dimethyl-2,2-diphenylacetamide (Diphenamid)	CMW
N-(1,1-Dimethyl-2-propenyl)-3,5-dichlorobenzamide (Pronamide)	RH
Dimethyl-2,3,5,6-tetrachloroterephthalate (DCPA)	SDS
N-[5-1,1-Dimethyl-1,3,4-thiadiazol-2-yl]-N,N-dimethylurea (Tebuthiuron)	LIL
1,1-Dimethyl-3-(α , α , α -trifluoro-m-tolyl)urea (Flumeturon)	FRI
Dinitrobutylphenol (DNBP)	GED, USR
Dinitrobutylphenol, ammonium salt	GED
Dinitrobutylphenol, triethanolamine salt	GED
2,6-Dinitro-N,N-dipropyl cumidine	LIL
3,5-Dinitro-N,N-dipropylsulfanilamide	X
2-(Ethylamino)-4-(isopropylamino)-6-(methylthio)-s-triazine (Ametryne)	CGY
5-Ethyl cyclohexylethylthiocarbamate	SFA
S-Ethyl-hexahydro-1H-azepine-1-carbothioate (Mollinate)	SFA

TABLE 2.--PESTICIDES AND RELATED PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PESTICIDES AND RELATED PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
*HERBICIDES AND PLANT GROWTH REGULATORS--CONTINUED:	
N-[3-(1-Ethyl-1-methylpropyl)-5-isoxazolyl]-2,6-dimethoxybenzamide (Flexidor)	LLL
N-(1-Ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzamine	ACI
2-(Ethylthio)-4,6-bis(isopropylamino)-s-triazine	CGY
3-(Hexahydro-4,7-methanoindan-5-yl)-1,1-dimethylurea (Norea)	AMV
3-(Isopropyl-1H-2,1,3-benzothiadiazin-4(3H)-one 2,2-dioxide	BAS
Isopropyl N-(3-chlorophenyl)carbamate (GIPC)	PPG, RBC
Isopropyl N-phenylcarbamate (IPC)	PPG, RBC
2-(2-Methyl-4-chlorophenoxy)propionic acid, diethanolamine salt	RIV
2-(2-Methyl-4-chlorophenoxy)propionic acid, iso-octyl ester	RIV
1-(2-Methylcyclohexyl)-3-phenylurea (Siduron)	ADC, DUP
Methyl 5-(2,4'-dichlorophenoxy)-2-nitrobenzoate	EDA
Methyl 2-[[[(4,6-dimethyl-2-pyrimidinyl)amino]carbonyl]amino]sulfonylbenzoate	DUP
1-Methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]-4(H)-pyridone (Fluridone)	LLL
N-1-Naphthylphthalamic acid (NFA)	DRX, USR
7-Oxabicyclo-[2.2.1]-heptane-2,3-dicarboxylic acid, disodium salt (Endothall)	PAS
PHENOXYACETIC ACID DERIVATIVES:	
4-Chloro-2-methylphenoxyacetic acid, iso-octyl ester	RIV
2,4-DICHLOROPHENOXYACETIC ACID, ESTERS AND SALTS:	
2,4-Dichlorophenoxyacetic acid (2,4-D)	DOM, UCC, VTC
2,4-Dichlorophenoxyacetic acid, butoxyethanol ester	DOM
2,4-Dichlorophenoxyacetic acid, sec-butyl ester	DOM
2,4-Dichlorophenoxyacetic acid, dimethylamine salt	DOM, PBI, RIV
2,4-Dichlorophenoxyacetic acid, ethanolamine and isopropanolamine salts	DOM
2,4-Dichlorophenoxyacetic acid, iso-octyl ester	DOM, RIV
2,4-Dichlorophenoxyacetic acid, isopropyl ester	AMV
2,4-Dichlorophenoxyacetic acid, esters and salts, all other	UCC, VEL
PLANT GROWTH REGULATORS:	
N-[(Acetylamino)methyl]-2-chloro-N-(2,6-diethylphenyl)acetamide	MON
2-Chloro-N-(2,6-dinitro-4-(trifluoromethyl)phenyl)-N-ethyl-6-fluorobenzenemethanamine	CGY

TABLE 2.--PESTICIDES AND RELATED PRODUCTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PESTICIDES AND RELATED PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
*HERBICIDES AND PLANT GROWTH REGULATORS--CONTINUED:	
PLANT GROWTH REGULATORS--CONTINUED:	
B-(4-chlorophenyl)methyl- α -(1,1-dimethylethyl)-1,2,4-triazole-1-ethanol	X.
2-chloro-6-(trichloromethyl)pyridine	DOM.
α -cyclopropyl- α -(p-methoxyphenyl)-5-pyrimidine methanol (Ancymidol)	L.L.
1,2-bihydro-3,6-pyridazinone (Malsic hydrazide) (MH)	DEK, USR.
1,1-dimethylpiperidinium chloride	BAS.
N-(2,4-dimethyl-5-[(trifluoromethyl)sulfonyl]amino)phenylacetamide, diethanolamine salt	MMH.
Gibberellic acid	ABB.
3-Indolebutyric acid	MRK.
1-Naphthaleneacetic acid (NAA)	GNW.
1-Naphthaleneacetic acid, sodium salt	GNW.
Sodium 5-2-chloro-4-(trifluoromethyl)phenoxy-2-nitrobenzoate	RH.
3,5,6-Trichloro-2-pyridinyloxyacetic acid	DOM.
α , α -Trifluoro-2,6-dinitro-N-ethyl-N-(2-methyl-2-propenyl)-p-toluidine (Ethylfluralin)	L.L.
α , α -Trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine (Trifluralin)	L.L.
Cyclic herbicides, all other	HEX, SFS.
INSECT ATTRACTANTS AND REPELLENTS:	
tert-butyl 4(or 5)-chloro-2-methylcyclohexanecarboxylate (Irimedurus)	OSK.
N,N-diethyltoluamide (DEET)	MEF, TMA, VGC.
Insect attractants, all other	X.
INSECTICIDES:	
Bacillus thuringiensis	ABB, CLP, ZOC.
(5-Benzyl-3-furyl)methyl-2,4-dimethyl-3-(2-methylpropenyl)cyclopropane carboxylate (Resmethrin)	PEN.
2,3,4,5-Butenylenetetrahydrofurfural	PLC.
2-(p-tert-Butylphenoxy)cyclohexyl-2-propynyl sulfite	ACV, USR.
2-(2-Chlorophenyl)methyl-4,4-dimethyl-3-isoxazolidinone	NES.
Cyano(4-fluoro-3-phenoxyphenyl)methyl-3-(2,2-dichloro-ethenyl)-2,2-dimethylcyclopropanecarboxylate	NES.
Cyano-3-phenoxybenzyl-cis, trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane carboxylate	X.
*Cypermethrin	FMH, NES, SHC, VTC.

TABLE 2.--PESTICIDES AND RELATED PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PESTICIDES AND RELATED PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
INSECTICIDES--CONTINUED	
2, 3-Dihydro-2, 2-dimethyl-7-benzofurenyl((dibutylamino)-thio)methylcarbamate	FMN.
2, 3-Dihydro-2, 2-dimethyl-7-benzofuranyl methylcarbamate	FMN.
2, 2-Dimethyl-1, 3-benzodioxol-4-yl N-methylcarbamate	FSN.
Di-n-propylisocinchononate	MCK.
Distinnaxane, hexakis(2-methyl-2-phenylpropyl)	SHC.
Isopropyl-11-methoxy-3, 7, 11-trimethylododeca-2, 4-dienoate	X.
Methyl 3-(2, 2-dichloroethenyl)-2, 2-dimethyl-3-cyano-3-phenoxyphenylcyclopropanecarboxylate	FMN.
1-Naphthyl-N-methylcarbamate (Carbaryl)	UCC.
3-(Phenoxyphenyl)methyl-cis, trans-3-(2, 2-dichloroethenyl)-2, 2-dimethyl cyclopropane-cyclopropanecarboxylate	FMN, VTC, X.
Tetrahydro-5, 5-dimethyl-2(1H)-pyrimidinone[3-[4-(trifluoromethyl)phenyl]-1-[2-[4-(trifluoromethyl)phenyl]ethenyl]-2-propenylidene]hydrozone	AGY.
Tricyclohexyltin hydroxide	DOM, X, X.
2, 3, 5-Trimethylphenol	X.
CHLORINATED INSECTICIDES:	
2-Chloro-N-[[[4-(trifluoromethoxy)phenyl]amino]-carbonyl]benzamide	CHG.
Ethyl 4, 4'-dichlorobenzilate (Chlorobenzilate)	CGY.
Heptachloro-tetrahydro-endo-methanoindene (Heptachlor)	VEL.
Hexachloroepoxyoctahydro-endo, endo-dimethanonaphthalene (Endrin)	VEL.
Octachlorohexahydro-4, 7-methanoindene (Chlordan)	VEL.
Toxaphene (Chlorinated camphene)	FSN.
1, 1, 1-Trichloro-2, 2-bis(p-methoxyphenyl)ethane (Methoxychlor)	CHF.
*ORGANOPHOSPHORUS INSECTICIDES:	
S-[(p-Chlorophenyl)thiomethyl] 0, 0-diethyl phosphorodithioate (Carbofenothion)	SFA.
O-(2, 4-Dichlorophenyl) O-ethyl S-propyl phosphorodithioate	CHG.
O, O-Diethyl O-(2-diethylamino-6-methyl-4-pyrimidinyl) phosphorothioate	X.
O, O-Diethyl O-(2-isopropyl-4-methyl-6-pyrimidinyl) phosphorothioate (Diazinon)	CGY, VEL.

TABLE 2. --PESTICIDES AND RELATED PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1965--CONTINUED

PESTICIDES AND RELATED PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
INSECTICIDES--CONTINUED	
*ORGANOPHOSPHORUS INSECTICIDES--CONTINUED	
0,0-Diethyl 0-[4-(methylsulfinyl)phenyl]-phosphorothioate	CHG.
0,0-Diethyl 0-(p-nitrophenyl)phosphorothioate (parathion)	MON.
0,0-Diethyl 0-3,5,6-trichloro-2-pyridylphosphorothioate	DOW.
0,0-Dimethyl 0-[4-(methylthio)-m-tolyl]-phosphorothioate (fenthion)	CHG.
0,0-Dimethyl 0-(p-nitrophenyl)phosphorothioate (Methyl parathion)	MON.
0,0-Dimethyl S-[4-oxo-1,2,3-benzotriazin-3(3H)-yl]methylphosphorodithioate (Azinphos-methyl)	CHG.
2,3-P-dioxanedithiol S,S-bis-(0,0-diethylphosphorodithioate (Dioxathion)	FSN.
0-Ethyl 0-[4-(methylthio)phenyl] S-propylphosphorodithioate	CHG.
0-Ethyl 0-(p-nitrophenyl)phenylphosphonothioate (EPN)	DUP, SFS.
0-Ethyl-S-phenylethylphosphonodithioate	SFA.
N-(Mercaptomethyl)phthalimide S-(0,0-dimethylphosphorodithioate)	SFA, X.
Organophosphorus insecticides, cyclic, all other	SFS, SHC.
Cyclic insecticides, all other	FMN.
RODENTICIDES:	
3-(α -Acetonylbenzyl)-4-hydroxycoumarin (Warfarin)	MOT.
3-[3-(4'-Bromo[1,1'-biphenyl]-4-yl)-1,2,3,4-tetrahydro-1-naphthalenyl]-4-hydroxy-2H-1-benzopyran-2-one	LLL, X.
2-Biphenylacetyl-1,3-indandione and sodium salt	ROT, RBC.
2-Isovaleryl-1,3-indandione	MOT.
2-Fivatoyl-1,3-indandione (Pindone)	MOT.
CYCLIC PESTICIDES, ALL OTHER:	
Benzyl-2-chloro-4-(trifluoromethyl)-5-thiazolecarboxylate	MON.
α -[2-(2-n-Butoxyethoxy)ethoxy]-4,5-methylene-dioxy-2-propyltoluene, (Piperonyl butoxide)	ALP, TNA.
N-(2-Ethylhexyl)bicyclo(2.2.1)-5-heptene-2,3-dicarboximide	MKG.
1-Methyl-3,5,7-triaza-1-azonia tricyclodecane chloride	BKM.

TABLE 2.--PESTICIDES AND RELATED PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PESTICIDES AND RELATED PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*FUNGICIDES:	
Bis-1,4-bromoacetoxy-2-butene-----	VIN.
Bis(tributyltin) oxide-----	X.
Chloromethoxypropylmarcuric acetate-----	TKO.
1,2-Dibromo-2,4-dicyanobutene-----	BKH.
Disodium cynodithioimidocarbonate-----	BKH.
n-Dodecylguanidine acetate (Dodine)-----	ACI.
Dodecylguanidine hydrochloride-----	BKH.
Methylenebis(thiocyanate)-----	BKH, VIN.
Poly(oxyethylene(dimethylamino)ethylene- (dimethylamino)ethylene dichloride)-----	BKH.
Poly(N,N,N',N'-tetramethylethylenediamine) with (chloromethyl)oxirane-----	BKH.
Tributyltin chloride-----	X.
DITHIOCARBAMIC ACID FUNGICIDES:	
Dimethyldithiocarbamic acid, potassium salt-----	ALC, BKH.
Ethylene bis(dithiocarbamic acid), disodium salt (Webam)-----	ALC, VCC.
Ethylene bis(dithiocarbamic acid), manganese salt (Maneb)-----	RH.
Ethylene bis(dithiocarbamic acid), manganese salt with zinc ions-----	RH.
Hydroxymethyl(methyl)dithiocarbamic acid, potassium salt-----	BKH.
N-Methyldithiocarbamic acid, potassium salt-----	BKH.
Dithiocarbamic acid fungicides, acyclic, all other Acyclic fungicides, all other-----	VCC.
*HERBICIDES AND PLANT GROWTH REGULATORS:	
N,N-Bis(phosphonomethyl)glycine-----	MON.
2-Chloro-N,N'-disallylacetamide (CDAA)-----	MON.
S-(2,3-Dichloroallyl) diisopropylthiocarbamate (Disallate)-----	MON.
2,2-Dichloropropionic acid, sodium salt (Dalapon)-----	DMW.
N-5-(1,1-Dimethylethyl)-1,3,4-thiadiazol-2-yl-N, N'-dimethylurea (Tebuthiuron)-----	HRT.
S-Ethyl diisobutylthiocarbamate (Butylate)-----	PPC, SFA.
S-Ethyl dipropylthiocarbamate (EPTC)-----	PPC, SFA.
Ethyl xanthogen disulfide-----	REC.
Methanearsonic acid, disodium salt (DSMA)-----	VIN.
Methanearsonic acid, monosodium salt (MSMA)-----	SDS.
Methylthiosulfonic acid, S-(2-hydroxypropyl) ester-----	BKH.

TABLE 2. --PESTICIDES AND RELATED PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PESTICIDES AND RELATED PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*HERBICIDES AND PLANT GROWTH REGULATORS--CONTINUED:	
N-(Phosphonomethyl)glycine, isopropylamine salt	MON.
S-Propyl butylethylthiocarbamate (Febulate)	SFA.
S-Propyl dipropylthiocarbamate (Vernolate)	SFA.
Thiocyanic acid, methylene ester	BKM.
S,S-Tributyl phosphorodithioate	CHG.
Tributyl phosphorotriphosphate (Merphos)	MDA.
S-(1,2,3-trichloroallyl)diisopropylthiocarbamate (triallate)	MON.
PLANT GROWTH REGULATORS:	
2-(Chloroethyl)phosphonic acid	UCC.
N-(Phosphonomethyl)glycine, sodium sesqui salt	MON.
Plant growth regulators, acyclic, all other	USR.
Acyclic herbicides, all other	DUP, SHC.
INSECTICIDES:	
Ethyl 3,7,11-trimethylidodeca-2,4-dienoate	DOW, X.
Isopropyl-11-methoxy-3,7,11-trimethylidodeca-2,4-dienoate	X.
Methyl N',N'-dimethyl-N-(methylcarbamoyloxy)-1-thioxamide	DUP.
S-Methyl-N-(methylcarbamoyloxy)acetimidate (Methonyl)	DUP, SHC.
2-Hethyl-2-(methylthio)propionaldehyde O-(methylcarbamoyloxime (Aldicarb))	UCC.
*ORGANOPHOSPHORUS INSECTICIDES:	
S-1,2-Bis(ethoxycarbonyl)ethylo-O-dimethyl phosphorodithioate (Mealstion)	ACY.
2-Carbomethoxy-1-propen-2-yl dimethyl phosphate	AMV, SHC.
1,2-Dibromo-2-dichloroethyl dimethyl phosphate (Waled)	AMV, SHC.
O,O-Diethyl S-[2-(ethylthio)ethyl]phosphorodithioate (Disulfoton)	CHG.
O,O-Diethyl O-[2-(ethylthio)ethyl]phosphorothioate (Demeton O)	CHG.
O,O-Diethyl S-[(ethylthio)methyl]phosphorodithioate (Phorate)	ACY.
3-(Dimethoxyphosphinyloxy)-N,N-dimethyl-cis-crotonamide	SHC.
O,S-Dimethylacetylphosphoramidothioate (Acephate)	SOC.
O,O-Dimethyl-O-2-dichlorovinyl phosphate (DDVP)	AMV, SHC.
S-[(1,1-Dimethylethyl)chloromethyl]O,O-diethylphosphorodithioate (Furbufos)	ACY.

TABLE 2. -- PESTICIDES AND RELATED PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

PESTICIDES AND RELATED PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ORGANOPHOSPHORUS INSECTICIDES--CONTINUED:	
Dimethyl phosphate of 3-hydroxy-N-methyl-cis-crotonamide-----	SHC.
O,S-Dimethyl phosphorimidithioate-----	CHG.
O,O',O'-Tetraethyl S'-methylenebisphosphorodithioate (Ethion)-----	FMN.
RODENTICIDES:	
2-Hydroxyethyl n-octyl sulfide-----	PLC.
Sodium fluoroacetate-----	REG, TUL.
Rodenticides, acyclic, all other-----	REG.
SOIL CONDITIONERS:	
Polysacrylonitrile, hydrolyzed, sodium salt-----	ACY.
SOIL FUMIGANTS:	
1,3-Dichloropropene-----	DOW.
O-Ethyl S,S-dipropyl phosphorodithioate-----	RDA.
Methyl bromide (Bromomethane)-----	GTL.
N-Methylthiocarbamic acid, sodium salt (Metham)-----	BKH, SEA.
Methyl isothiocyanate and 1,3-dichloropropene-----	MRT.
*Trichloronitromethane (Chloropicrin)-----	LCP, NLO, TNA.
ACYCLIC PESTICIDES, ALL OTHER:	
3-Alkoxy-2-hydroxypropyl trimethyl ammonium chloride-----	X.
Bromoacetic acid-----	VIN.
N-Cocalkyl-1,3-propylenediamine acetate-----	X.
N-Cocalkyl trimethylenediamine adipate-----	X.
2-[(Hydroxymethyl)amino]-2-methylpropanol-----	TPO.
2-[(Hydroxymethyl)ethanol]-----	TRO.
3-Iodo-2-propynyl butylcarbamate-----	TRO.
Pesticides and related products, acyclic, all other-----	SFS, USR, X.

XIII -- PESTICIDES AND RELATED PRODUCTS

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TABLE 3.--PESTICIDES AND RELATED PRODUCTS: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of pesticides and related products to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
ABB	Abbott Laboratories	MON	Monsanto Co.
ACY	American Cyanamid Co.	MOT	Motomco, Ltd.
ADC	Anderson Development Co.	MRF	Morflex Corp.
ALC	Alco Chemical Corp.	MRK	Merck & Co., Inc.
ALP	Alpha Laboratories, Inc.	MRT	Morton-Thiokol, Inc., Morton Chemical Co. Div.
AMV	Amvac Chemical Corp.		
		NES	Ruetgers-Nease Chemical Co.
BAS	BASF Wyandotte Corp.	NLO	Niklor Chemical Co., Inc.
BKM	Buckman Laboratories, Inc.	NOD	Nuodex, Inc.
CCA	Interstab Chemicals, Inc.	PAS	Pennwalt Corp.
CED	Cedar Chemical Co.	PBI	PBI-Gordon Corp.
CGY	Ciba-Geigy Corp., Agricultural Div.	PEN	CPC International, Inc., Penick Div.
CHF	Kincaid Enterprises, Inc.	PLC	Phillips Petroleum Co.
CHG	Mobay Chemical Corp., Agricultural Chemicals Div.	PPG	PPG Industries, Inc.
CLP	Cell Products, Inc.		
COS	Cosan Chemical Corp.	RBC	Fike Chemicals, Inc.
CWN	Upjohn Co., Fine Chemicals	RCI	Reichhold Chemicals, Inc.
CYT	Cumberland International Corp.	RDA	Rhone-Poulenc, Inc.
		RH	Rohm & Haas Co.
		RIV	Riverdale Chemical Co.
DOW	Dow Chemical Co.		
DRX	Drexel Chemical Co.	SDS	S.D.S. Biotech Corp.
DUP	E. I. duPont de Nemours & Co., Inc.		Stauffer Chemical Co.:
		SFA	Agricultural Products Div.
EFH	E. F. Houghton & Co.	SFC	Calhio Chemicals, Inc.
		SFS	Specialty & Intermediates Div.
FER	Ferro Corp., Ferro Chemical Div.	SHC	Shell Oil Co., Shell Chemical Co. Div.
FMN	FMC Corp., Agricultural Chemical Group	SOC	Chevron Corp., Chevron Chemical Co.
FMT	Fairmount Chemical Co., Inc.	SOL	Southland Corp., Fine Chemicals Div.
FRI	Farmland Industries, Inc.		
FRO	Vulcan Materials Co., Chemicals Div.	TNA	Ethyl Corp.
FSN	Nor-Am Chemical Co.	TRO	Troy Chemical Corp.
		TUL	Tull Chemical Co., Inc.
GAF	GAF Corp., Chemical Group	UCG	Union Carbide Corp.
GIV	Givaudan Corp.	USR	Uniroyal, Inc., Uniroyal Chemical Group
GNW	Greenwood Chemical Co.		
GTL	Great Lakes Chemical Corp.		
		VCC	Vinings Chemical Co.
HEX	Hexagon Laboratories, Inc.	VEL	Velsicol Chemical Corp.
LCP	LCP Chemicals-Maine	VGC	Virginia Chemicals, Inc.
LIL	Eli Lilly & Co.	VIN	Vineland Chemical Co., Inc.
		VNC	Vanderbilt Chemical Corp.
MCI	Mooney Chemical, Inc.	VTC	Vertac Chemical Corp.
MGK	McLaughlin Gormley King Co.		
MMM	Minnesota Mining & Manufacturing Co.	ZOC	Zoecon Corp.

Note.-- Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION XIV -- MISCELLANEOUS END-USE CHEMICALS
AND CHEMICAL PRODUCTS

STATISTICAL HIGHLIGHTS

David G. Michels

202-523-0293

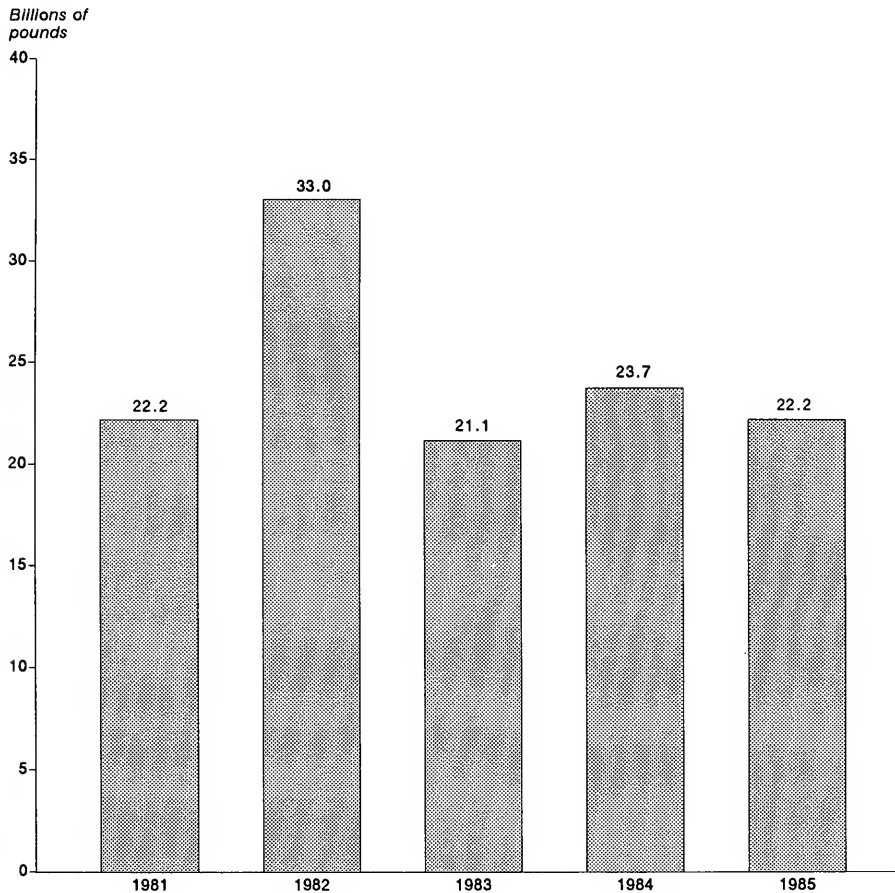
This section incorporates those end-use groups which are not readily classifiable within the prior sections of this report. Both cyclic and acyclic chemicals fall within this section. With the exception of enzymes and fuel additives, both production and sales of all other end-use groups contained within this section have increased for the first time since 1981.

In 1985, the production of miscellaneous end-use chemicals exceeded 22,214 million pounds, a decrease of 6 percent from the more than 23,731 million pounds of production reported for 1984. Except for a sharp rise in 1982, production of these chemicals has remained nearly level throughout the period 1981-85 (figure 1). Sales in 1985 totaled 16,217 million pounds, valued at \$6,178 million. The sales quantity increased 9 percent from that of 1984 with the value of sales increasing by 61 percent. Polymers for fibers and urea collectively accounted for 79 percent of the 1985 production of these miscellaneous end-use chemicals. Urea accounted for 56 percent of the 1985 sales quantity of these chemicals.

In 1985, the production of lubricating oil and grease additives totaled 1,418 million pounds, a increase of 31 percent, compared with 1984. Total sales quantity for 1985 was 998 million pounds, 18.2 percent less than the 1984 sales quantity of 1,226 million pounds, while the value of sales decreased by 20 percent to \$710 million.

Production of fuel additives for 1985 totaled 2,226 billion pounds, an increase of 16 percent from the previous year. Total sales quantity for 1985 was 1,817 million pounds, up 48 percent from the 1984 sales quantity of 1,222 million pounds, with the sales value increasing 13 percent to \$569 million.

Figure 1.—Miscellaneous end-use chemicals and chemical products.



Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

TABLE 1.--MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS: U.S. PRODUCTION AND SALES, 1985

[Listed below are all miscellaneous end-use chemicals and chemical products for which any reported data on production or sales may be published. (Leaders (...)) are used where the reported data are accepted in confidence any may not be published or where no data were reported.) Table 2 lists all miscellaneous end-use chemicals and chemical products for which data on production and/or sales were reported and identifies the manufacturers of each]

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	PRODUCTION		SALES	
	1,000 pounds	1,000 pounds	1,000 dollars	UNIT VALUE ¹ Per pound
Grand total-----	22,214,251	16,217,149	6,177,680	\$0.38
Amino acids and their salts-----	124,609	122,323	133,913	1.09
Chelating agents, nitrilocids and salts, total-----	360,284	239,665	108,649	.45
(Ethylenedinitrilo)tetraacetic acid (EDTA)-----	9,889	9,145	8,500	.93
(Ethylenedinitrilo)tetraacetic acid, disodium copper salt, dihydrate-----	370	490	368	.75
(Ethylenedinitrilo)tetraacetic acid, disodium zinc salt, dihydrate-----	4,869	4,811	2,914	.61
(Ethylenedinitrilo)tetraacetic acid, disodium salt-----	1,867	1,674	2,519	1.51
(Ethylenedinitrilo)tetraacetic acid, tetrasodium salt-----	150,110	73,300	25,323	.35
(N-Hydroxyethylethylenedinitrilo)triacetic acid, trisodium salt-----	...	10,093	3,690	.37
Nitrilo-tris-methylene triphosphonic acid-----	4,141	...	...	...
All other-----	189,038	140,152	65,335	.47
Chemical indicators-----	17	11	909	85.99
Chemical reagents and fine chemicals-----	215	197	29,645	150.27
Enzymes, total-----	(²)	(²)	82,624	(²)
Bacterial amylase-----	(²)	(²)	17,781	(²)
Glucoamylase-----	(²)	(²)	20,786	(²)
Pectinase-----	(²)	(²)	3,044	(²)
Proteases, total-----	(²)	(²)	28,632	(²)
Rennin-----	(²)	(²)	17,449	(²)
All other proteases-----	(²)	(²)	11,183	(²)
All other enzymes-----	(²)	(²)	12,381	(²)
Flotation reagents-----	24,866	27,465	12,606	.46
Fuel additives, total ³ -----	2,225,585	1,817,177	568,962	.31
Gasoline additives, total-----	2,127,563	1,779,459	536,375	.25
Methyl-t-butyl ether ⁴ -----	1,891,147	1,550,560	243,746	.16
Tetra(methyl-ethyl) lead, (TEL-TML, reacted)-----	27,054	21,430	35,956	1.68
All other gasoline additives-----	209,362	207,469	256,673	1.24
Fuel additives, all other-----	98,022	37,718	32,587	.86
Lubricating oil and grease additives, total-----	1,418,333	998,241	709,603	.71
Oil soluble petroleum sulfonates:				
Oil soluble petroleum sulfonate, barium salt-----	2,282	2,275	2,382	1.05
Oil soluble petroleum sulfonate, calcium salt-----	298,350	276,406	159,379	.58
Oil soluble petroleum sulfonate, sodium salt-----	83,268	43,152	23,273	.54
All other lubricating oil and grease additives-----	1,034,433	676,408	524,569	.78
Paint driers, naphthenic acid salts, total ^{5 6} -----	10,311	8,665	13,810	1.59
Calcium naphthenate-----	483	470	476	1.01
Cobalt naphthenate-----	3,620	3,078	8,910	2.89
Iron naphthenate-----	33	...	...	...
Manganese naphthenate-----	610	538	484	.90
Paint driers, naphthenic acid salts, all other-----	5,565	4,579	3,940	.89

See footnotes at end of table.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	SALES			
	PRODUCTION	QUANTITY	VALUE	UNIT
		1,000 pounds	1,000 pounds	1,000 dollars	Per pound^{1}
Photographic chemicals, total-----	...	5,125	22,857	\$4.46
p-Diethylaminobenzendiazonium chloride-----	89	92	458	4.97
All other photographic chemicals-----	...	5,033	22,399	4.45
Polymers for fibers, total-----	6,361,789	...	...	...
Nylon 6 and 6/6 ⁴ -----	1,825,708	...	...	...
Polyacrylonitrile and acrylonitrile copolymers ⁵ -----	738,221	...	...	...
Polyethylene terephthalate ⁴ -----	2,547,392	...	...	...
All other polymers for fibers-----	1,250,468	...	...	...
Polymers, water soluble, total-----	402,464	323,672	652,064	2.01
Acrylamide polymers and co-polymers-----	110,507	72,525	75,916	1.05
Cellulose esters and ether-----	164,736	155,374	454,996	2.93
Polyacrylic acid salts, total-----	60,313	45,268	35,427	.78
Ammonium polyacrylate-----	2,924	...	...	...
Polyacrylate methacrylate copolymer-----	11,654	...	...	...
Sodium Ammonium polyacrylate and copolymers-----	17,320	12,944	10,702	.83
Sodium polyacrylate-----	2,274	467	1,908	4.09
All other polyacrylic acid salts-----	26,141	31,857	22,817	.72
All other water soluble polymers-----	66,908	50,505	85,725	1.16
Tanning materials, synthetic-----	23,535	24,408	15,549	.64
Textile chemicals, other than surface-active agents, total-----	41,086	39,651	19,745	.50
Dimethylolhydroxyethylene urea-----	20,523	18,948	7,479	.39
Urea polymers with formaldehyde and methanol-----	499	492	310	.63
All other textile chemicals, other than surface- active agents-----	20,064	20,211	11,956	.59
Urea in compounds or mixtures, total-----	11,136,899	9,099,807	664,199	.07
In feed compounds-----	255,644	218,522	17,483	.08
In liquid fertilizer-----	2,822,693	2,157,692	192,291	.09
In solid fertilizer-----	7,389,948	6,227,109	418,861	.07
Urea in compounds or mixtures, all other-----	668,614	496,484	35,564	.07
All other miscellaneous end-use chemicals and chem- ical products ⁷ -----	84,169	3,510,742	3,142,545	.89

¹Calculated from unrounded figures.²Not available.³Statistics exclude production and sales of tricresyl phosphate. Statistics on tricresyl phosphate are given with the section on "Plasticizers."⁴The difference between the production reported here and that shown on the Preliminary Report on U.S. Production of Selected of Selected Organic Chemicals (Including Synthetic Plastics and Resins Materials, 1985) results from a combination of incorrect reporting by some companies, and end-of-year inventory adjustment, and rounding.⁵Quantities are given on the basis of solid naphthenate.⁶Statistics exclude production and sales of copper naphthenate. Statistics for copper naphthenate are given in the section on "Pesticides and Related Products."⁷Includes all other items listed in table 2 which are not individually publishable as groups.

TABLE 2.--MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

(CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT)

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*AMINO ACIDS AND THEIR SALTS:	
Aspartic acid-----	ESK, PFZ.
N,-Bis(2,-acetamido)glycine-----	RBC
N,-N-Dimethylglycine-----	MCK
N,-N-Dimethylglycine hydrochloride-----	MCK
Glutamic acid hydrochloride-----	LEH.
Glycine (Aminoacetic acid), non-medical-----	CHI, HMF.
METHIONINE AND ITS SALTS:	
Methionine (animal feed grade)-----	DCC.
Methionine, hydroxy analogue, calcium salt-----	MON.
Phenyl alanine-----	CLP.
Potassium glutamate-----	LEH.
Protein hydrolysates-----	BRS.
Sarcosine-----	HMF.
Amino acids and salts, acyclic, all other-----	IMC, RSA, WAY.
Amino acids and salts, cyclic, all other-----	AJI, HCC.
BIOLOGICAL STAINS:	
Biological stains-----	
*CHELATING AGENTS, NITRLOACIDS AND SALTS:	
N-alkylamine bismethylenephosphonic acid-----	DIP.
N-alkylaminobismethylene phosphonic acid-----	WAT, X.
Aminotrimethyl phosphonic acid-----	SCP.
(Diethylenetri-nitri-lo)pentaacetic acid-----	GGY, HMF.
(Diethylenetri-nitri-lo)pentaacetic acid, monosodium hydrogen ferric salt-----	GGY.
(Diethylenetri-nitri-lo)pentaacetic acid, pentasodium salt-----	
(Diethylenetri-nitri-lo)pentaacetic acid, sodium salt-----	GGY, HMF.
N,N-Dihydroxyethylglycine, sodium salt-----	DOM, WAY.
(Ethylene-bis-nitri-lo)dimethylene phosphonic acid, potassium salt-----	HMF.
*ETHYLENEDIAMINETETRAACETIC ACID	
(Ethylenediaminetetraacetic acid)-----	WAY.
(Ethylenediaminetetraacetic acid) (EDTA)-----	GGY, DOM, HMF.
(Ethylenediaminetetraacetic acid, calcium disodium salt-----	
(Ethylenedinitri-lo)tetraacetic acid, diammonium salt-----	GGY, DAM, DOM.
*ETHYLENEDINITRILO)TETRAACETIC ACID, DISODIUM COPPER SALT, DIHYDRATE-----	GGY, DOM, HMF.

TABLE 2.--MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*CHELATING AGENTS, NITRILOACIDS AND SALTS--CONTINUED	
* (Ethylenedinitrilo)tetraacetic acid, disodium salt	CCY, DOM, HMP.
* (Ethylenedinitrilo)tetraacetic acid, disodium zinc salt, dihydrate	CCY, DOM, HMP.
(Ethylenedinitrilo)tetraacetic acid, monosodium iron salt	CCY, HMP.
(Ethylenedinitrilo)tetraacetic acid, tetraammonium salt	CCY, DOM.
(Ethylenedinitrilo)tetraacetic acid, tetrapotassium salt	CCY, HMP.
* (Ethylenedinitrilo)tetraacetic acid, tetrasodium salt	CCY, DOM, HMP.
* (Ethylenedinitrilo)tetraacetic acid, trisodium salt	CCY, TX.
Glucosheptonic acid, β -isomer, sodium salt	BLZ.
Glucosheptonic acid, sodium salt	BLZ, PFN.
Hexamethylenediaminetetra(methylene phosphonic acid), potassium salt	WAY.
Hydroxyethane-1-diphosphonic acid	HMP, MYO.
(N-Hydroxyethylthylenedinitrilo)triacetic acid, iron salt	CCY, DOM, HMP.
(N-Hydroxyethylthylenedinitrilo)triacetic acid, magnesium salt	TX.
* (N-Hydroxyethylthylenedinitrilo)triacetic acid, trisodium salt	CCY, DAN, DOM, HMP.
Hydroxyethylidene diphosphonic acid, potassium salt	X.
Hydroxyethylidene diphosphonic acid, sodium salt	WAY, X.
Nitrilotriacetic acid	HMP.
Nitrilotriacetic acid, trisodium salt	HMP, MOM.
* Nitrilo-tris-methylene triphosphonic acid	BKM, MYO, WAY, X.
Nitrilo-tris-methylene triphosphonic acid, potassium salt	X.
Nitrilo-tris-methylene triphosphonic acid, sodium salt	MYO, WAY, X, X.
2-Phosphonobutane-1,2,4-tricarboxylic acid, sodium salt	X.
Polyamine polymethane phosphonic acid	SCP, X, X.
Polyamine polymethane phosphonic acid, magnesium salt	RPC.
Cheating agents, nitriлоacids and salts, all other	BKM, CCY, HMP, X.
*CHEMICAL INDICATORS:	
*Chemical indicators	ALD, EK, GFS, MMC.
*CHEMICAL REAGENTS AND FINE CHEMICALS:	
*Chemical reagents and fine chemicals	ALD, COC, CO, EK, ESA, GFS, HWY, PAH, PFN, PIC, PLB, RSA, UPJ, X.

TABLE 2.--MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*ENZYMES:	
HYDROLYTIC ENZYMES:	
AMYLASES:	
*Bacterial amylase	GBF, GNR, MLS, NBI, PMP.
*Glucosylase	GBF, MLS, NBI.
*Maltase	PFZ, TX.
Amylases, all other	GBF, TX.
*PROTEASES:	
Pepsin	
Pepsin	GBF, PFZ.
Pepsin (bacterial)	CHH, SPR.
*Pepsin	MLS, PMP.
*Rennin	CHH, MLS, PFZ.
*Proteases, all other	GBF, GNR, PIC, SPR.
OTHER HYDROLYTIC ENZYMES:	
Cholesterol esterase	RCK.
Glucose isomerase	MLS.
Hydrolytic enzyme mixtures	JFR.
Lipase	GBF, GNR.
*Pectinase	GBF, GNR, MLS.
Other hydrolytic enzymes	GNR, MLS, PMP, X.
NON-HYDROLYTIC ENZYMES:	
Cholesterol oxidase	BCK.
Glucose oxidase	BCK, MLS.
Glucose-6-phosphate dehydrogenase	BCK.
Glycerol kinase	BCK.
Uricase	BCK.
*FLOTATION REAGENTS:	
PHOSPHOROTHIOATES, USED AS FLOTATION REAGENTS:	
Diacresylphosphorodithioic acid	ACY.
Diacresylphosphorodithioic acid, ammonium salt	ACY.
PHOSPHOROTHIOATES, USED AS FLOTATION REAGENTS--CONTINUED	
Diacresylphosphorodithioic acid, sodium salt	KCU.
Phosphorodithioates used as flotation reagents, all other	ELC.
Rosin amines	HPC.
Thiocarbamide (Diphenylthiourea)	ACY, RBC.
XANTHATES AND SULFIDES, USED AS FLOTATION REAGENTS:	
Sodium n-butylxanthate	USR.
Sodium sec-butylxanthate	ESX.
Xanthates and sulfides	PLC.
Flotation reagents, all other	DOW, PLC, RBC, SHX.

TABLE 2.---MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985---CONTINUED

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*FUEL ADDITIVES:	
DIESEL FUEL ADDITIVES:	
Diesel fuel additives, acyclic, all other	TNA.
Hexyl nitrate	DUP, TMA.
Diesel fuel additives, cyclic, all other	TNA.
FUEL OIL ADDITIVES:	
Adipic acid-diethylenetriamine-epichlorohydrin polymer	X.
N-sec-Butyl-N-phenylenediamine	UPH.
N,N-Dimethyl-1,3-propanediamine polymer with epichlorohydrin, sulfate	X.
N,N'-Disalicylidene-1,2-propanediamine	DUP, FER, SM.
Ethoxylated hydantoin glycol diacetate	GLY.
Formaldehyde polymer with ethylenediamine and nonyl phenol derivatives	X.
Imidezoline from tall oil fatty acids and diethylenetriamine	X.
4,4'-Methylenebis(2,6-di-tert-butylphenol)	GTL, TMA.
Methylene-bis(dimethyl)hydantoin end derivatives	GLY.
Mixed aryl diimides	SM.
Phenyl acid phosphate	HDC.
Poly(dimethylimane(2-hydroxytrimethylene)chloride)	X.
Polyethylenepolyamine polymer with 1,4-dihydroxy-2-butyne	X.
Rust preventing additives	ALX.
Sulfurized fatty acid amides, esters, or ester-amides	CKI.
Tetrahydroxyimidine from tall oil fatty acids and propylenediamine	X.
Fuel oil additives, acyclic, all other	CKI, DUP, SM.
Fuel oil additives, cyclic, all other	DUP, PAH.
*GASOLINE ADDITIVES:	
N,N'-Di-sec-butyl-p-phenylenediamine	UPH.
N,N'-Diisopropyl-p-phenylenediamine	DUP.
Ethylene dibromide	GTL, TMA.
Methyl-t-butyl ether	ATR, ENJ, TPC, TUS.
MethylcyclopentadienyImanganese tricarbonyl	TNA.
Tetraethyl lead	DUP, TMA, X.
*tetramethyl-ethyl)lead, (Tel-tml,reacted)	DUP, TMA, X.
Tetramethyl lead	DUP, TMA, X.
Gasoline additives, acyclic all other	SOC.
*LUBRICATING OIL AND GREASE ADDITIVES:	
Butadiene styrene copolymer	TNA.

TABLE 2. -- MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*LUBRICATING OIL AND GREASE ADDITIVES--CONTINUED	
CHLOROSULFURIZED AND SULFURIZED COMPOUNDS:	
Chlorosulfurized lard oil.....	CCW, WBG.
Chlorosulfurized sperm oil.....	ELC.
Hydrocarbon carboxylic acid derivatives.....	X, X.
Hydrocarbon phosphoric acid, barium salt.....	X.
Methylene-bridged polyalkyl phenols.....	TMA, TX.
Sulfurized lard oil.....	CCW, FER, WBG.
Sulfurized sperm oil substitutes.....	CCW, ELC.
OIL-SOLUBLE PETROLEUM SULFONATES:	
Oil-soluble petroleum sulfonate, ammonium salt.....	NTL.
*Oil-soluble petroleum sulfonate, barium salt.....	PAR, TMA, WTC, X.
Oil-soluble petroleum sulfonate, calcium salt.....	PAR, SOC, TMA, TX, WTC, X.
*Oil-soluble petroleum sulfonate, magnesium salt.....	WTC, X.
Oil-soluble petroleum sulfonate, sodium salt.....	MOR, PAR, SHC, WTC, X.
Oxidized hydrocarbon sulfonate, all other.....	DUP, HON, SHC, SOC, WTC.
PHENOL SALTS:	
Alkyl phenols.....	ALX.
Dodecylphenol, ethylenediamine, formaldehyde polymer, calcium salt.....	X.
Nonylphenol, barium salt.....	SOC, TX.
Phenol, magnesium salt.....	CCA, FER, WTC.
PHOSPHORODITHIOATES (DITHIOPHOSPHATES):	
Bis(1,3-Dimethylbutyl)phosphorodithioate amine salt.....	WTC.
Di-2-ethylhexylphosphorodithioic acid.....	ELC.
Di-N-propylphosphorodithioic acid.....	ELC.
Zinc dialkylidithiophosphate.....	ELC.
Zinc dialkylphenol dithiophosphate.....	ELC, SOC, TNA.
Zinc dibutyl phosphorodithioate.....	SOC.
Zinc diisodecyl phosphorodithioate.....	ELC.
Zinc hydrocarbon dithiophosphate.....	ELC.
Phosphorodithioates used as lubricating oil and grease additives, all other.....	X.
SUCCINIMIDES:	
Alkanyl succinimide.....	TX, X.
Dodecyl-oleyl succinimide.....	SOC, TMA, WTC.
Dodecyl-oleyl acetic succinimide.....	SN.
All other specify).....	SN.
	TNA.

TABLE 2.--MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985.--CONTINUED

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*LUBRICATING OIL AND GREASE ADDITIVES--CONTINUED	
SULFUR COMPOUNDS:	
Aliphatic hydrocarbon sulfides	ELC, FER, SOC, TNA, X.
Chlorosulfurized cresylic acids	CCW.
Disobutylene polysulfide	TNA, TX.
Di-tertiary nonylpolysulfide	FAS.
Triisobutylene polysulfide	TX.
Sulfur compounds, all other	WTC, X.
ALL OTHER LUBRICATING OIL AND GREASE ADDITIVES:	
Alkene thiophosphate	TX.
Alkyl succinic anhydride	SM.
Alkyl terephthalate	SOC.
Bornyl phenylamine	SOC.
Di-2-ethylhexylphosphorothioic acid	ELC.
Diisopropyl hydrogen phosphite	SM.
Dimer acid esters and polyesters	EMR.
Dodecyl succinic acid, benzotriazole salt	SM.
Dodecylphenyl- α -naphthylamine	SM.
Co-polymer	SM.
Fatty acid polyamine condensate	SOC.
Lubricating oil and grease additives, acyclic, all other	CRF, CXI, DUP, MON, SM, TNA, VTC, X.
Mixed polyesters	HCC.
Pentaerythritol esters	ROC.
1,3,4-Thiadiazole, 2,5-bis(dialkylthio) derivatives	ELC.
Lubricating oil and grease additives, cyclic, all other	CCY, DUP SM, TNA, UPM, X.
*PAINT DRIERS, NAPHTHENIC ACID SALTS:	
Cadmium naphthenate	CCA.
*Calcium naphthenate	CCA, MCI, MOD, TRO.
Chromium naphthenate	MCI.
*Cobalt naphthenate	CCA, MCI, MOD, SHP, TRO.
Copper naphthenate	MOD.
*Iron naphthenate	CCA, MCI, MOD.
Lead naphthenate	CCA, MCI, MOD, SHP, TRO.
Lithium naphthenate	CCA.
*Manganese naphthenate	CCA, MCI, MOD, SHP, TRO.
Naphthenate driers, mixed salts	MCI.
Rare earths naphthenate	CCA, MOD.
Strontium naphthenate	CCA.
Zinc naphthenate	CCA, MCI, MOD, SHP, TRO.
Paint dryers, naphthenic acid salts, all other	SHP.

TABLE 2.--- MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985---CONTINUED

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*PHOTOGRAPHIC CHEMICALS:	
2-Amino-5-mercapto-1,3,4-thiadiazole	FMT.
5-Aminotetrazole	FMT.
Aryl alkyl polyether alcohol	DIX.
3-Chlorobenzotriazole	FMT.
3-Chloro-4-diethylaminobenzenediazonium chloride	ESA.
(p-Diazo-2-chloro-N,N-diethylaniline zinc chloride)	ESA.
Chlorohydroquinone	ALL, ESA.
4-Diazo-2,5-dithoxymorpholinobenzene	ALL, ESA.
2,5-Dithoxy-4-morpholinobenzenediazonium chloride	ALL, ESA.
2,5-Dithoxy-4-morpholinobenzenediazonium sulfate	ALL.
*p-Diethylaminobenzenediazonium chloride (p-Diazo-N,N-diethylaniline zinc chloride)	ALL, ESA, FMT.
N,N-Diethyltoluene-2,5-diamine, monohydrochloride	X.
p-Dimethylaminobenzenediazonium chloride] (p-Diazo-N,N-dimethylaniline zinc chloride)	ALL, ESA.
p-Diphenylaminediazonium sulfate	FMT.
p-(N-Ethylbenzimidazo)benzenediazonium chloride	ESA.
(p-Diazo-N-benzyl-N-ethylamine)-zinc chloride	ESA.
p-[Ethyl(2-hydroxyethyl)amino]benzenediazonium chloride (p-Diazo-N-ethyl-N-hydroxyethylamine zinc chloride)	ESA.
(N-Ethyl-N-(2-hydroxyethyl)-3-methyldehydrogen sulfato)p-phenylenediamine	X.
N-Ethyl-N-hydroxyethyl-p-phenylenediamine sulfate	WAY.
N-Ethyl-N-(β-methane sulfonamidoethyl)toluene 2,5-diaminesulfate	X.
Hydroquinone (Hydroquinol)	EKT.
p-[(2-Hydroxyethyl)methylamino]benzenediazonium chloride (p-Diazo-N-hydroxyethyl-N-methylaniline)-zinc chloride	ESA.
4-Hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidone	X.
2-Hydroxynaphthoic ethylamide	FMT.
4-Methoxy-1-naphthol	X.
p-Methylaminophenol sulfate (Metol)	EK.
2-Methylbenzoxazole	FMT.
5-Methyl-1,7-dihydroxy-1,3,4-triazaindolizine	FMT.
4,4-Methylidene bis-1-(p-sulfofenyl)3-methylpyrazolone	FMT.
4-[(3-Methyl-5-oxo-1-(4-sulfofenyl)-2-pyrazolin-4-ylidene)methylene]-3-methyl-1-(4-sulfofenyl)-2-pyrazolin-5-one	DUP.
2-Methylthiazoline	FMT.

TABLE 2.--MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*PHOTOGRAPHIC CHEMICALS--CONTINUED	
p-Morpholinyl-2,5-dibutoxybenzene diazonium chloride	ALL
6-Nitrobenzimidazole	FMT
5-Nitrobenzimidazole nitrate	EK
1-Phenyl-3-pyrazolidone	CWN, EK
Poly(vinyl-0-sulfobenzal)	DUP
4-R-(1-Pyrrolidyl)-m-toluenedisazonium chloride	ALL, ESA
Photographic chemicals, all other	EK, ESA, FMT, X
*POLYMERS FOR FIBERS:	
Cellulose acetate	CEL, EKT, MIL
Ceres/nylon polymer	MON
Copolyurethane urea	DUP
Linear saturated polyester	EKT
*NYLON 6 AND 6/6:	
Nylon 6 (Polymer for fiber, only)	AGS
Nylon 6/6	DUP, MON
*Polyacrylonitrile and acrylonitrile copolymers	AGY, DUP, MON, SFS
*Polyethylene terephthalate	CEL, DUP, EKT, FFF, GYR
Poly-m-phenylene isophthalamide	DUP
Poly-p-phenylene terephthalamide	DUP
Polymers for fibers, all other	HST
*POLYMERS, WATER SOLUBLE:	
ACRYLAMIDE POLYMERS AND CO-POLYMERS:	
Acrylamide-2-acrylamido-2-methylpropanosulfonic acid, sodium salt polymer	DOM, MRK, X
Acrylamide-acrylic acid copolymer	CHP
Acrylamide-acrylic acid copolymer, sodium salt	BKH, SNW
Acrylamide N-dimethylaminomethylacrylamide copolymer	BKH
Adipic acid-crosslinked polyacrylamide	S
Polyacrylamide	ACY, ENJ, SNW, X
Polyacrylamide dimethylammonium ethyl methacrylate	SNW
Polyacrylamide copolymers, all other	X
*CELLULOSE ESTERS AND ETHERS:	
Cationic cellulose ether	UCC
Hydroxyethylcellulose	DOH, UCC, X
Methylcellulose	DOH
Sodium carboxymethylcellulose (100%)	CBC, LCS, MAK, X
Cellulose ethers and esters, all other	S, SIT, X
Dimethylamine epichlorohydrin ethylenediamine copolymer	CPS, X
Dimethyl diallyl ammonium chloride copolymer	SHK, X
Ethyl acrylate methacrylic acid copolymer	ALC
Hydroxypropyl guar gum	RFC

TABLE 2. -- MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*CELLULOSE ESTERS AND ETHERS--CONTINUED	
*POLYACRYLIC ACID SALTS:	
*ammonium polyacrylate	ENJ, RH, X, X, X.
*polyacrylate methacrylate copolymers	BFG, CRH, RH, X, X.
*sodium ammonium polyacrylate and copolymers	DA, X, X.
*sodium polyacrylate	BKH, CIN, ENJ, SVT, X, X.
Polyacrylic acid salts, all other	ACY, X, X.
Polyacrylonitrile, hydrolyzed	DIX, RH.
Polyacrylonitrile, starch hydrolyzed polymer	GFC.
Polyamines	ENJ, X.
Polydextrose	PFZ.
Poly(diallyldimethylammonium) chloride	CPS, HKK, X.
Polyethylene glycol, mono(nonylphenol) sulfate, ammonium salt	BAK.
Polymaleic anhydride	X.
Polymethacrylic acid, sodium salt	ALC, CPS.
Poly(1,1'-(methylimino)bis(3-chloro-2-propanol)-tetramethylethylenediamine	BRH.
Sodium carboxymethyl amylose	CCL.
Vinyl acetate maleic copolymer, sodium salt	X.
1-Vinyl-2-pyrrolidinone, polymers	CCL, DAN, GAF, UCC, X.
Xanthan gum	PFZ.
Polymers, water soluble, all other	RH, REC, S, STC, SVT, X, X, X, X.
POLYALPHAOLEFINS:	
Poly- α -olefins	SM, TWA.
Poly- α -olefins, sulfurized	SM.
RARE SUGARS:	
1-Arabinose	PFN.
D-Galactose	PFN.
D-Maltose	PFN.
SILICONE GREASES:	
Silicone greases	DCC, SPD, SWS.
*TANNING MATERIALS, SYNTHETIC:	
Cresol-phenol-formaldehyde condensate and salt	DA.
2-Naphthalenesulfonic acid, formaldehyde condensate and salt	GRD, RH.
1-Phenol-2-sulfonic acid, formaldehyde condensate (Phenol-formaldehyde, sulfonated)	RH.
Polyoxyalkylated cyclic amines	MLL.
*TEXTILE CHEMICALS, OTHER THAN SURFACE-ACTIVE AGENTS:	
4,4'-bis-(2-Benzoxazolyl)stilbene	EKT.
N,N'-bis-(2-Hydroxyethyl)octadecanamide	CSC.
N,N'-Dibenzylhydroxylamine	CCC.

TABLE 2.--MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985.--CONTINUED

MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
*TEXTILE CHEMICALS, OTHER THAN SURFACE-ACTIVE AGENTS-- CONTINUED	
Dicyanodiamide formaldehyde ammonium chloride polymer	CCC, DAM.
Diethylenetriamine, triethylphosphate, urea polymer, stearate	CCC.
*Dimethyloldihydroxyethylene urea	ACY, CCC, CHP, DAN, RPC, SYT.
Formaldehyde polymer with carbamate esters	SYT.
Hydrogenated tallow fatty acid aminoethylethanolamine condensation products	CCC.
Melamine formaldehyde methanol polymer	ACY, CCC.
Melamine formaldehyde triethanolamine mixed fatty alcohols polymer	RPC.
Melamine stearyl alcohol polymer	SYT.
Product from the reaction of stearyl nitrile, candleilla wax, paraformaldehyde, phosphorous trichloride, and picoline	CCC.
Propoxylated starches	SYT.
Urea, 2-(2-aminoethyl)aminoethanol polymer, stearate	CCC.
*Urea polymers with formaldehyde and methanol	ACY, CCC, CRT, SYT.
Urea, polymer with tetrakis(hydroxymethyl)phosphonium sulfate	CHP.
Textile chemicals, other than surface active agents, all other	ACR, CCC, CRT, DAN, ENJ, RPC, SYT, X.
UREA, BY END-USE MARKETS:	
Urea, Primary solution (Report on 100% urea-content basis)	APD, ARM, BNP, BOR, CAC, CFI, CHN, CNC, FRI, GCC, HKY, MSC, OMC, PLC, SMP, SOC, SOH, TER, TRI, TVA, UOC, WLC, WYC, X.
*UREA IN COMPOUNDS OR MIXTURES (100% BASIS):	
*Urea in feed compounds (100% Basis)	APD, BNP, CAC, SOH, TER, TRI, WYC.
*Urea in liquid fertilizer (100% Basis)	ARM, BNP, CFA, CFI, CHN, CNC, FRI, HKY, MSC, PLC, SMP, SOC, SOH, TER, TRI, TVA, WYC, X.
Urea in plastics (100% Basis)	BOR, OMC, SOH, TRI.
*Urea in solid fertilizer (100% Basis)	APD, CAC, CFI, CNC, FRI, GCC, OMC, SOH, TER, TRI, TVA, UOC, WLC, WYC, X.

TABLE 3.--MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of miscellaneous end-use chemicals to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE :	NAME OF COMPANY	CODE :	NAME OF COMPANY
:	:	:	:
:	:	:	:
ACR :	CPC International, Inc., Acme Resin Corp.	FER :	Ferro Corp.:
ACS :	Allied Corp., Chemicals Sector	:	Ferro Chemical Div.
ACY :	American Cyanamid Co.	:	Keil Chemical Div.
AJI :	Ajinomoto USA, Inc.	FMT :	Fairmount Chemical Co., Inc.
ALC :	Alco Chemical Corp.	FRF :	Firestone Tire & Rubber Co., Firestone
ALD :	Aldrich Chemical Co., Inc.	:	Fibers & Textiles Co.
ALL :	Alliance Chemical, Inc.	FRI :	Farmland Industries, Inc.
ALX :	Alox Corp.	:	:
APD :	Atlas Powder Co. Sub. of Tyler Corp.	GAF :	GAF Corp., Chemical Group
ARM :	U.S. Steel Corp., USS Agri-Chemicals Div.	GBF :	Gist-Brocades U.S.A Inc.
ATR :	Atlantic Richfield Co., Arco Chemical Co.	GCC :	W. R. Grace & Co., Agricultural Chemicals Group
:	:	GFS :	G. Frederick Smith Chemical Co.
BCK :	Beckman Instruments, Inc.	GLY :	Glyco, Inc.
BFG :	B. F. Goodrich Co., B. F. Goodrich Chemical	GNR :	Genencor, Inc.
:	Group	GPC :	Grain Processing Corp.
BKM :	Buckman Laboratories, Inc.	GRD :	W. R. Grace & Co., Polymers & Chemical Div.
BLZ :	Belzak Corp.	GTL :	Great Lakes Chemical Corp.
BOR :	Borden, Inc., Borden Chemical Div.	GYR :	Goodyear Tire & Rubber Co.
BNP :	Bison Nitrogen Products Co.	:	:
BRS :	Bristol-Myers Co.	HCC :	Hatco Chemical Corp.
:	:	HGD :	Hodag Chemical Corp.
CAC :	Cominco American, Inc.	HKY :	Hawkeye Chemical Co.
CBC :	Carbose Corp.	HMP :	W. R. Grace & Co., Hampshire Chemical Div.
CCA :	Interstab Chemicals, Inc.	HMV :	Humphrey Chemical Co.
CCG :	C.N.C. Chemical Corp.	HPC :	Hercules, Inc.
CCL :	Catawba-Charlab, Inc.	HST :	American Hoechst Corp., Hoechst Fiber
CGW :	Morton-Thiokol, Inc., Carstab Div.	:	Industries Div.
CEL :	Celanese Corp., Celanese Fibers	:	:
:	Operations	IMC :	International Minerals & Chemicals Corp.,
CFI :	CF Industries, Inc.	:	Industrial Chemicals Div.
CGY :	Ciba-Geigy Corp.	:	:
CHK :	CHR. Hansen's Laboratory, Inc.	JFR :	George A. Jeffreys & Co., Inc.
CHM :	N-REN Corp., Cherokee Nitrogen Div.	:	:
CHP :	C. H. Patrick & Co., Inc.	KCU :	Kennecott Minerals Co., Utah Copper Div.
CHT :	Chattem, Inc.	:	:
CIN :	Stockhausen, Inc.	LCS :	Louisiana Chemical Specialties, Inc.
CLP :	Cell Products, Inc.	LEM :	Napp Chemicals, Inc.
CNC :	Columbia Nitrogen Corp.	:	:
CO :	Conoco Specialty Products, Inc.	MAK :	MAK Chemical Corp.
COC :	Columbia Organic Chemicals Co., Inc.	MCI :	Mooney Chemicals, Inc.
CDS :	CPS Chemical Co., Inc.	MCK :	MacKenzie Chemical Works, Inc.
CRN :	CPC International, Inc., Amerchol Corp.	MIL :	Hilliken & Co., Hilliken Chemical Co.
CRT :	Chemos Corp.	MLS :	Hiles Laboratories, Inc., Biotechnology Group
CWN :	Upjohn Co., Fine Chemicals	HMC :	EM Industries, Inc., EM Scienca Div.
CXI :	Chemical Exchange Industries, Inc.	:	:
:	:	MON :	Monsanto Co.
DAN :	Dan River, Inc., Chemical Products Div.	MOR :	Pennzoil Co., Pennzoil Moro Co.
DCC :	Dow Corning Corp.	MRK :	Marck & Co., Inc.
DGC :	Degussa Corp.	MSC :	Mississippi Chemical Corp.
DIX :	Dixie Chemical Co., Inc.	MYO :	Mayo Chemical Co.
DOW :	Dow Chemical Co.	:	:
DUP :	E. I. duPont de Nemours & Co., Inc.	NBI :	Novo Biochemical Industries, Inc.
:	:	NOD :	Nuodex, Inc.
EK :	Eastman Kodak Co.:	NTL :	NL Industries, Inc.
EKT :	Tennessee Eastman Co. Div.	:	:
ELC :	Elco Corp. Sub. of Detrex Chemical	OMC :	Olin Corp.
:	Industries, Inc.	PAH :	Parish Chemical Co.
EHR :	Emery Chemicals Div. of National Distillers &	PAR :	Pennzoil Co., Panreco Div.
:	Chemical Corp.	PAS :	Pennwalt Corp.
ENJ :	Exxon Chemical Americas	PFN :	Pfanstiehl Laboratories, Inc.
ESA :	East Shore Chemical Co.	PFZ :	Pfizer, Inc.
ESX :	Essex Chemical Corp., Essex Industrial	PIC :	Pierce Chemical Co.
:	Chemicals, Inc.	:	:
:	:	:	:

TABLE 3--MISCELLANEOUS END-USE CHEMICALS AND CHEMICAL PRODUCTS: DIRECTORY OF MANUFACTURERS, 1985--CONTINUED

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
PLB	Pharmacia P-L Biochemicals, Inc.	STC	American Hoechst Corp., Sou-Tex Works
PLC	Phillips Petroleum Co.	SWS	Stauffer Chemical Co., Stauffer-Wacker
PMP	PMP Fermentation Products, Inc.		Silicone Div.
PTT	Petro-Tex Chemical Corp.	SYT	Synthron, Inc.
QCP	Quaker Chemical Corp.	TER	Terra International, Inc.
RBC	Fike Chemicals, Inc.	TER	Terra Nitrogen, Inc.
RH	Rohm & Haas Co.	TNA	Ethyl Corp.
RPC	Millmaster Onyx Group, Inc., Lyndall	TPC	Texas Petrochemical Corp.
	Chemical Co. Div.	TRI	Triad Chemical
RSA	R.S.A. Corp.	TRO	Troy Chemical Corp.
S	Sandoz, Inc., Colors & Chemicals Div.	TUS	Texaco Butadiene Co.
SCP	Henkel Corp.	TVA	Tennessee Valley Authority
SFS	Stauffer Chemical Co., Specialty &	TX	Texaco, Inc., Texaco Chemical Co.
	Intermediates Div.	UCC	Union Carbide Corp.
SHC	Shell Oil Co., Shell Chemical Co. Div.	UMP	UOP, Inc., UOP Process Div.
SHP	Shepherd Chemical Co.	UOC	Union Oil Co. of California
SHX	Sherex Chemical Co., Inc.	UPJ	Upjohn Co.
SM	Mobil Oil Corp., Mobil Chemical Co.,	USR	Uniroyal, Inc., Uniroyal Chemical Div.
	Chemical Products Div.	WAY	Philip A. Hunt Chemical Corp., Organic
SMP	J. R. Simplot Co.		Chemical Div.
SMW	Sun Chemical Corp., Chemical Div.	WBG	White & Bagley Co.
SOC	Chevron Corp., Chevron Chemical Co.	WLC	Agrico Chemical Co.
SOH	Standard Oil Chemical Co.	WTC	Witco Chemical Corp.
SPD	General Electric Co., Silicone Products Dept.	WYC	Wycon Chemical Co.
SPR	Scientific Protein Laboratories		

Note.--Complete names, telephone numbers, and addresses of the above reporting companies are listed in table 1 of the appendix.

SYNTHETIC ORGANIC CHEMICALS, 1985
SECTION XV -- MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS

STATISTICAL HIGHLIGHTS

Aimison Jonnard and David G. Michels

202-523-0387

202-523-0293

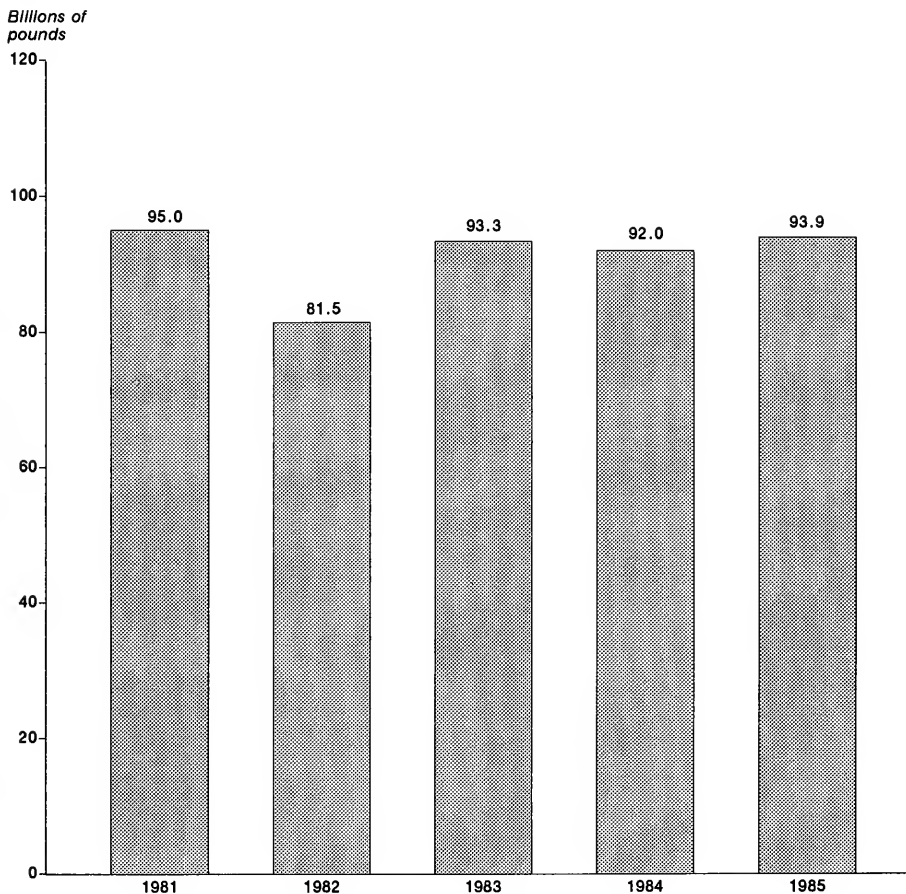
The term "miscellaneous chemicals" as it is used here comprises those synthetic organic products that are not included in the use groups covered by sections I-XIV of this report. They include products that are employed in a great variety of uses. The number of chemicals used extensively for only one purpose is not large. Among the products covered in this section are those used for refrigerants, aerosols, solvents, and a wide range of chemical intermediates.

U.S. production of miscellaneous cyclic and acyclic chemicals in 1985 amounted to 93.9 billion pounds, an increase of 2.0 percent compared with production in 1984. Production of miscellaneous cyclic chemicals comprised only 2.9 percent of this section's total production.

Figure 1 shows the trend of production of miscellaneous chemicals during 1981-85, and shows there has been a considerable increase since the low point in 1982. However, the 1985 production of 93.9 billion pounds was slightly less than the 95.0 billion pounds produced in 1981, and was considerably smaller than the all-time peak of 98.8 billion pounds produced in 1979. Because most of the production of miscellaneous chemicals is used internally by their producers to make more advanced intermediates and other chemical products, their sales are much smaller than their production. In 1985, sales of miscellaneous chemicals were 36.4 billion pounds, valued at \$11.2 billion, compared with 40.4 billion pounds, valued at \$12.0 billion, in 1984. This decrease in sales in 1985 was 10.0 percent in quantity and 6.5 percent in value. Oxygenated hydrocarbons accounted for 60 percent of the production of all acyclic miscellaneous chemicals. Production of oxygenated hydrocarbons, which include organic acids, alcohols (the largest group), ketones, esters, ethers, aldehydes, epoxides, and other chemicals, decreased from 59.0 billion pounds in 1984 to 54.6 billion pounds in 1985, or by 7.0 percent. With the exception of polyhydric alcohols, which benefited from a 1-billion-pound increase in production of ethylene glycol in 1985, all types of oxygenated hydrocarbons shared in the decrease. Production of methanol, a monohydric alcohol, decreased about 3 billion pounds in 1985 compared with its production in 1984.

The largest individual group of miscellaneous acyclic chemicals is the halogenated hydrocarbons. Production of halogenated hydrocarbons increased from 19.4 billion pounds in 1984 to 26.8 billion pounds in 1985, or by 38 percent. Production of chlorinated hydrocarbons, by far the largest segment of this group, increased 41.0 percent in 1985, to 25.8 billion pounds, from 18.3 billion pounds in 1984. Virtually all of the increase in production was accounted for by ethylene dichloride, up almost 5 billion pounds in 1985, and vinyl chloride monomer, up more than 3 billion pounds. Ethylene dichloride is the raw material for vinyl chloride, which in turn is the raw material for polyvinyl chloride plastics.

Figure 1.—Miscellaneous cyclic and acyclic chemicals.



Source: U.S. International Trade Commission, *Synthetic Organic Chemicals: United States Production and Sales*.

TABLE 1.--MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS: U.S. PRODUCTION AND SALES, 1985

[Listed below are all miscellaneous cyclic and acyclic chemicals for which any reported data on production or sales may be published. (Leaders (...) are used where the reported data are accepted in confidence and may not be published or where no data were reported.) Table 2 lists all miscellaneous cyclic and acyclic chemicals for which data on production and/or sales were reported and identifies the manufacturers of each]

MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
		<u>1,000 pounds</u>	<u>1,000 pounds</u>	<u>1,000 dollars</u> <u>Per pound</u>
Grand total-----	93,927,389	36,431,156	11,179,826	\$0.31
CYCLIC				
Total-----	2,691,986	1,253,280	1,096,092	.87
Benzoyl peroxide-----	8,546	8,466	20,771	2.45
Butyl benzoate-----	536	484	277	.57
tert-Butyl peroxybenzoate-----	3,878	3,807	8,261	2.17
Caprolactam ² -----	1,089,497	...	...	...
Cumene hydroperoxide-----	1,132	1,219	1,863	1.53
2,6-Di-tert-butyl-p-cresol (BHT), tech. grade-----	2,515	4,484	5,118	1.14
Dodeceny succinic anhydride-----	5,476	4,479	3,865	.86
Hexamethylenetetramine, tech. grade-----	80,253	48,791	16,438	.34
Lactones-----	86,630	16,062	17,059	1.06
Maleic anhydride ² -----	393,529	330,993	145,507	.44
Pinene and derivatives, total-----	237,091	70,955	23,476	.33
β-Pinene-----	41,523	...	...	...
Pine oil, synthetic-----	39,165	40,536	16,805	.41
All other-----	156,403	30,419	6,671	.22
1,3,5-Trichloro-5-triazine-2,4,6-(1H, 3H, 5H)trione---	101,643	...	...	...
All other miscellaneous cyclic chemicals-----	681,260	763,540	853,457	1.11
ACYCLIC				
Total-----	91,235,403	35,177,876	10,083,734	.29
NITROGENOUS COMPOUNDS				
Total-----	7,212,270	3,069,639	1,309,614	.43
Amides, total-----	252,746	170,293	118,876	.70
Acrylamide monomer-----	...	63,105	24,574	.39
N,N'-Ethylene bis (oleamide)-----	393	421	494	1.17
N,N'-Ethylenebis(stearamide)-----	...	27,574	18,458	.67
All other-----	252,353	79,193	75,350	.95
Amines, total ³ -----	1,448,959	499,954	379,656	.76
Butylamines-----	29,079	25,329	20,716	.82
Di-n-butylamine-----	4,141	4,717	3,628	.77
Ethylamines:	:	:	:	:
Diethylamine-----	19,696	6,279	4,661	.74
Ethylamine, mono-----	59,303	...	...	...

See footnotes at end of table.

TABLE 1.--MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
NITROGENOUS COMPOUNDS--Continued				
Amines ² --Continued				
Triethylamine-----	17,277	17,787	15,429	\$0.87
Ethylenediamine-----	63,881	47,049	36,293	.77
Isopropylamine, mono-----	54,198	51,446	23,316	.45
Methylamines:				
Dimethylamine-----	65,904	57,247	24,796	.43
Methylamine, mono-----	52,317	...	...	...
Trimethylamine-----	29,384	17,921	5,921	.33
All other-----	1,057,920	276,896	248,524	.90
1,3-Diethyl-2-thiourea-----	...	330	680	2.06
Dimethylaminoethyl methacrylate-----	2,796	1,394	2,470	1.77
Ethanolamines, total ² -----	537,287	505,596	124,068	.25
2,2'-Aminodiethanol (Diethanolamine)-----	166,479	157,388	41,596	.26
2-Aminoethanol (Monoethanolamine)-----	215,342	154,297	41,464	.27
2,2',2''-Nitrilotriethanol (Triethanolamine)-----	155,466	193,911	41,008	.21
Nitriles, total-----	4,103,526	1,699,999	481,706	.28
Acetonitrile-----	22,268	...	...	...
Acrylonitrile-----	2,348,871	1,370,803	420,225	.31
2-Methylacetonitrile (Acetone cyanohydrin)-----	1,008,424	...	...	...
All other-----	723,963	329,196	61,481	.19
All other nitrogenous compounds-----	866,956	192,073	202,158	1.05
ACIDS, ACYL HALIDES AND ANHYDRIDES				
Total-----	11,162,295	2,298,521	794,435	.35
Acetic acid, synthetic, 100% ² -----	2,897,465	1,027,636	141,730	.14
Acrylic acid-----	795,015	142,677	63,506	.45
Fatty acids, hydrogenated and nonhydrogenated-----	...	122,929	39,423	.32
Fumaric acid-----	48,643	29,133	17,813	.61
Propionic acid-----	99,748	66,348	14,634	.22
All other acid, acyl halides, and anhydrides-----	7,321,424	909,798	517,329	.57
SALTS OF ORGANIC ACIDS				
Total-----	315,491	292,379	239,277	.82
Acetic acid salts, total-----	19,095	18,559	13,612	.74
Ammonium acetate-----	165	173	255	1.48

See footnotes at end of table.

TABLE 1.--MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS: U. S. PRODUCTION AND SALES, 1985--CONTINUED

MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
ACYCLIC--Continued				
SALTS OF ORGANIC ACIDS--Continued				
Acetic acid salts--Continued				
Potassium acetate-----	506	1,721	1,295	\$0.75
Sodium acetate-----	13,195	...	...	...
Zinc acetate-----	408	426	531	1.25
All other-----	4,821	16,239	11,531	.71
2-Ethylhexanoic acid (α -Ethylcaproic acid) salts, total-----	20,863	17,641	30,300	1.72
Cadmium 2-ethylhexanoate-----	219	...	...	...
Calcium 2-ethylhexanoate-----	2,146	2,146	2,234	1.04
Cobalt 2-ethylhexanoate-----	4,409	3,493	9,273	2.65
Lead 2-ethylhexanoate-----	939	962	1,064	1.11
Manganese 2-ethylhexanoate-----	1,085	1,086	1,033	.95
Nickel 2-ethylhexanoate-----	1,826	1,227	1,792	1.46
Zinc 2-ethylhexanoate-----	956	909	1,036	1.14
Zirconium 2-ethylhexanoate-----	3,529	2,833	5,164	1.82
All other-----	5,754	4,985	8,704	1.74
Calcium neodecanoate-----	90	93	120	1.30
Calcium propionate-----	19,438	15,700	7,176	.46
Oxalic acid salts:				
Ammonium oxalate-----	88	75	164	2.18
Potassium oxalate-----	60	53	127	2.40
Stearic acid salts, total ⁴ -----	126,312	114,581	87,681	.77
Aluminum stearates-----	3,215	3,470	4,438	1.28
Barium stearate-----	876	673	689	1.02
Cadmium stearate-----	90	97	212	2.38
Calcium stearate-----	69,147	65,923	42,767	.65
Cobalt stearate-----	511	519	1,428	2.75
Magnesium stearate-----	22,629	16,079	11,519	.72
Zinc stearate-----	27,925	26,363	24,315	.92
All other-----	1,919	1,457	2,313	1.59
All other salts of organic acids-----	129,545	125,677	100,097	.80
ALDEHYDES				
Total-----	8,228,498	2,086,288	201,459	.10
Butyraldehyde-----	1,286,229	38,258	6,381	.17
Formaldehyde (37% by weight) ² -----	5,606,140	1,742,409	108,780	.06
Propionaldehyde-----	219,391	8,319	1,972	.24
All other aldehydes-----	1,116,738	297,302	84,326	.28

See footnotes at end of table.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
ACYCLIC--Continued				
KETONES				
Total-----	2,621,992	2,341,920	527,648	\$0.23
Acetone: ²				
From cumene-----	1,148,980	1,051,870	184,509	.18
From isopropyl alcohol-----	638,820	482,108	82,147	.17
4-Hydroxy-4-methyl-2-pentanone (Diacetone alcohol)-----	36,925	30,637	12,468	.41
Methyl ethyl ketone (2-Butanone) ² -----	537,101	559,589	140,713	.25
4-Methyl-2-pentanone (Methyl isobutyl ketone)-----	130,907	135,122	51,110	.38
All other ketones-----	129,259	82,594	56,701	.69
ALCOHOLS, MONOHYDRIC, UNSUBSTITUTED				
Total-----	11,934,525	6,690,328	1,212,347	.18
Alcohols, C ₁₁ or lower, unmixed, total-----	11,044,256	6,181,900	971,212	.16
Butyl alcohols, total-----	2,843,431	...	...	...
n-Butyl alcohol (n-Propylcarbinol) ² -----	716,242	459,628	100,958	.22
Isobutyl alcohol (Isopropylcarbinol) ² -----	174,968	119,966	20,564	.17
All other-----	1,952,221	...	...	...
Ethyl alcohol, synthetic ^{2 5} -----	648,784	...	...	...
2-Ethyl-1-hexanol ² -----	536,310	384,836	103,290	.27
Isopropyl alcohol ² -----	1,234,553	852,630	203,830	.24
Methanol, synthetic ² -----	5,002,918	2,656,904	192,377	.07
Propyl alcohol (Propanol)-----	145,283	84,875	27,769	.33
All other-----	632,977	1,623,061	322,424	.20
Alcohols, C ₁₂ and higher, unmixed, total-----	165,411	69,911	42,329	.61
Mixtures of alcohols:				
Containing C ₁₁ or lower only-----	184,726	124,454	56,295	.45
Other mixtures-----	540,132	314,063	142,511	.46
ESTERS OF MONOHYDRIC ALCOHOL				
Total-----	4,927,305	2,834,342	1,117,394	.39
Allyl methacrylate-----	668	662	1,290	1.95
Butyl acetates:				
n-Butyl acetate-----	179,140	112,601	48,479	.43
Isobutyl acetate-----	76,732	57,033	17,122	.30
Butyl acrylate-----	423,620	210,771	98,188	.47
tert-Butyl peroxy-2-ethylhexanoate-----	1,952	1,947	6,458	3.32
tert-Butyl peroxyvalerate-----	2,402	2,522	8,576	3.40
Dibutyl maleate-----	2,904	2,826	1,554	.55
Diethyl maleate-----	4,055	3,776	2,834	.75
2-Ethoxyethyl acetate-----	103,038	101,557	43,776	.43
Ethyl acetate (100% basis) ² -----	191,981	178,403	44,573	.25
Ethyl acrylate-----	303,100	209,874	84,394	.40
2-Ethyl-1-hexyl acrylate-----	79,240	58,561	32,225	.55

See footnote at end of table.

TABLE 1.--MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS: U. S. PRODUCTION AND SALES, 1985--CONTINUED

MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
ACYCLIC--Continued				
ESTERS OF MONOHYDRIC ALCOHOLS--Continued				
Fatty acid esters, not included with plasticizers or surface-active agents, total	18,814	18,441	11,576	\$0.63
Myristyl myristate	307	282	450	1.59
Tridecyl stearate	1,893	1,835	1,495	.81
All other	16,614	16,324	9,631	.59
Methyl methacrylate ²	858,147	...	...	...
Phosphorus acid esters, not elsewhere specified	102,848	89,609	101,896	1.14
Propyl acetate	60,873	55,775	24,439	.44
Vinyl acetate	2,112,433	1,309,338	278,455	.21
All other esters of monohydric alcohols	405,358	420,646	311,559	.74
POLYHYDRIC ALCOHOLS				
Total ⁵	5,743,412	3,941,386	982,095	.25
1,4-Butanediol	353,482	86,024	59,090	.69
Ethylene glycol ²	4,178,310	2,896,757	500,862	.17
Pentaerythritol ²	93,726	116,551	59,072	.51
Propylene glycol ²	499,529	466,913	148,352	.32
Sorbitol (70% by weight)	179,087	133,998	49,885	.37
All other polyhydric alcohols	439,278	241,143	164,834	.68
POLYHYDRIC ALCOHOL ESTERS ⁶				
Total	210,305	210,065	126,049	.60
POLYHYDRIC ALCOHOL ETHERS				
Total	1,766,656	1,420,131	493,361	.35
2-Butoxyethanol ²	276,814	267,184	79,491	.30
2-(2-Butoxyethoxy)ethanol (Diethylene glycol mono-butyl ether)	69,736	64,919	24,378	.38
2-[2-(2-Butoxyethoxy)ethoxy]ethanol (Triethylene glycol monobutyl ether)	10,148	4,839	2,475	.51
Diethylene glycol	440,549	336,662	53,953	.16
Dipropylene glycol	52,877	...	...	...
2-Ethoxyethanol	123,879	60,913	21,031	.35
2-(2-Ethoxyethoxy)ethanol (Diethylene glycol monoethyl ether)	25,743	23,974	8,745	.36
2-[2-(2-Ethoxyethoxy)ethoxy]ethanol (Triethylene glycol monoethyl ether)	12,061	...	...	...
2-Methoxyethanol(Ethylene glycol monomethyl ether)	83,493	77,768	21,850	.28
2-(2-Methoxyethoxy)ethanol (Diethylene glycol monomethyl ether)	40,167	32,775	10,640	.32
2-[2-(2-Methoxyethoxy)ethoxy]ethanol (triethylene glycol monomethyl ether)	28,501	...	...	...
Polyethylene glycol	73,327	54,371	29,394	.54

See footnotes at end of table.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
ACYCLIC--Continued				
POLYHYDRIC ALCOHOL ETHERS--Continued				
Polyglycols, ethylene glycol and glycol ether, mixed	5,605	...	...	...
Polypropylene glycol	16,065	10,440	6,493	\$0.62
Tetraethylene glycol	24,159	16,001	6,640	.41
Triethylene glycol	149,691	143,596	40,047	.28
All other polyhydric alcohol ethers	333,841	326,689	188,224	.58
HALOGENATED HYDROCARBONS				
Total	26,836,764	6,916,903	1,785,085	.26
Chlorinated hydrocarbons, total	25,804,474	6,121,016	1,136,214	.19
Carbon tetrachloride ²	645,618	360,328	58,220	.16
Chlorinated paraffins (C ₁₀ -C ₃₀):				
35%-64% chlorine	79,904	81,962	31,104	.38
Chloroform	275,255	383,723	54,508	.14
Chloromethane (Methyl chloride)	...	174,097	36,560	.21
Dichloromethane (Methylene chloride) ²	467,118	502,503	94,519	.19
Ethyl chloride (Chloroethane) ²	170,503	82,606	13,287	.16
Ethylene dichloride (1,2-Dichloroethane) ²	12,100,888	409,990	38,776	.09
Tetrachloroethylene (Perchloroethylene) ²	677,819	437,996	81,043	.19
1,1,1-Trichloroethane (Methyl chloroform) ²	868,776	580,088	182,689	.31
Vinyl chloride, monomer (Chloroethylene) ²	9,462,979	2,868,762	459,810	.16
All other	1,055,614	238,961	85,698	.36
Fluorinated (including other fluorohalogenated) hydrocarbons, total	1,019,486	783,796	633,712	.80
Chlorodifluoromethane (F-22) ²	235,350	141,255	158,033	1.12
Dichlorodifluoromethane (F-12) ²	301,893	284,044	182,317	.64
Trichlorofluoromethane (F-11) ²	175,781	171,168	81,104	.47
All other	306,462	187,329	212,258	1.13
Iodinated (not otherwise halogenated) hydrocarbons	64	60	553	9.22
All other halogenated hydrocarbons	12,740	12,031	14,606	1.22
ALL OTHER MISCELLANEOUS ACYCLIC CHEMICALS				
Total	9,897,607	2,874,231	1,253,878	.44
Acyclic peroxides:				
2-Butanone peroxide	9,751	10,240	16,026	1.56
Epoxides, ethers, and acetals, total	8,033,541	2,148,042	616,791	.29
Ethylene oxide ²	5,430,359	615,170	130,971	.21
Glycidyl ethers, total	6,157	6,218	12,477	2.01
1-Butoxy-2,3-epoxypropane (Butyl glycidyl ether)	536	546	1,037	1.90
All other	2,597,025	1,526,654	473,343	.31

XV -- MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS

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TABLE 1.--MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS: U.S. PRODUCTION AND SALES, 1985--CONTINUED

MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS	PRODUCTION	SALES		
		QUANTITY	VALUE	UNIT VALUE ¹
	1,000 pounds	1,000 pounds	1,000 dollars	Per pound
ACYCLIC--Continued				
ALL OTHER MISCELLANEOUS ACYCLIC CHEMICALS--Continued				
Phosgene (Carbonyl chloride)-----	514,095	...	...	...
Silicone fluids-----	134,116	88,769	168,715	\$1.90
All other miscellaneous acyclic chemicals-----	1,206,104	627,180	452,346	.73
MIXTURES NOT SPECIFICALLY ITEMIZED				
Total-----	378,283	201,743	41,092	.20
Glycol residues-----	13,414	9,066	1,763	.19

¹Calculated from unrounded figures.

²The difference between the production reported here and that shown on the Preliminary Report on U.S. Production of Selected Organic Chemicals (including Synthetic Plastics and Resin Materials, 1985, results from a combination of incorrect reporting by some companies, end-of-year inventory adjustments, and rounding.

³Statistics exclude production and sales of fatty amines. Statistics on fatty amines. Statistics on fatty amines are included in the section "Surface-Active Agents."

⁴Statistics exclude production and sales of potassium and sodium stearates. Statistics on these stearates are included in the section "Surface-Active Agents."

⁵Statistics for production of specially denatured alcohol, 209,876,665 wine gallons, and completely denatured alcohol, 297,955,185 wine gallons, for calendar year 1985 are compiled from data supplied by the Bureau of Alcohol, Tobacco, and Firearms. Withdrawals of completely denatured alcohol for fuel use was 222,893,158 wine gallons; nearly all specially denatured alcohol is considered to be used for fuel.

⁶Some polyols which are used as intermediates for urethanes have been included in the section "Plastics and Resin Materials."

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

(CHEMICALS FOR WHICH SEPARATE STATISTICS ARE GIVEN IN TABLE 1 ARE MARKED BELOW WITH AN ASTERISK (*); CHEMICALS NOT SO MARKED DO NOT APPEAR IN TABLE 1 BECAUSE THE REPORTED DATA ARE ACCEPTED IN CONFIDENCE AND MAY NOT BE PUBLISHED. MANUFACTURERS' IDENTIFICATION CODES SHOWN BELOW ARE TAKEN FROM TABLE 3. AN "X" SIGNIFIES THAT THE MANUFACTURER DID NOT CONSENT TO HIS IDENTIFICATION WITH THE DESIGNATED PRODUCT)

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC	
6-Acetoxy-2,4-dimethyl-1,3-dioxane	GIV, NEV.
Acetylcyclohexane sulfonyl peroxide	WFL.
Alkylphenol formaldehyde condensate, alkoxylated	X.
Alkylphenol formaldehyde copolymer	X.
1-(2-Aminoethyl)piperazine	CYL, DOM.
1-(3-Aminopropyl)morpholine	TK.
Amyl p-dimethylaminobenzoate	VND.
Amyl and dimethylaminobenzoate	VND.
BENZOIC ACID SALTS:	
Ammonium benzoate	WTK.
Cadmium benzoate	VNC.
Potassium benzoate	KLM.
Sodium benzoate, U.S.P.	HCP, JRC, KLM, PFZ.
Sodium benzoate, tech.	PFZ.
Benzoic acid salts, all other	FEF, WTC.
Benzenephosphinic acid	SFS.
1,4-Benzquinone (p-quinone)	EXT.
Benzothiazole	RCI, X.
Benzothiazole, substituted	GGY, X.
*Benzoyl peroxide	AZT, CAD, NOC, PLC, WTC, WTL.
Benzyl alcohol	KLM, SFS.
Benzyl chloroformate	ESK, YCM.
Benzyl cocaoalkyl dimethyl ammonium chloride	X.
Bis(p-chlorobenzoyl)peroxide	CAD.
Bis(2,4-dichlorobenzoyl) peroxide	CAD, WTL.
Bis(α, α-dimethylbenzyl)peroxide	WTL.
2,2-Bis(ferrocenyl)propane	ARA.
Bis(hydroxymethyl)oleyl oxazoline	ANC.
Bis(1,1,3,3-methyl-butyl-phenyl)ether	HEX.
1,1-Bis(3,3,5-trimethyl)dicyclohexane	WTL.
Bis(triphenylsilyl)chromate	X.
Boron fluoride-phenol complex	ACS.
Bromo-chloro-5,5'-dimethyl hydantoin	GLY.
β-Bromo-β-nitrostyrene	GIV.
2-Butoxyethyl benzoate	X.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
*Butyl benzoate-----	MRF, PCI, TCC.
4-tert-Butylcyclohexyl peroxydicarbonate-----	CAD.
tert-Butylhydroquinone-----	EKT.
Butyl and isopropyl phthalimides-----	RPC.
2-(and 3)-tert-Butyl-4-methoxyphenol (BHA)-----	EKT.
*tert-Butyl peroxybenzoate-----	AZT, FRE, WTC, WTL.
tert-Butyl peroxy-3,5,5-trimethyl cyclohexane-----	CAD.
4-tert-Butylpyrocatechol-----	CSZ.
Camphene-----	SCM, X.
*Caprolactam (2-Oxohexamethylensimine)-----	ACS, CNP, DBC, X.
Caprolactam magnesium bromide-----	X.
Cellulose acetate hexahydrophthalate-----	X.
Cellulose acetate phthalate-----	EK, UCC.
1-(3-Chloroallyl)-3,5,7-triazo-1-azoniasadamantane chloride-----	
P-(Chloromethyl)phenyl trimethoxysilane-----	DOW.
Chlorochisaxanthone-----	SCM.
Cresolsulfonic acid, formaldehyde condensate-----	ESG.
*Cumene hydroperoxide-----	BTL, CLK, FRE, USS, WTC.
α-Cumyl peroxyneodecanoste-----	WTL.
Cymuric acid-----	FMC, MON.
1,4-Cyclohexylenedimethanol-----	EKT.
Cyclochloroacetate-----	AAC.
Cyclopropane-----	DOW.
Decabromodiphenyl ether (DBDP)-----	DOW.
Decahydronaphthalene (Decalin)-----	TWA.
Dehydroacetic acid or sodium salt-----	DUP.
1,4-Diazobicyclo(2.2.2)octane-----	GAN.
Diazodinitrophenol-----	TX, X.
2,5-Di(benzoyl peroxy)-2,5-dimethylhexane-----	HPC.
Di-t-butyl diperoxyphthalate-----	AZT, WTL.
1,5-Di-tert-butylhydroquinone-----	EKT.
1,5-Dichloro-5,5-dimethylhydantoin-----	GLY.
Dichloro-s-triazine-2,4,6-(1H,3H,5H)trione (Dichloroisocyanuric acids and salts)-----	FMC.
4,4'-Dichloro-3-(trifluoromethyl)carbenillide-----	OGY.
1,1-Dicyclohexane-----	WTL.
Dicyclohexylammonium nitrite-----	SHC.
Dicyclopentadienylichromium-----	X.
Dicyclopentadienyliiron-----	ABA.
N,N'-Diethyl-N,N'-diphenylurea-----	VDM.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985--CONTINUED

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
Di(2-ethylhexyl)chlorendate	VEL.
1,5-Diethyl-2-thio-4,6-pyrimidinone	TNL.
2,5-Dihydrothiophene-1,1-dioxide (Sulfolene)	PLC.
3,5-Dihydroxy-3,5-dimethyl-1,2-peroxycyclopentane	WTC, WTL.
Diiodomethyl-p-tolyl sulphone	ABB.
Diisopropylbenzene hydroperoxide	HPC.
Diketene	BRD, EKT.
Dimer acid esters with polyethylene glycol hydrogen phthalate and castor oil	X.
p-Dimethoxybenzene (Dimethyl ether of hydroquinone)	ASL.
N,N'-Dimethyl-N,N'-diphenylurea	VDM.
4,4-Dimethyl oxazolidine	EPH.
4,4-Dimethyl oxazoline	AMG.
4,4-Dinitrocarbamillide-4,6-dimethyl-2-pyrimidino	MBK, NOC.
Dioxane (1,4-Diethylene oxide)	FER, MIL.
1,3-Dioxolane	FER.
Di-para-xylene	NCC.
Dipropylene glycol salicylate	SBC.
Dodecylsuccinic anhydride	BCC, DLX, HRF, MIL.
4-(Dodecyloxy)-2-hydroxybenzophenone	EKT.
Dodecyl pyridinium chloride	TLC.
6-Ethoxy-12-dihydro-2,2,4-trimethyl quinoline	MON.
Ethoxylated methylglucoside	GRN.
5-Ethyl-1-aza-3,7-dioxabicyclo[3,3,0]octane	AMG.
Ethyl chrysanthematate	SFS.
2,6-DI-TERT-BUTYL-P-CRESOL (BHT):	
*2,6-Di-tert-butyl-p-cresol, (BHT), Food grade	KPT, USR.
*2,6-Di-tert-butyl-p-cresol, (BHT), Technical grade	KPT, UCC, USR.
2-Ethylhexyl benzoate	TCC.
2-Ethylhexyl-p-dimethylaminobenzoate	VND.
Ethyl hydroxymethyl oleyl oxazoline	AMG.
Ethylidene norbornene	UCC.
4-Ethylmorpholine	TX.
Percene polymer with 2-propanone, in chlorinated wax	ARA.
FURAN DERIVATIVES:	
2-Furaldehyde (furfural)	CYL, QKO, X.
[5-(Phenylmethyl)]-3-furfuryl alcohol	PEN.
Tetrahydrofurfuryl alcohol	QKO.
Galic acid, tech.	MAL.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U. S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
Glyceryl p-aminobenzoate	VND.
Hexabromocyclodecane	TMA.
*Hexamethylenetetramine, tech.	ROX, CYL, HRP, MOD, OMC, PLS, WCL.
Homomethyl salicylate	WFC.
Hydrindantin	PLC.
Hydroquinone, di(8-hydroxyethyl) ether	EKT.
p-Hydroxybenzoic acid, benzyl ester	LEN.
p-Hydroxybenzoic acid, butyl ester	CNN, KLM REC.
p-Hydroxybenzoic acid, ethyl ester	KLM.
p-Hydroxybenzoic acid, methyl ester	KLM, LEN.
N-(Hydroxyethyl)piperazine	KLM, LEN.
Hydroxymethyl-5,3-hydantoin	TCH.
2-Hydroxy-2-methylphenyl propanone	GLY.
α-D-P-Hydroxyphenylglycine methyl ester K	MMC.
1,2,3-Indantrione monohydrate (Winhydrin)	BOC.
*LACTONES:	PTC.
Butyrolactone	BAS, GAF.
Caprolactone	UCC.
Glucono- δ -lactone	PPZ.
Lactones, all other	FFN.
Lanolin acetate	CRN.
Lanolin acid	CRN.
Lanolin acid, isopropyl ester	CRN.
Lanolin alcohol acetate	CRN.
*Maleic anhydride	AMO, ASH, DKA, MON, USS.
p-Menthane	HPC.
8-p-Benthyi hydroperoxide	HPC.
4-Methoxyphenol	ASL, EXT.
Methylaziridine	ARS.
2,2'-Methylenebis(3,4,6-trichlorophenol)	
(Hexachlorophene)	VEL.
4-Methylmorpholine	TK.
1-Methyl-2-pyrrolidone monomer	BAS, GAF.
Morpholine	AIP, TK.
Morpholine salt of p-toluene sulfonic acid	AMB.
Octabromodiphenyl oxide	TMA.
Octadecenyl succinic anhydride	HIL.
Octadecyl-3-(3,5-di-tert-butyl-4-hydroxyphenyl)-propionate	COY, TMA.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
Octenylsuccinic anhydride	HMV, MIL
Oxalyl bis(benzylidene hydrazide)	EKT
Pentaerythritol tribenzoate	VEL
Phenethyl bromide	WCC
Phenothiazine	WAG
2-Phenoxyethanol (Ethylene glycol monophenyl ether)	TCH
2-(2-Phenoxyethoxy)ethanol (Diethylene glycol phenyl ether)	EKT
α -D-Phenylglycine methyl ester K	BOC
Phenyl xylol ethane	HCC, TCC
Phthalic acid, lead salt, (Dibasic)	ALI
Picramic acid, sodium salt	SDC
*PINENE AND DERIVATIVES:	
Pinane	SCM
Pinane hydroperoxide	SCM
2-Pinanol (cis and trans)	SCM
α -Pinene	ARZ, SCH
* β -Pinene	ARZ, HFC, NCI, SCM
Pinene, sulfate	ARZ, HFC, NCI
Pine oil, natural sulfate	NCL
*Pine oil, synthetic	ARZ, NCI, SCM
Polypropylene glycol glycerol triether and epichlorohydrin bisphenol epoxy resin	X
Polypropylene glycol glyceryl triether (epichlorohydrin-bisphenol A) epoxy resin copolymer, ethoxylated	X
Propoxylated methylglucoside	GMN
Propylene glycol dibenzoate	VEL
Propyl gallate	EKT
2,4-(1H,3H)Pyrimidinedione	SCM
Resorcinol monobenzoate	EKT
Rosin acid salts	SD
Salicylic acid magnesium salt	KLM
Sodium benzene phosphinate	SFS
Stannous octyl phthalate	X
Styrene oxide	UCC
Succinic anhydride	BCC
Sucrose benzoate	VEL
Tall oil, chemically modified	CCC, FOC, EFH, GAF, WVA, X, Z

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
CYCLIC--CONTINUED	
*TALL OIL SALTS (LINOLEIC-ROSIN ACID SALTS):	
Calcium manganese tallate	MCI, SHP.
Calcium tallate	CCA, X.
Cobalt manganese tallate	MCI.
Cobalt tallate	MCI, SHP.
Lead manganese tallate	SHP.
Lead tallate	CCA, MCI.
Manganese tallate	MCI, SHP.
Zinc tallate	MCI.
Tall oil salts, all other (linoleic-rosin acid salts)	CCA, SHP, X.
Tannic acid, N.F.	MAL.
Terpene hydrocarbons, monocyclic (Solvenol)	HPG, MCI, SCH, WTK.
Terpene polymers	ARZ.
Tetrabromobiphenol A	GTL, TNA, X.
n-Tetradecenylo succinic anhydride	DIX.
1,2,3,4-Tetrahydronaphthalene (tetralin)	DUP.
Tetrahydrothiophene	PAS.
Tetrahydrothiophene-1,1-dioxide (Sulfolane)	PLG.
Tetraphenyltin chloride	ALM.
Thiophene	PAS.
Triallyl cyanurate	ACV.
Tributyltin benzoate	COS.
3,4,4'-Trichlorocarbamide	MON.
*1,3,5-Trichloro-s-triazine-2,4,6-(1H,3H,5H)trione (Trichloroisocyanuric acid)	FMC, MON, OMC, SHC.
3,3,5-Trimethylcyclohexanol (m-homomenthol)	ARS.
3,5,5-Trimethyl-2-cyclohexene-1-one (Isophorone)	ENJ, UCC.
2,4,6-Trinitroresorcinol and lead derivative	REM.
5-Trioxane	ALM.
2,4,6-Triphenoxy-s-triazine	AMB.
Triphenyltin hydroxide	X.
1-Vinyl-2-pyrrolidione--other copolymers	GAF.
1-Vinyl-2-pyrrolidione-methylacrylic acid, dimethylamine ethyl ester, copolymer	GAF.
1-Vinyl-2-pyrrolidione, monomer	GAF.
Cyclic chemicals, all other	ALP, ALH, CWN, DA, DOM, GAF, KF, NES, ORT, PAC, PLC, PLC, REC, REM, RH, RSA, SFS, SK, STC, TCC, TNA, TX, UCC, VTC, WLN, WTK, WTC, X, X, X, X.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
MISCELLANEOUS CHEMICALS	
CYCLIC--CONTINUED	
ACYCLIC	
*NITROGENOUS COMPOUNDS:	
Acetamide	ACS, WTK.
Acetamide hydrochloride	WTC.
Acetamidethanol (N-Acetyl-ethanolamine)	GAF, SBC.
Alkyl C ₁₂ C ₁₄ amine hydrochloride	COS.
*AMIDES:	
Acetamide	ACS, WTK.
*Acrylamide monomer	ACY, CYL, X, Y.
Amido amine salts as curing agents	CEL, PAC, X, Y.
1,1'-Azobisformamide	OMC, USR.
Bis(2-(octadecylamido)ethyl)-N-(2-cyanoethyl)-N-ethyl ammonium ethyl sulfate	SEC.
Cocount oil amide	ARC, CAD, FTX.
N,N-Diethyldodecanamide	EK.
N,N-Dimethylacetamide	DUP.
N,N-Dimethylacetacetamide	EKT.
Dimethylaminopropyl methacrylamide	TX.
Dimethyl caprylamide capramide	HAL.
N,N-Dimethylformamide	DUP, HAL.
Ercamide	ARC, WTC.
*N,N'-Ethylenebis-oleamide (Oleic acid-ethylene diamine condensate (Amine/acid ratio = 1/2))	COM, GLY, WTC.
*N,N'-Ethylenebis(stearamide)	CGW, DA, GLY, WTC.
Fish oil fatty acid amide	WTC.
Formaldehyde adduct condensation-	COS.
N-(Hydroxymethyl)-formamide	X.
Methacrylamide	DUP.
N-Methylacetamide	ARS, EKT.
Oleamide (Octadecene amide)	ARC, WTC.
Oleoylpalmitamide	HLL.
Octamide	HLL, TLI.
Stearamide (Octadecane amide)	ARC, WTC.
Stearylterucamide	HLL, WTC.
Tallow amide, hydrogenated	ARC, CAD.
Amides, all other	ARS, BRD, DOW, EFM, SOL, WTC.
*AMINES:	
Allyl amines	SHC, VGC.
Bis-hexamethylenetriamine amine	DUP, MON.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*NITROGENOUS COMPOUNDS--CONTINUED	
*AMINES--CONTINUED	
*BUTYLAMINES:	
n-Butylamine, mono-----	AIP, PAS.
sec-Butylamine, mono-----	PAS.
tert-Butylamine, mono-----	MON.
*Di-n-butylamine-----	AIP, PAS, VGC.
Diisobutylamine-----	AIP, VGC.
Tri-n-butylamine-----	AIP, PAS.
n-Butylethylamine-----	AIP.
Di-tert-butylethylamine-----	VGC.
Diethylaminoethanethiol HCl-----	EVN.
Diethylenetriamine-----	AIP, DOM, TX, UCC.
Diisopropylamine-----	AIP, PAS, UCC.
Dimethylaminopropylamine-----	AIP, TX.
Dimethylaminopropylamine, propoxylated-----	TX.
N,N-Dimethylbutylamine-----	VGC.
1,3-Dimethylbutylamine-----	PLC.
Dipropylenetriamine-----	MHI.
ETHYLAMINES:	
*Diethylamine-----	AIP, PAS, UCC.
*Ethylamine, mono-----	AIP, PAS, SMC, UCC.
*Triethylamine-----	AIP, PAS, UCC, VGC.
*Ethylenediamine-----	DOM, TX, UCC.
(2-Ethylhexyl)amine, mono-----	VGC.
N-Ethyl-2-methylallylamine-----	DUP, MON.
1,6-Hexanediamine (Hexamethylenediamine)-----	CKI, PAS.
n-Hexylamine-----	AIP, UCC, VGC.
*Isopropylamine, mono-----	AIP, UCC, VGC.
METHYLAMINES:	
*Dimethylamine-----	AIP, DUP, GAF, IMG.
*Methylamine, mono-----	AIP, DUP, GAF, IMG.
*Trimethylamine-----	AIP, DUP, GAF, IMG.
Mixed primary t-alkylamines-----	RH.
Nitrotriacetonitrile-----	HP, VGC.
tert-Octylamine-----	BH.
Pentaethylenhexamine-----	DOM, UCC.
PENTYLAMINES (AMYLAMINES):	
Dipentylamine-----	PAS, VGC.
Pentylamine, mono-----	PAS.
Tripentylamine-----	PAS.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*NITROGENOUS COMPOUNDS--CONTINUED	
*AMINES--CONTINUED	
Poly(oxypropylene)diamine	TX.
PROPYLAMINES:	
Dipropylamine	PAS, VGC.
Propylamine, mono	PAS
Tripropylamine	PAS
Tetraethylenepentamine	DOM, UCC.
N,N,N',N'-Tetramethyl-1,3-butanediamine	DOM, UCC.
Tetramethylethylenediamine	BKH.
Triethylenetetramine	DOM, UCC.
Amines, all other	BUC, CKI, EK, MON, PAC, USR, VEL, X.
2-Aminoethanol hydrochloride	HCP, OMC.
2-Aminoethanol (Monoethanol amine) sulfite	EVN, OMC.
Aminoethoxyethanol	TX.
2-(2-Aminoethylamino)ethanol	DOM, HDG, UCC.
(Aminoethylamino)ethanol	
2-Aminoethyl mercaptoacetate (Monoethanolamine thioglycolate)	EVN.
2-Amino-2-ethyl-1,3-propanediol	ANG.
Aminoguanidine hydrochloride	REM.
3-Amino-3-methyl-1-butene	BH.
2-Amino-2-methyl-1-propanol	ANG.
2-Amino-2-methyl-1-propanol hydrochloride	CCC.
tert-Butylaminoethanol	PAS.
tert-Butyldiethanolamine	AAC, GPS.
1-Butyl-3-ethyl-2-thiourea	PAS, UCC.
Butyl isocyanate	PAS.
2-Chloro-N,N-dimethylethylamine hydrochloride	SOL.
2-Chloro-N,N-dimethylethylamine (Dimethylamino ethyl chloride) hydrochloride	SOL.
2-Chloro-N,N-dimethylpropylamine hydrochloride	SOL.
3-Chloro-N,N-dimethylpropylamine hydrochloride	X.
3-Chloro-2-hydroxypropyltrimethyl ammonium chloride	DOM.
Choline	HFT, RH.
N-cocamidopropyl-N,N-dimethyl-N-sodium acetate, ammonium salt	X.
1-(2-Cyanoethyl)ethyl urea	GAF.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*HETEROGENEOUS COMPOUNDS--CONTINUED	
Di-amine derivatives of dimer acids-----	SCP.
2-Dibutylaminoethanol-----	PAS.
Dibutylaminomethanol-----	X.
1,3-Dibutyl-3-thiourea-----	RBC, VNC.
2-Diethylaminoethanol (N,N-Diethylethanolamine)-----	PAS, UCC.
2-(2-Diethylaminoethoxy)ethanol-----	PAS, UCC.
2-Diethylaminoethyl acrylate-----	AAC, X.
Diethylaminoethylacrylate, dimethyl sulfate, quaternary salt-----	CPS.
2-Diethylaminoethyl methacrylate-----	CPS, DUP.
Diethylcarbamoyl chloride-----	GAF.
Diethylhydroxylamine-----	PAS.
N,N-Diethyl-N-methyl-2(1-oxo-2-propenyl)oxy ethaniminium sulfate-----	X.
*1,3-Diethyl-2-thiourea-----	PAS, RBC, VNC.
2-Diisopropylaminoethanol (N,N- Diisopropylethanolamine)-----	PAS, UCC.
Di-(methoxyethyl)hydroxylamine-----	SCP.
Dimethylamine epichlorohydrin copolymer-----	X.
Dimethylamine sulfate-----	ALW, RH.
2-Dimethylaminoethanol hydrochloride-----	EVN.
2-Dimethylaminoethanol (N,N-Dimethylethanolamine)-----	PAS, PEL, TX, UCC.
Dimethylaminoethyl acrylate-----	FKE.
Dimethylaminoethylacrylate, methyl chloride, quaternary salt-----	CPS, X.
Dimethylaminoethyl methacrylate-----	AAC, CPS, PAS.
Dimethylaminomethyl methacrylate, dimethyl sulfate, quaternary salt-----	AAC, CPS.
Dimethylaminoethylmethacrylate, methyl chloride, quaternary salt-----	AAC, CPS.
Dimethylaminomethanol-----	X.
2-Dimethylamino-2-methyl-1-propanol hydrochloride-----	WPC.
1-(Dimethylamino)-2-propanol-----	ANG, PAS, PEL.
1,1-Dimethylhydrazine-----	USR.
2,5-Dithiobiurea-----	FMT, GAF.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
MISCELLANEOUS CHEMICALS	
ACYCLIC--CONTINUED	
*NITROGENOUS COMPOUNDS--CONTINUED	
*ETHANOLAMINES:	
*Diethanolamine-----	DOW, ICI, OMC, TX, UCC.
*Monoethanolamine-----	CAL, DOW, ICI, OMC, TX, UCC.
*Triethanolamine-----	DOW, ICI, OMC, TX, UCC.
2-Ethylaminoethanol (Ethylmonoethanolamine)-----	PAS.
Ethylethylenediamine dihydrochloride-----	RSB.
1,1-Ethylenediurea-----	EK.
5-(N-Ethyl-N-hydroxyethylamino)-2-pentanone-----	SDW.
N-Ethyl-N-hydroxyethyl-1,4-pentanediamine-----	SDW.
2-Ethyl-2-nitro-1,3-propanediol-----	ANG.
Hexamethylenediamine adipate (Nylon salt)-----	DUP, MON, X.
2-(Hydroxymethyl)-2-nitro-1,3-propanediol (Tris- hydroxymethyl)nitromethane)-----	ANG.
Iminoacetic acid-----	HMP.
ISOPROPYLAMINES:	
Monoisopropylamine-----	DOW
Diisopropylamine-----	DOW, X.
Triisopropylamine-----	DOW.
2-Isopropylaminoethanol-----	PAS.
Isopropyl ethylthiocarbamate-----	ESX.
Ketamine, tetrafunctional-----	PAC.
2-Methoxyethyl carbamate-----	VAL.
3-Methoxypropylamine-----	TX.
2-Methylaminoethanol (N-Methylethanolamine)-----	PAS, UCC.
Methyl carbamate-----	NSC.
2,2'-(Methylimino)diethanol (Methyldiethanolamine)-----	DOW, PAS.
Methyl isocyanate-----	UCC.
2-Methyl-2-nitro-1,3-propanediol-----	ANG.
2-Methyl-2-nitro-1-propanol-----	ANG.
Nitrated lard oil-----	SM.
*NITRILES:	
*Acetonitrile-----	BKC, DUP, SOH, X.
*Acrylonitrile, monomer-----	ACY, DUP, MON, SOH.
Adiponitrile-----	DUP.
2,2'-Azobis[2-methylpropanonitrile] (Azobisisobutyronitrile)-----	DUP.
n-Butyronitrile-----	EXX, WYT.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*NITROGENOUS COMPOUNDS--CONTINUED	
*NITRILES--CONTINUED	
Coconitrile-----	ARC.
Crotononitrile-----	RBC.
Cyanoacetic acid-----	KF.
3-Ethoxypropionitrile-----	DIX.
Ethyl cyanoacetate-----	KF.
Hexadecanenitrile-----	ARC.
Isobutyronitrile-----	EKK.
Lactonitrile-----	MON.
Lauroitrile (Dodecyl nitrile)-----	ARC.
3-Methoxypropionitrile-----	X.
Methyl cyanoacetate-----	KF.
Methylisobutyl ketone aminonitrile-----	HMP.
*2-Methylacetonitrile (Acetone cyanohydrin)-----	CYR, DUP, MON, RH, SOH.
Oleonitrile (Octadecane nitrile)-----	ARC.
Pentenenitrile-----	DUP.
Propionitrile-----	MON.
Stearonitrile (Octadecane nitrile)-----	ARC.
Tallow nitrile-----	ARC.
3,3'-Thiodipropionitrile-----	EVN.
Vinylacetonitrile-----	ARC, RBC.
Nitriles, all other-----	ARC, DUP, EVN, OMC, RSA.
Nitroethane-----	ANG.
Nitromethane-----	ANG.
1-Nitropropane-----	ANG.
2-Nitropropane-----	ANG.
Octadecyl isocyanate-----	MOB.
2-Oximino-3-pentanone-----	PD.
Pentacerythritol tetranitrate-----	DUP, HFC.
Polyvinyl octadecyl carbamate-----	ESA.
n-Propylaminoethanol-----	X.
Semicarbazide hydrochloride-----	OMC.
Tetranitromethane-----	HLL.
Thiosemicarbazide-----	FMT.
Trimethylamine hydrochloride-----	X.
Nitrogenous compounds, acyclic, all other-----	AD, BUC, EKE, NES, OMC, PD, PIC, PRU, RSA, SHG, SHX, STC, TMA, UCC, WTC, X, X, X.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ACIDS, ACID ANHYDRIDES, AND ACYL HALIDES:	
ACETIC ACID, 100%:	
Acetic acid, recovered (100%)	AIP, CEL, EKT, MON, RDA, SD.
*Acetic acid, synthetic (100%)	CEL, EKT, MON, UCC, USI.
ACETIC ANHYDRIDES, 100%:	
Acetic anhydride from acetaldehyde (100%)	EKT.
Acetic anhydride from acetic acid, other than recovered, by the vapor-phase process (100%)	CEL.
Acetic anhydride from acetic acid, recovered, by vapor-phase process	CEL, PFZ.
Acetyl chloride	WCC.
*Acrylic acid	CEL, DEC, RH, UCC.
Adipic acid	DUF, MON.
Azelaic acid	EMR.
2,2-bis(hydroxy-methyl)-propionic acid	IMG.
Bromosuccinic acid	WCC.
Bromobutyric acid	GTL.
tert-Butylperoxy maleic acid	WTC, WTL.
Butyric acid	CEL, EKT.
Butyric anhydride	EKT.
Butyryl chloride	TLC, WCC.
Chlorosuccinic acid, mono	PFZ, VTC.
Citric acid	MLS, PFZ.
Crotonic acid (2-Butenoic acid)	EKT.
Decanoyl chloride	WTL.
2,2-dichloroacetyl chloride	RDA.
Dimer acid (C-36 Aliphatic dibasic acid)	EMR, SYL.
Dimethylpropionic acid	ENJ.
Dithiodipropionic acid	EVN.
Dodecamedioic acid	DUF.
1,2-ethanedithiolonic acid	SK.
2-Ethylhexanoic acid (α -Ethylcaproic acid)	EKT, UCC.
2-Ethylhexanoyl chloride	PPG, WTL.
*Fatty acids, hydrogenated	DRE, GLY.
Fatty acids, non-hydrogenated	CAS, DRL, GLY, WVA.
Formic acid, 90%	CEL, UCC.
*Fumaric acid	AGC, DEK, KLM, MON, PFZ.
Gluconic acid, technical	PFZ, PHP.
Glutaric anhydride	UCC.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ACIDS ACID ANHYDRIDES, AND HALIDES--CONTINUED	
Glycolic acid (Hydroxyacetic acid)	CEL, DUP.
Heptanoyl chloride	WCC.
n-Hexadecenyisuccinic anhydride	DIK, HHY.
n-Hexanoic acid	HHY.
1-Hydroxyethylidene-1,1-diphosphonic acid	CEL.
Isothionic acid (2-Hydroxyethanesulfonic acid)	CYL, WTC.
Isoascorbic acid (Erythorbic acid)	PFZ.
Isobutyric acid	EKK.
Isobutyric anhydride	EKT, FER.
Isononanoyl chloride	STC.
Iso-octadecanoic acid	STL.
Iso-octadecenyisuccinic anhydride	HHY.
Iso-pentanoic acid	UCC.
Itaconic acid (Methylenesuccinic acid)	PFZ.
Lactic acid, edible, 100%	MON.
Lauroyl chloride	WTL.
Maleic acid	PFN.
Malic acid	ACC, CYL, DKA.
Mercaptoacetic acid (Thioglycolic acid)	EVN.
3-Mercaptopropionic acid	EVN.
Mercaptosuccinic acid (Thiomalic acid)	EVN.
Methacrylic acid	DUP, RH.
Methanesulfonic acid	PAS.
Methanesulfonyl chloride	FAS.
Neodecanoic acid	ENJ.
Nonanoic acid (Pelargonic acid)	CEL, EHR.
Nonanoyl chloride	WCC.
Nonenyisuccinic anhydride	HHY.
Octanoyl chloride	WCC.
Oleic acid	DRL, GLY.
Oleoyl chloride	DRL, GLY, STC.
Oxalic acid	ACS.
Oxidized Fischer Tropch wax	SNW.
Palmitoyl chloride	STC, X.
Peroxyacetic acid	PMB, UCC.
Pivaloyl chloride	PPG, WCC.
Polyacrylic acid	BEG, BCM, RH, SNW.
*Propionic acid	CEL, EKT, UCC.
Propionic anhydride	EKT.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ACIDS, ACID ANHYDRIDES, AND ACYL HALIDES--CONTINUED	
Propionyl chloride-----	WGC.
Sebacic acid-----	WPH.
Sebacoyl chloride-----	EK, WTL.
Sorbic acid (2,4-Hexadienoic acid)-----	MON.
Stearoyl chloride-----	DA.
Succinic acid-----	ACS.
Thioacetic acid-----	ACS.
3,3'-Thiodipropionic acid-----	EVN.
Thiolactic acid-----	EVN.
Trifluoroacetic acid-----	HOC.
Trifluoroacetic anhydride-----	HOC.
Valeric acid-----	UGC.
Acids, acid anhydrides, and acyl halides, all other-----	AAC, BKM, DRL, EK, FMC, KF.
*SALTS OF ORGANIC ACIDS:	
*ACETIC ACID SALTS:	
Aluminum acetate-----	MGC.
Aluminum tridecamate-----	KGH.
Ammonium acetate-----	AGS, BKC, WTK.
Barium acetate-----	BKC.
Calcium acetate-----	AGS, HFT.
Chromium acetate-----	SHF.
Cobalt acetate-----	SHF.
Cobalt manganese acetate-----	SHF.
Copper acetate-----	BKG.
Lead acetate-----	ATP, BKC.
Lead subacetate-----	ATP.
Magnesium acetate-----	BKC, SHP.
Manganese acetate-----	SHF.
Nickel acetate-----	BKC, SHP.
*Potassium acetate-----	AGS, BKC, HCP, NCC.
*Sodium acetate-----	AGS, ATL, BKC, EKT, HCP, NCC, X.
Sodium diacetate-----	HCP, NCC.
Zinc acetate-----	AGS, BKC, DIX, SHP, WTK.
Zirconium acetate-----	CCC, TZC.
Acetic acid salts, all other-----	X.
Adipic acid, ammonium salt-----	AGS, SOL.
Allylsulfonic acid, sodium salt-----	IOC.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
MISCELLANEOUS CHEMICALS	
ACYCLIC--CONTINUED	
*SALES OF ORGANIC ACIDS--CONTINUED	
CITRIC ACID SALTS:	
Ammonium citrate	PFZ, WTK.
Calcium citrate	PFZ.
Diethanolamine citrate	X.
Potassium citrate	HXL, PFZ.
Sodium citrate	HXL, PFZ, X.
Citric acid salts, all other	WTK.
*2-ETHYLHEXANOIC ACID (ALPHA-ETHYLCAEPROIC ACID) SALTS	
Aluminum 2-ethylhexanoate	NOC, WTC.
Barium 2-ethylhexanoate	NOD.
*Cadmium 2-ethylhexanoate	CCA, FER, VNC, WTC.
*Calcium 2-ethylhexanoate	CCA, COS, MCI, NOD, TFO.
Chromium 2-ethylhexanoate	MCI.
*Cobalt 2-ethylhexanoate	CCA, MCI, NOD, SHP, TFO, WTC.
Copper 2-ethylhexanoate	MCI.
2-Ethylhexanoic acid salts, all other	MCI, NOD.
Dibutyltin di-2-ethylhexanoate	COS.
Iron 2-ethylhexanoate	CCA, NOD.
*Lead 2-ethylhexanoate	CCA, COS, NOD, SHP, TFO, WTC.
*Manganese 2-ethylhexanoate	GGA, COS, MCI, MOD, SHP, TFO.
*Nickel 2-ethylhexanoate	CYL, MCI, NOD, SHP, WTC.
Potassium 2-ethylhexanoate	CCA, MCI, PEL.
Rare earths 2-ethylhexanoate	CCA, MCI, NOD.
Stannous 2-ethylhexanoate	FER, WTC.
*Zinc 2-ethylhexanoate	CCA, COS, FER, MCI, NOD, OHC, SHP, VNC, WTC.
*Zirconium 2-ethylhexanoate	CCA, COS, MCI, NOD, TFO, WTC.
FORMIC ACID SALTS:	
Potassium formate	FER, LIL, NOD, SHP.
Sodium formate, refined	HGP.
Sodium formate, technical	BKC, WTK.
Formic acid salts, all other	INC, PST, WTK.
Fumaric acid, lead salt	RSA, WTK.
GLUONIC ACID SALTS:	
Potassium glycolate	ALI.
Sodium gluconate	HGP, X.
Glycolic acid, sodium salt	PFN, PFZ, X.
2-Hydroxy-3-(2-propenyloxy)-1-propanesulfonic acid, sodium salt	HGP.
AAc	AAc.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*SALTS OF ORGANIC ACIDS--CONTINUED	
TERTIARY-ALPHA-ALKYL-CARBOXYLIC ACID SALTS	
(ISO-CARBOXYLIC ACID SALTS):	
Calcium t- α -alkylcarboxylate	MCI
Cobalt t- α -alkylcarboxylate	MCI, MCK
Copper t- α -alkylcarboxylate	MCI
Iron t- α -alkylcarboxylate	MCI
Lead t- α -alkylcarboxylate	MCI
Manganese t- α -alkylcarboxylate	MCI
Mixed t- α -alkylcarboxylic acid salts	MCI
Zinc t- α -alkylcarboxylate	MCI
Zirconium t- α -alkylcarboxylate	MCI
Isononanoic acid, lead salt	CCA
Isooctanoic acid, calcium salt	CCA
Isothionic acid, sodium salt	MGB
Isosorbic acid, sodium salt (Sodium erythorbate)	PFZ
LACTIC ACID SALTS:	
Sodium lactate (Malac)	PFN
Lactic acid salts, all other	PFN
LAURIC ACID SALTS:	
Barium cadmium laurate	FER
Dibutyltin dilaurate	FER, X
Lauric acid salts, all other	WIC
Lead salts of menhaden fish oil, C- ₁₄ to C- ₂₂ (lead fishate)	ELC, MCI
LIMOLEIC ACID SALTS:	
Calcium limoleate	CCA
Cobalt limoleate	CYL
Lead limoleate	INC
MALEIC ACID SALTS:	
Tribasic lead maleate	ALI

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*SALTS OF ORGANIC ACIDS--CONTINUED	
HERCPTOPROPIONIC ACID (THIOGLYCOLIC ACID) SALTS:	
Ammonium mercaptosuccinate	EVN.
Calcium mercaptosuccinate	EVN, X.
Sodium mercaptosuccinate	CCG.
Mercaptosuccinic acid (Thioglycolic acid) salts, all other	WTC.
HERCPTOPROPIONIC ACID, dibutyltin salt	
NEODECANOIC ACID SALTS:	
*Calcium neodecanoate	CCG, MCI, SHP.
Cobalt neodecanoate	MCI, SHP.
Lead-cobalt neodecanoate	MCI.
Lead neodecanoate	MCI.
Lithium neodecanoate	MCI.
Manganese neodecanoate	MCI, SHP.
Rare earths neodecanoate	MCI, SHP.
Zinc/calcium/cobalt neodecanoate	MCI.
Zinc neodecanoate	SHP.
Zirconium neodecanoate	MCI, SHP.
Neodecanoic acid salts, all other	AIP.
OCTANOIC-ACID (CAPRYLIC ACID) SALTS:	
Aluminum octanoate	SYP.
Stannous octanoate	SYP.
Octanoic acid (Caprylic acid) salts, all other	WTC.
OLEIC ACID SALTS:	
Calcium oleate	X.
Copper oleate	MCI.
OXALIC ACID SALTS:	
*Ammonium oxalate	ACS, BKG, HHL, WTK.
*Potassium oxalate	ACS, BKG, HHL, WTK.
Sodium oxalate	BKG, HHL, WTK.
PALMITIC ACID SALTS:	
Aluminum palmitate	SYP.
PHOSPHORODITHIOIC ACID SALTS (DITHIOPHOSPHATES):	
Potassium dihexyl phosphorodithioate	ACY.
Sodium di-sec-butyl/diethyl phosphorodithioate	ACY.
Sodium di-sec-butyl phosphorodithioate	ACY.
Sodium dihexyl phosphorodithioate	ACY.
Sodium diisopropyl phosphorodithioate	ACY.
Phosphorodithioic acid salts (dithiophosphates), all other	ESK.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
MISCELLANEOUS CHEMICALS	
ACYCLIC--CONTINUED	
*SALTS OF ORGANIC ACIDS--CONTINUED	
PROPIONIC ACID SALTS:	
*Calcium propionate	HFT, KMI, MCC.
Cobalt propionate	MCI.
Sodium propionate	HFT, MCC, X.
Propionic acid salts, all other	X.
Silver trifluoroacetate	EK.
Sodium di-2-ethylhexyl sulfosuccinate	WFG.
RICINOLEIC ACID SALTS:	
Calcium ricinoleate	CAS.
Sodium formaldehyde bisulfite	EK.
Sodium formaldehyde sulfoxylate	DA.
Sodium-N-methyl-N-octyl taurate	WFG.
Ricinoleic acid salts, all other	CAS, WTC.
*STEARIC ACID SALTS:	
*ALUMINUM STEARATES:	
Aluminum distearate	MAL, MOC, NOD, SYP, WTC.
Aluminum monostearate	MAL, NOD, SYP.
Aluminum tristearate	MAL, MOC, NOD, SYP, WTC, X.
Ammonium stearate	DA, WFG.
*Barium stearate	ALI, FER, NOD, SYP, VNC, WTC.
*Cadmium stearate	SYP, VNC, WTC.
*Calcium stearate	ALI, DA, FER, MAL, MOC, NOD, SNW, SYP, WTC.
*Cobalt stearate	MCI, SHP, WTC.
Ferric stearate	WTC.
Lead stearate	WTC.
Lead stearate, dibasic	ALI.
Lithium stearate	MOC, SYP, WTC.
*Magnesium stearate	ALI, HAL, MOC, NOD, SYP, WTC.
Irityoxy aluminum tristearate	KGH.
*Zinc stearate	CCC, CC, DA, HAL, MOC, MOD, PLS, SYP, VNC, WTC.
Stearic acid salts, all other	WTC.
TARTARIC ACID SALTS:	
Potassium sodium tartrate	PFZ.
Zinc formaldehyde sulfoxylate	DA.
Salts of organic acids, all other	DA, EK, EKX, RSA, SK, TCH, WTC.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ALDEHYDES:	
Acetaldehyde-----	CEL, EKK, UCC.
Acrolein (Acrylaldehyde)-----	UCC.
*Butyraldehyde-----	CEL, DBC, EKK, UCC.
Crotonaldehyde-----	EKK, UCC.
*2-Ethylhexanal (α -Ethylisopropaldehyde)-----	BDR, CBD, CEL, DUF, GAF, GFC, HFC, IMC, MON, NOD, PKI, RCI, MCL.
*Formaldehyde (37% HCHO by weight)-----	UCC.
Glutaraldehyde-----	ACY.
Glyoxal-----	CEL, DBC, EKK, TU, UCC.
Isobutyraldehyde-----	UCC.
Isopentaldehyde, mixed isomers-----	RDA.
Methacrolein (methacrylaldehyde)-----	CEL, EKK, UCC.
*Propionaldehyde-----	EK.
Succinaldehyde-sodium bisulfite complex-----	UCC.
Valeraldehyde (Pentanal)-----	ASL, UCC.
Aldehydes, acyclic, all other-----	
*KETONES:	
*ACETONE:	
*Acetone from cumene-----	ACS, BTL, CLK, DOM, GE, GGC, GXR, TX.
*Acetone from isopropyl alcohol-----	EKT, ENJ, SHC, UCC, VSS.
Acetone, crude-----	ATR.
5-Chloro-2-pentanone-----	SDW.
1-Chloropropanone (Chloroacetone)-----	CHG.
Chloro-2-propanone (Chloroacetone)-----	AIF, MRK.
Diisooamyl ketone-----	EKT.
Diisopropyl ketone (2,4-Dimethyl-3-pentanone)-----	EKK.
2-Heptanone (Methyl amyl ketone)-----	EKT.
*4-Hydroxy-4-methyl-2-pentanone (Diacetone alcohol)-----	CEL, SHC, UCC.
Isovalerone (Diisobutyl ketone)-----	EKT, UCC.
*Methyl ethyl ketone-----	ATR, CEL, ENJ, SHC.
*5-Methyl-2-hexanone (Methyl isooamyl ketone)-----	EKT.
*4-Methyl-3-pentan-2-one (Mesityl oxide)-----	EKT, ENJ, SHC, UCC.
Methylpseudoionone-----	NCI.
2-Octanone (hexyl methyl ketone)-----	WTH.
2,4-Pentanedione (Acetylacetone)-----	UCC.
3-Pentanone (Diethyl ketone)-----	EKT, HEX, ORI, UCC.
Pseudoionone-----	NCI, SCH.
2,6,8-Trimethyl-4-nonanone (Isobutyl heptyl ketone)-----	UCC.
Ketones, all other-----	HEX.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ALCOHOLS, MONOHYDRIC, UNSUBSTITUTED:	
*ALCOHOLS, C ₁₁ OR LOWER, UNMIXED (95% OR MORE PURE):	
Allyl alcohol-----	FMC.
AMYL ALCOHOLS:	
2-Methyl-1-butanol-----	UCC.
1-Pentanol-----	UCC.
*BUTYL ALCOHOLS:	
*n-Butyl alcohol (n-Propylcarbinol)-----	CEL, DHC, EKK, GAF, SHG, UCC, VST.
sec-Butyl alcohol (Methylethylcarbinol)-----	EMJ, SHC.
tert-Butyl alcohol (Trimethylcarbinol)-----	ATR, SHC.
*Isobutyl alcohol (Isopropylcarbinol)-----	CEL, CFS, DBC, EKK, SHG, UCC.
1-Decanol-----	TWA, VST.
*Ethyl alcohol, synthetic only-----	CEL, DOW, EKK, SHG, UCC, USI, VST.
*2-Ethyl-1-hexanol-----	DBC, EKK, SHC, TU, UCC.
n-Heptyl alcohol-----	EKK.
n-Hexyl alcohol-----	TWA, VST.
Isodecyl alcohol-----	EMJ.
Isohexyl alcohol (2,2-Dimethylbutanol)-----	EMJ.
Isononyl alcohol-----	EMJ, SHC.
Iso-octadecyl alcohol-----	SHX.
Iso-octyl alcohol-----	EMJ.
*Isopropyl alcohol-----	ACS, ATR, EMJ, SHG, UCC.
*Methanol, synthetic only-----	ATP, ATR, BOR, CEL, DUP, EKT, GGC, HST, LYP, MON, TX.
2-Methyl-1-pentanol-----	UCC.
4-Methyl-2-pentanol (1-Methylisobutylcarbinol)-----	UCC.
1-Octanol-----	TWA, VST.
2-Octanol (sec-Capryl alcohol)-----	WTH.
*Propyl alcohol (Propanol)-----	CEL, EKK, UCC.
2-Propyn-1-ol (Propargyl alcohol)-----	GAF.
Alcohols, unmixed C or lower, all other	
*ALCOHOLS C ₁₂ OR HIGHER, UNMIXED (95% OR MORE PURE):	
Dodecyl alcohol (Lauryl alcohol)-----	SHG, UCC.
1-Hexadecanol (Cetyl alcohol)-----	TWA, VST.
2-Hexyl-1-decanol-----	CFM, PG, VST.
1-Octadecanol (Stearyl alcohol)-----	SCP.
cis-9-Octadecen-1-ol (Oleyl alcohol)-----	CFM, PG, TWA, VST.
1-Tetradecanol (Myristyl alcohol)-----	SHX.
1-Tridecanol-----	VST.
2,6,8-Trimethyl-4-nonanol-----	EMJ.
	UCC.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1965

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ALCOHOLS, MONOHYDRIC, UNSUBSTITUTED--CONTINUED	
MIXTURES OF ALCOHOLS:	
*Alcohol mixtures, C-11 or lower only	EKX, ENJ, NCI, PG, SHC, TNA, UCC, VST.
*Alcohol mixtures, C-19 and C-20 only	TNA.
*Alcohol mixtures, C-12 through C-18 only	SHC, SHX, TNA, VST, WTH.
*Alcohol mixtures, other	CO, ENJ, SCP, TNA, VST.
*ESTERS OF MONOHYDRIC ALCOHOLS:	
Acrylic monomers, mixed	AAC
*Allyl methacrylate	AAC, OPS, GLY.
AMYL ACETATES:	
Amyl acetate (n-Pentyl acetate)	UCC.
Amyl acetates, all other	WTL.
*BUTYL ACETATES:	
*n-Butyl acetate	CEL, DBC, EKT, UCC.
*Isobutyl acetate	CEL, DBC, EKT, UCC.
*Butyl acrylate	CEL, DBC, RH, UCC.
n-Butyl chloroacetate	MAL.
sec-Butyl chloroacetate	PPG.
Butyl lactate	CPS.
Butyl maleate	TCH.
Butyl mercaptopropionate	EVN.
Butyl methacrylate	DUP, RH.
Butyl oleate	ELG.
tert-Butyl peroxyacetate	AZT, WTL.
*tert-Butyl peroxy-2-ethylhexanoate	AZT, WTC, WTL.
tert-Butyl peroxyisobutyrate	AZT, WTL.
tert-Butyl peroxyisopropylcarbonate	CAD, PPG, WTL.
tert-Butyl peroxyneodecanoate	WTC, WTL.
*tert-Butyl peroxyvalerate	AZT, WTC, WTL.
Butyl searate	CRN.
Cetylricosyl methacrylate	RH.
Cetyl lactate	VND.
Diallyl maleate	AAC, FMC.
Dibutyl fumarate	RCI.
*Dibutyl maleate	NOD, RCI, USS.
Di(sec-butyl)peroxydicarbonoate	WTL.
Diethyl carbonate (Ethyl carbonate)	PPG.
Diethyl dipropylmalonate	ABB.
Di(2-ethyl-1-hexyl) maleate	CCC, CHP, RPC, STC.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ESTERS OF MONOHYDRIC ALCOHOLS--CONTINUED	
Di(2-ethyl-1-hexyl) peroxydicarbonate	WTL.
Diethyl maleate	ACY.
Diethyl oxalate (Ethyl oxalate)	TLI, X.
Dilauryl-3,3'-thiodipropionate	CCW, EVN.
Dimethyl carbonate	PPG.
Dimethyl maleate	AAC.
Dimristyl-3,3'-thiodipropionate	CCW.
*Diocetyl maleate	FTX, NOD, RCI, USS.
Ditridecyl-3,3'-thiodipropionate	CCW, EVN.
Ditribis(stearyl propionate)	CCW, EVN.
Ditridecyl maleate	EPH.
Di(tridecyl)-3,3'-thiodipropionate	EVN.
Dodecyl succinic lactate	RH.
Dodecyl succinic lactate	SH.
*2-Ethoxyethyl acetate	EKT, ICI, UCC.
*Ethyl acetate (100% basis)	CEL, EKT, EKK, MON, UCC.
Ethyl acetate	BRD, EKT.
Ethyl acetoacetate	CEL, RH, UCC.
*Ethyl acrylate	DA, SK.
Ethyl chloroacetate	CEL, RH, UCC.
Ethyl chloroformate	DA, SK.
Ethyl chloroformate	ESK, PPG.
Ethylene carbonate	SFA.
Ethyl chloroformate	TX.
2-Ethyl-1-hexyl acetate	EKT, MRF.
*2-Ethyl-1-hexyl acrylate	CEL, DBC, UCC.
2-Ethylhexyl chloroformate	PPG, VCM.
2-Ethyl-1-hexyl methacrylate	DUP.
Ethyl sulfite (Diethyl sulfite)	UCC.
*FATTY ACID ESTERS, NOT INCLUDED WITH PLASTICIZERS OR SURFACE ACTIVE AGENTS:	
Dialkyl dimerate	WTC.
Dimethyl brassylate	EMR.
Docosanyl docosenoate	SBC.
Dodecenyl succinic 12-hydroxystearate	TX.
Heptyl acetate	EMJ.
Isocetyl stearate	SCF.
Isopropyl lanolinolate	VND.
Isopropyl linoleate	VND.
Methyl esters of coconut oil	FTX, PG, WTC.
Methyl esters of lard	PER.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ESTERS OF MONOHYDRIC ALCOHOLS--CONTINUED	
*FATTY ACID ESTERS, NOT INCLUDED WITH PLASTICIZERS OR SURFACE ACTIVE AGENTS--CONTINUED:	
Methyl esters of tallow	CHL, FER.
Methyl 12-hydroxystearate	GAS, WTH.
Methyl iso-octadecanoate	SYL.
Methyl linoleate	HKT.
Methyl stearate	CHL, WTC.
*Mristyl myristate	CYL, SBC, VND.
*Ridexyl stearate	DA, RFG, SCP, STC, WH, WTC.
Fatty acid esters, not included with plasticizers surface-active agents, all other--	ALI, DA, SBC. ENJ, UCC.
Hexyl acetate	AAC, CFS.
Hexyl acrylate	DBC.
Isobutyl acrylate	PPG, VCM.
Isobutyl chloroformate	EKX.
Isobutyl isobutyrate	RH.
Isobutyl methacrylate	CFS.
Isodecyl acrylate	RH.
Isodecyl methacrylate	CMW, EVN.
Iso-octyl mercaptoacetate	EVN.
Iso-octyl-3-mercaptopropionate	EKT, UCC.
Isopropyl borate	ADC.
Isopropyl chloroformate	PPG, VCM.
Isostearyl neopentanoate	SBC, VND.
Lauryl acrylate	CFS.
Lauryl lactate	VND.
Lauryl methacrylate	AAC, CFS, RH, TX.
Maleic esters and copolymers	GAF.
Menthallylidene diacetate	EDA.
2-Methoxyethyl acrylate	CPS.
Methyl acetate	EKT, MON.
Methyl acetoacetate	BBU, EKT.
Methyl acrylate, monomer	CEL.
Methyl chloroacetate	DA.
Methyl chloroformate	PPG.
Methyl formate	CEL.
*Methyl methacrylate, monomer	CYR, DUP, RH.
Octadecyl-3-mercaptopropionate	DUP, EVN.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ESTERS OF MONOHYDRIC ALCOHOLS--CONTINUED	
*PHOSPHORUS ACID ESTERS:	
Amyl hydrogen phosphate	HK.
Bis (2-chloroethyl)-2-chloroethylphosphonate	ALM.
Bis(2-ethylhexyl) hydrogen phosphate	ALM.
Buryl hydrogen phosphate	ALM, HK.
Dibutyl butylphosphonate	ALM.
Dibutyl hydrogen phosphate	ALM, SFS.
Dibutyl pyrophosphate	ALM.
Diethyl hydrogen phosphate	ALM.
Diethyl phosphorochloridothionate	SFS, TNA.
Dimethyl hydrogen phosphate	ALM.
Dimethyl methylphosphonate	ALM, SFS.
Dimethyl phosphoridochlomite	SFS.
Diolyl hydrogen phosphate	ALM.
2-Ethylhexyl hydrogen phosphate	ALM.
Iso-octyl hydrogen phosphate	ALM.
Methyl dihydrogen phosphate	HK.
Mixed dialkyl hydrogen phosphates	ELC.
Mixed dialkyl hydrogen phosphates, amine salts	ELC.
Stearyl acid phosphate	HK.
Tetrakis(2-chloroethyl)ethylene diphosphate	OMC.
Trialkyl phosphate	MCB.
Tributyl phosphate	FNC.
Triethyl phosphate	ALM.
Triiso-octyl phosphate	ALM, MCB.
Trimethyl phosphate	ALM.
Tris(chloroisopropyl)thionophosphate	ALM.
Tris(2-ethylhexyl) phosphate	ALM.
Phosphorus acid esters, all other	ALM, AZT, CED, MCB, MOM, SFS, X.
*Propyl acetate	CEL, EKT, UCC.
Propylene carbonate	TX.
Stearyl methacrylate	CPS, RH, FX.
Tetraalkyl silicate	MOM.
Tetraethyl orthosilicate (Tetraethyl silicate)	SFS, UCC.
Tetraethyl silicate, condensed	SFS, UCC.
TITANIC ACID ESTERS:	
Bis(2-bis(2-hydroxyethyl)amino)ethyl diisopropyl titanate	DUP.
Di(hydroxy)bis(ammoniumlactato)titanium	DUP.
Diisopropyltitanate bis(ethyl-3-oxobutanoate)	DUP.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ESTERS OF MONOHYDRIC ALCOHOLS--CONTINUED	
TITANIC ACID ESTERS--CONTINUED	
Tetraethyl titanate	DUP.
Tetraisopropyl titanate	DUP.
Tetrakis(2-ethylhexyl)titanate	DUP, KF.
Triethanolamine titanate	KF.
Titanic acid esters, all other	DUP.
Trichloromethyl chloroformate	MHL.
Triethyl orthoacetate	KF.
Triethyl orthopropionate	KF.
Trimethyl borate	KF.
Trimethyl orthoacetate	KF.
Trimethyl orthoformate	KF.
Tristearyl citrate	CYL.
*Vinyl acetate, monomer	CEL, DUP, UCC, USI.
Vinyl crotonate	FER.
Monohydric alcohol esters, all other	AAC, DA, KF, ICI, PAH, PIC, USR, WTL, X.
*POLYHYDRIC ALCOHOLS:	
1,2-Bis(bromomethyl)-1,3-propanediol	DOM.
1,2-(and 1,3)-Butanediol	CEL.
*1,4-Butanediol	BAS, DUP, GAF, X.
2-Butene-1,4-diol	GAF.
2-Butyne-1,4-diol	BAS, GAF.
3-Chloro-1,2-propanediol (Glycerol α -chlorohydrin)	DIX, EKI, EVN.
2,2-Dimethyl-1,3-propanediol (Neopentyl Glycol)	DBC, ECK.
*Ethylene Glycol	BAS, CEL, DA, DOM, EKI, HCF, ICI, NWP, OMC, SHG, TX, UCC.
2-Ethyl-1,3-hexanediol	DA, UCC.
2-Ethyl-2-(hydroxymethyl)-1,3-propanediol (Trimethylolpropane)	CEL.
Glycerol, synthetic only	DOM.
1,6-Hexanediol	DBC.
2-(Hydroxymethyl)-2-methyl-1,3-propanediol (Trimethylolthane)	IMC.
Mannitol	ICI.
3-Mercapto-1,2-propanediol (Thioglycerol)	EVN.
2-Methyl-2,4-pentanediol (Hexylene Glycol)	SHC.
*pentaerythritol	CEL, DOM, HPC, IMC, PST.
*propylene Glycol (1,2-Propanediol)	ATR, DOM, OMC, TX, UCC.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*POLYHYDRIC ALCOHOLS--Continued	
*Sorbitol (70% by Weight)-----	BRD, EHC, ICI, PFZ.
2,2,4-Trimethyl-1,3-pentanediol-----	EKX.
Polyhydric alcohols, all other-----	ICI, SHC.
*ESTERS AND ETHERS OF POLYHYDRIC ALCOHOLS:	
*POLYHYDRIC ALCOHOL ESTERS:	
2-(2-Butoxyethoxy)ethyl acetate-----	EKT, ICI.
2-Butoxyethyl acetate-----	EKT, ICI, UCC.
1,3-Butylene glycol diborate-----	USB.
1,3-Butylene glycol diborate/hexylene glycol boric anhydride-----	USB.
Diethylene glycol adipate-----	OMB.
Diethylene glycol, borated-----	OMC.
Diethylene glycol chloroformate-----	VMC.
Diethylene glycol dimethacrylate-----	CPS, RH.
Dihydromyrene-----	SCM, X.
2-(2-Ethoxyethoxy)ethyl acetate-----	AAC, EKT.
Ethylene glycol diacetate-----	EKT.
Ethylene glycol dimercaptoacetate-----	EWN.
Ethylene glycol dimethacrylate-----	RH.
Ethylene glycol hydroxyacetate-----	CCA.
Ethylene glycol phosphite-----	ALW.
2-Ethyl-2(hydroxymethyl)-1,3-propanediol trimethacrylate-----	MM.
Glycerol tricaprylate caprate-----	MM.
Glyceryl diacetate (Diacetin)-----	HAL.
Glyceryl monothioglycolate-----	EVN.
Glyceryl triacetate (Triacetin)-----	EKT.
Glyceryl tristearate-----	GLY.
1,6-Hexanediol diacrylate-----	RH.
Hydroxyethyl acrylate-----	DOM, RH.
Hydroxyethyl methacrylate-----	RH.
Hydroxypropyl acrylate-----	DOM, NEV, RH.
Hydroxypropyl methacrylate-----	AAC, CEL, RH.
2-Methoxyethyl acetate-----	UCC.
Pentaerythritol caprylate/ceprate-----	MM.
Pentaerythritol stearate-----	GLY.
Pentaerythritol tetraacrylate-----	CEL.
Pentaerythritol tetrakis (3-Mercaptopropionate)- Polyethylene polypropylene glycol glyceryl triether maleate-----	EWN. X.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACTCLIC--CONTINUED	
*ESTER AND ETHERS OF POLYHYDRIC ALCOHOLS--CONTINUED	
*POLYHYDRIC ALCOHOL ESTERS--CONTINUED	
Polyol aluminum chelate	SNW.
triether citrate	X.
Propylene glycol dicaprylatecaprate	X.
Propylene oxide, polymer with polyethylene glycol adipate	WM.
Sucrose octa-acetate	X.
Tetraethylene glycol diacrylate	HFT, PD.
Tetraethylene glycol dimethacrylate	CEL.
Tetraethylene glycol dimethacrylate	WM.
Triethylene glycol diacetate	AAC
Triethylene glycol diacrylate	EKT.
Trimethylolthane pelargonate	CEL.
Trimethylolpropane triacrylate	WM.
Trimethylolpropane triacrylate, ethoxylated	AAC, RH.
Trimethylolpropane tridecanoste	AAC.
Trimethylolpropane tri(2-mercaptopropionate)	SM.
2,2,3-Trimethyl-1,3-pentamediol monoisobutyrate	EVN, RH.
Tripropylene glycol diacrylate	EKK.
Polyhydric alcohol esters, all other	CEL.
*POLYHYDRIC ALCOHOL ETHERS:	
Bis(2-butoxyethyl)ether (Diethylene glycol di-n-butyl ether)	ASA, CEL, EKK, SHK, SNW, SOL, UCC.
Bis(2-ethoxyethyl)ether (Diethylene glycol diethyl ether)	ASL, FER.
Bis(2-(2-methoxyethoxy)ethyl) ether (Tetraethylene glycol dimethyl ether)	ASL, FER.
Bis(2-methoxyethyl)ether (Diethylene glycol dimethyl ether)	ASL, FER.
*2-butoxyethanol (Ethylene glycol monobutyl ether)	ASL, FER.
*2-(2-butoxyethoxy)ethanol (Diethylene glycol monobutyl ether)	DOM, EKK, ICI, OMC, SHC, UCC.
*2-[2-(2-butoxyethoxy)ethoxy]ethanol (Triethylene glycol monobutyl ether)	DOM, EKK, ICI, OMC, SHC, UCC.
1-Butoxyethoxy-2-propanol	DOM, OMC, UCC.
Butyl ethers of tetra- and higher ethylene glycols(high boiling)	EKK, ICI.
*Diethylene glycol	BAS, CEL, DOM, EKK, HST, ICI, OMC, SHC, TK, UCC.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*ESTER AND ETHER OF POLYHYDRIC ALCOHOLS--CONTINUED	
*POLYHYDRIC ALCOHOL ETHERS--CONTINUED	
Diethylene glycol divinyl ether	GAF, ASL, FER, ATR, DOM, OMC, TX, UCC.
Dimethoxyethane (Ethylene glycol dimethyl ether)	OMC.
Dipropylene glycol	EKK, ICI, OMC, SHG, UCC.
*2-Ethoxyethanol (Ethylene glycol monoethyl ether)	DOM, EKK, ICI, OMC, UCC.
*2-(2-Ethoxyethoxy)ethanol (Diethylene glycol monoethyl ether)	DOM, OMC, UCC.
*2-[2-(2-Ethoxyethoxy)ethoxy]ethanol (Triethylene glycol monoethyl ether)	DOM, EKK, ICI, OMC, UCC.
Ethylene glycol di-tributyl ether	OMC.
Ethylene glycol monoisobutyl ether	EKK, ICI, OMC.
Ethyl ethers of tetra- and higher ethylene glycols (high boiling)	EKK, ICI.
2-[2-(Hexyloxy)ethoxy]ethanol	UCC.
*2-Methoxyethanol (Ethylene glycol monoethyl ether)	ICI, OMC, UCC.
*2-(2-Methoxyethoxy)ethanol (Diethylene glycol monoethyl ether)	DOM, ICI, OMC, UCC.
*2-[2-(2-Methoxyethoxy)ethoxy]ethanol (Triethylene glycol monoethyl ether)	DOM, ICI, OMC, UCC.
(Triethylene glycol dimethyl ether)	ASL, OMC.
Methoxypolyethylene glycol	STC, UCC.
1-Methoxy-2-propanol	DOM, OMC.
3-(3-Methoxypropoxy)propanol	DOM.
3-3-(3-Methoxypropoxy)propoxypropanol	DOM.
Paraformaldehyde	CEL.
*Polyethylene glycol	DA, DOM, HDG, OMC, STG, TX, UCC, WTC, X, X.
Polyethylene glycol dimethyl ether	SHX, X.
Polyethylene glycol monodecyl ether	X.
*Polyglycols, ethylene glycol and glycol ether, mixed	ASL, CEL, DOM, UCC, X.
Polymethacrylate	TMI.
Polyoxyethylene glycol	OMC.
POLYPROPXY ETHERS:	
Poly(propoxy)butyl ether, ethoxylated	TX.
Polypropoxybutyl ether	DA.
Polypropoxy ethers, all other	ICI, OMC.
Polyoxypropylene polyoxyethylene glycol, mixed	ICI, UCC, WTC.
*Polypropylene glycol	DOM, HDG, OMC, SH, TX, X.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
MISCELLANEOUS CHEMICALS	
ACYCLIC--CONTINUED	
*ESTER AND ETHER OF POLYHYDRIC ALCOHOLS--CONTINUED	
*POLYHYDRIC ALCOHOL ETHERS--CONTINUED	
Polypropylene glycol glycerol tri-ether-----	X.
Polytetramethylene glycol ether-----	DUP, QKO.
Poly(1,1,1-trichlorobutane-2-ol)ethylene glycol dextrose ether-----	EKK
Propoxyethanol (Ethylene glycol monopropyl ether)-----	EKK, OMC.
Propoxyethoxyethanol (Diethylene glycol monopropyl ether)-----	OMC.
Sorbitol, ethoxylated-----	GLY, ICI.
Sorbitol, propoxylated-----	ICI.
2,2'-Thiodiethanol (Thiodiglycol)-----	DOM, EKK, ICI, UCC.
*Triethylene glycol-----	PLC.
*Tripropylene glycol-----	CEL, CXI, DOM, EKK, ICI, OMC, SHG, TX, UCC.
Tripropylene glycol monomethyl ether-----	DOM, OMC, UCC.
Tri- and tetraethylene glycol monoethyl ethers, borate esters-----	OMC.
Polyhydric alcohol ethers, all other-----	DA, HTM, MIL, UCC, WTC, X.
HALOGENATED HYDROCARBONS:	
BROMINATED (INCLUDING BROMOCHLORINATED)	
HYDROCARBONS:	
1-Bromobutane (n-Butyl bromide)-----	DAZ.
Bromochlorinated paraffin C ₁₀ C ₂₀ -----	FEK.
Bromochloromethane-----	BKH, DOM.
Bromoethane (Ethyl bromide)-----	DOM, GTL.
1-Bromohexadecane-----	HHY.
1-Bromo-3-methyl-2-butene-----	SD.
1-Bromo-octadecane-----	HHY.
1-Bromopentane (n-Amyl bromide)-----	GTL, WCC.
1-Bromopropane (n-Propyl bromide)-----	DAZ, WCC.
2-Bromopropane (Isopropyl bromide)-----	WCC.
Dibromohexadecane-----	TNA.
Dibromomethane (methylene bromide)-----	DOM.
1,1,2,2-Tetrabromoethane (Acetylene tetrabromide)	DOM
Vinyl bromide (Bromoethylene)-----	TNA.
Brominated (Including bromochlorinated) hydrocarbons, all other-----	DAZ, HHY, TNA, WTC.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*CHLORINATED (NOT OTHERWISE HALOGENATED) HYDROCARBONS:	
*Carbon tetrachloride-----	DA, DOM, DUP, FRO, LCP, SFC.
*CHLORINATED PARAFFINS (C ₁₀ -C ₃₀):	
Chlorinated paraffins, 35-64% chlorine-----	DA, DVC, FER, NEV, WTC, X.
Chlorinated paraffins, less than 35% chlorine-----	DIC, SHG.
Chlorinated paraffins, 65% or more chlorine-----	DA, DOM, DVC, FER.
1-Chlorobutene (n-Butyl chloride)-----	UGC
*Chloroform-----	DA, DOM, FRO, LCP.
*Chloromethane (Methyl chloride)-----	FCG, DOM, LCP, TMA, VST.
3-Chloro-2-methyl-1-propene (Methallyl chloride)-----	DOM, SHC.
1,2-Dichloropropane (Propylene dichloride)-----	DOM.
2,3-Dichloropropane-----	DOM.
2,2-Dimethylchloropropane (neopentyl chloride)-----	TMA.
*Ethyl chloride (Chloroethane)-----	DOM, DUP, PFG, TMA.
*Ethylene dichloride-----	BFG, DA, DOM, FOR, FRO, GGC, OMC, PFG, SHG, TMA, VST.
Hexyl chloride-----	TNA.
Lauryl chlorides-----	SHC, TWA.
*Methylene chloride (Dichloromethane)-----	DA, DOM, FRO, LCP.
Octyl chloride-----	TNA.
*Perchloroethylene (Tetrachloroethane)-----	DA, DOM, DUP, FRO, PFG, SFC.
1,1,1-Trichloroethane (Methyl chloroform)-----	DOM, FRO, PFG.
1,1,2-Trichloroethane (Vinyl trichloride)-----	DOM, RSA.
Trichloroethylene-----	DOM, PFG.
1,2,3-Trichloropropane-----	DOM.
1,2,3-Trichloropropene-----	DOM.
*Vinyl chloride, monomer (Chloroethylene)-----	BFG, BOR, DOM, FOR, GGC, PFG, SHC, VST.
Vinylidene chloride, monomer (1,1-Dichloroethylene)-----	DOM, PFG.
Chlorinated (Not otherwise halogenated) hydrocarbons, all other-----	WTC, X.
*FLUORINATED (INCLUDING OTHER FLUORHALOGENATED) HYDROCARBONS:	
2-Bromo-2-chloro-1,1,1-trifluoroethane-----	HOC.
Bromotrifluoroethylene-----	DUP, GTL.
1-Chloro-1,1-difluoroethane-----	PAS.
*Chlorodifluoroethane (F-22)-----	ACS, DUP, KAI, PAS, RCN.
Chlorotrifluoroethylene (Trifluorovinyl chloride)-----	ACS.
*Chlorotrifluoromethane-----	DUP.
*Dichlorodifluoroethane (F-12)-----	ACS, DUP, KAI, PAS, RCN.
Dichlorotetrafluoroethane-----	ACS, DUP.
1,1-Difluoroethane-----	DUP, PAS.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
HALOGENATED HYDROCARBONS--CONTINUED	
*FLUORINATED (INCLUDING OTHER FLUORAHALOGENATED) HYDROCARBONS--CONTINUED	
Hexafluoropropylene, monomer	DUP.
1-Iodoperfluorohexane	DUP.
Polyhexafluoropropylene oxide	DUP.
Polytetrafluoroethylene ethyl iodide	X.
Tetrafluoroethylene, monomer	DUP., ICI.
Tetrafluoromethane	DUP.
*Trichlorofluoromethane (F-11)	ACS, DUP, KAI, PAS, RCM.
Trichlorotrifluoroethane	ACS, DUP.
Trifluoroethanol	HOC.
Trifluoropropene	HOC.
Vinyl fluoride, monomer	DUP.
Vinylidene fluoride, monomer	PAS.
Fluorinated (including other fluorohalogenated) hydrocarbons, all other	DUP, HOC, ICI, OH, REG.
*IODINATED (NOT OTHERWISE HALOGENATED) HYDROCARBONS:	
Diiodomethane (Methylene iodide)	DPW, NTB.
Iodobutane	RSA.
Iodoethane (ethyl iodide), non-medical	COC, DPW, RSA.
Iodomethane (Methyl iodide)	COC, DPW, RSA.
Iodinated (Not otherwise halogenated) hydrocarbons, all other	DPW.
*OTHER MISCELLANEOUS ACYCLIC CHEMICALS:	
Acetone sodium bisulfite	EK.
ACYCLIC PEROXIDES:	
Acetylacetone peroxide	CAD.
Acetyl peroxide	WTL.
*2-Butanone peroxide	CAD, FRE, NOC, WTC, WTL.
n-Butyl-4-bis[tert-butoxy]valerate	CAD.
tert-butyl hydroperoxide	ATR, AZT, FRE, WTC, WTL.
tert-Butyl peroxide (DI-tert-butyl peroxide)	AZT, WTC, WTL.
Decanoyl peroxide	WTC, WTL.
Diisopropyl peroxydicarbonate (Isopropyl percarbonate)	EKK, PPG.
2,5-Dimethyl-2,5-bis(2-ethyl-1-hexanoyl peroxy) hexane	WTC, WTL.
2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane	CAD, WTL.
2,5-Dimethyl-2,5-di(tert-butylperoxy)hexyne-3	WTL.

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MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*OTHER MISCELLANEOUS ACYCLIC CHEMICALS--CONTINUED	
ACYCLIC PEROXIDES--CONTINUED	
Diperoxododecanedioic acid	MNC.
Di-n-propyl peroxydicarbonate	WTL.
Lauroyl peroxide	WTL.
Aluminum isopropoxide (Aluminum isopropylate)	CHT, KCH.
Carbon disulfide	PAS, SFT.
Chromium acetylacetonate complex	MCK, SHP.
Cobalt acetylacetonate complex	SHP.
2,3-Dibromopropanol	GTL.
*EPOXIDES, ETHERS, AND ACETALS:	
Bis(2-Chloroethyl)ether (Dichlorodethyl ether)	BKX.
Butylene oxide	DOM.
Butyl vinyl ether	GAF.
Chloromethyl methyl ether	RH.
2,2-Dichloro-1,1-difluoroethyl methyl ether	OH.
Epichlorohydrin	DOM, SHC.
*ethylene oxide	BAS, CEL, DOM, ECK, ICI, NMF, OMC, SHC, SNO, TX, UCC.
Ethyl ether, U.S.P.	USI.
Ethyl ether, absolute	ECK, USI.
Ethyl ether, tech.	DOM, USI.
1,2-Ethanedithiol	REC.
2-(Ethylmercapto)ethanol	DOM.
Glycidol (2,3-Epoxy-1-propanol)	DIK.
*GLYCIDYL ETHERS:	
Alkyl glycidyl ethers, C ₁₂ -C ₁₈	WLN.
Alkyl glycidyl ethers, C ₈ -C ₁₀	WLN.
Allyl glycidyl ether (Allyloxy-2,3-epoxypropane)	AAC, CFS.
1,4-Butanediol diglycidyl ether	CEL, WLN.
*1-Butoxy-2,3-epoxypropane (Butyl glycidyl ether)	AAC, CEL, CFS, WLN.
tert-Butyl glycidyl ester	WLN.
2-Ethylhexyl glycidyl ether	WLN.
Polyol glycidyl ether	CEL, WLN.
Glycidyl ethers, all other	CEL, WLN.
Isopropyl ether	ENJ, SHC.
Malonaldehyde bis(dimethyl) acetal	XF.
Methylal (Dimethoxymethane)	CEL.
Methyl ether (Dimethyl ether)	DIP.
Methyl vinyl ether	GAF.
Propylene oxide	ATR, DOK.
Epoxydes, ethers, acetals, all other	STC, UCC, VIK.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*OTHER MISCELLANEOUS ACYCLIC CHEMICALS--CONTINUED	
FATS AND OILS, CHEMICALLY MODIFIED:	
Hydrogenated tallow glycerides	CHL
Linseed oil, oxygenated	CJO
Sulfurized corn oil	SH
Vegetable glycerides, hydrogenated	GLY
Fats and oils, chemically modified, all other	CAS, CHL, DA
Glutaraldehyde bis(sodium bisulfite)	EK
Hexachlorodimethyl sulfone	SFS
1-Hexadecanethiol	HMY
*HYDROCARBONS:	
n-Decane	HMY, PLC
3,3-Dimethylbutene	PLC
n-Dodecane	HMY, PLC
Hexadecane	HMY
Isomonanoyl peroxide	WTL
Kyrene	SCM, X
n-Nonane	HMY, PLC
n-Octadecane	HMY
n-Octane	HMY, PLC
n-Tetradecane	HMY
Hydrocarbons, all other	PAS, WTK
Iron acetylacetonate complex	MCK, SHP
Manganese acetylacetonate complex	SHP
2-Mercaptoethanol	PLC
Methyl sulfide (Dimethyl sulfide)	CRZ, PAS
Methyl sulfoxide (Dimethyl sulfoxide)	CRZ
1-Octadecanethiol	HMY
ORGANO-ALUMINUM COMPOUNDS:	
Aluminum acetylacetonate complex	MCK
Aluminum di-sec-butoxide acetoacetic ester chelate	CHI
Aluminum diisopropoxide acetoacetic ester chelate	CHI, KCH
Aluminum ethyl-3-oxobutanato-0,0 -dihydroxy 1-4	CHI
Aluminum (2-ethyl hexanato)-oxo-homopolymer	KCH
Aluminum tri-sec-butoxide	CHI
Diethylaluminum chloride	TWA, TSA
Diethyl aluminum ethoxide	TWA, TSA
Diethylaluminum iodide	TWA, TSA
Diisobutylaluminum chloride	TWA, TSA
Diisobutylaluminum hydride	TWA, TSA

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
ACYCLIC--CONTINUED	
*OTHER MISCELLANEOUS ACYCLIC CHEMICALS--CONTINUED	
ORGANO-ALUMINUM COMPOUNDS--CONTINUED	
Ethylaluminum dichloride	TMA, TSA.
Ethylaluminum sesquichloride	TMA, TSA.
Isopropylaluminum	TSA.
Methylaluminum sesquichloride	TMA.
Oxy-aluminum octanoate	CHT.
Sodium dihydrobis(2-methoxyethoxy)aluminum hydride	HXL.
Triethylaluminum	TMA, TSA.
Tri-n-hexyl aluminum	TSA.
Triisobutylaluminum	AIP, TNA, TSA.
Trimethylaluminum	MHI, TNA.
Tri-n-octylaluminum	TSA.
Tri-oxyaluminum tri-isopropoxide	CHT, KCH.
Organo-aluminum compounds, all other	TMA, TSA.
*ORGANO-BORON COMPOUNDS:	
Boron fluoride-ethyl ether complex	ACS.
Ethylamine with borane (1:1)	ACS.
1-Hexyl-1,2-dicarbadodecaborane	X.
2-Methyl-methanamine with borane (1:1)	X.
1-Hexyl-2-propanamine with borane (1:1)	X.
Triethylborane	X.
Trimethoxyboroxine	X.
N,N, N-Trimethyl methanaminium octahydrotriborate	X.
Organo-boron compounds, all other	MHI, STC, TSA.
ORGANO-LITHIUM COMPOUNDS	
n-Butyllithium	FTE.
sec-Butyllithium	FTE.
Butyl ethyl magnesium	TSA.
Di-n-hexyl magnesium	TSA.
Methylmagnesium bromide	ARA.
Methylmagnesium chloride	ARA.
ORGANO-SILICON COMPOUNDS:	
γ-Aminopropyltriethoxysilane	SCH.
α-Chloropropyltrichlorosilane	DCC.
Chloropropyltrimethoxysilane	DCC, KF.
Chlorotrimethylsilane	DCC.
Dichlorodimethylsilane	DCC.
Dichloromethylsilane	DCC.
Dichloromethylvinylsilane	DCC, UCC.

TABLE 2. -- MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
MISCELLANEOUS CHEMICALS	
ACYCLIC--CONTINUED	
*OTHER MISCELLANEOUS ACYCLIC CHEMICALS--CONTINUED	
ORGANO-SILICON COMPOUNDS:	
Diethoxyphosphoryltriethoxysilane	UCC.
α-Glycidyloxypropyltrimethoxysilane	UCC.
Hexamethyldisilazane	KF, SCH.
Isobutyltrimethoxysilane	KF.
Mercaptopropyltrimethoxysilane	KF.
α-Methacryloxypropyltrimethoxysilane	UCC.
Methyltrimethoxysilane and polymethyltrisiloxane	DCC, KF, UCC.
Polyalkene silicones	UCC.
*Silicone fluids	DCC, MON, SPD, SMS, UCC.
Trichloromethylsilane	DCC.
Trichloropropylsilane	DCC.
Trichlorovinylsilane	UCC.
Tris(2-methoxyethoxy)vinyl silane	KF, UCC.
Vinyltriethoxysilane	KF, UCC.
Organo-silicone compounds, all other	DA, KF, SFS, UCC, X.
ORGANO-TIN COMPOUNDS:	
Dibutyltin bis(butylmaleate)	CGA.
Dibutyltin bis(isooctylmercaptoacetate)	X.
Dibutyltin bis(mercaptolaurate)	X.
Dibutyltin oxide	WTC, X.
Ester tin mercaptoesters	CGA.
Octyltin	CGA, X.
Tributyltin acetate	X.
Tributyltin fluoride	X.
Tributyltin propylene glycol maleate	CGA.
Organo-tin compounds, all other	CGM, COS, FER, WTC.
ORGANO-ZINC COMPOUNDS:	
Diethylzinc	MHI, TSA.
Zinc acetylacetonate complex	SHP.
Organo-zinc compounds, all other	FER.
Perchloromethanethiol (perchloromethyl mercaptan)	SFC.
Perfluoroalkyl polyether	X.
*Phosgene (Carbonyl chloride)	DUP, ICI, OMC, UFJ, VDM.
Potassium 2-methyl-2-butanol	X.
Potassium 2-methyl-2-propanol	X.
Sodium ethoxide	RBC.
Sodium methoxide (Sodium methylate)	DA, OMC, RBC.
Succinyl peroxide	WTL.

TABLE 2.--MISCELLANEOUS CHEMICALS FOR WHICH U.S. PRODUCTION AND/OR SALES WERE REPORTED, IDENTIFIED BY MANUFACTURER, 1985

MISCELLANEOUS CHEMICALS	MANUFACTURERS' IDENTIFICATION CODES (ACCORDING TO LIST IN TABLE 3)
MISCELLANEOUS CHEMICALS	
ACYCLIC--CONTINUED	
*OTHER MISCELLANEOUS ACYCLIC CHEMICALS--CONTINUED	
Titanium acetylacetonate complex-----	KF.
Zirconium acetylacetonate complex-----	MCX.
Miscellaneous acyclic chemicals, all other-----	AWG, CFS, CRZ, DUP, IFF, MOD, PLC, SFS, SHP, TNA, X.
*MIXTURES NOT SPECIFICALLY ITEMIZED:	
C ₁₂ -C ₁₈ Alcohol lactates-----	VND.
Alcohols, monohydric, and their esters, C ₈ and higher, mixed-----	EKK, MON, X.
Butanol residue stream-----	CEL.
Butyl formcel-----	CEL.
Cetone-id amide mixtures-----	SHX.
Fatty acid residues-----	SHX.
Gluconic acid and salts, mixed-----	PHF.
*Glycol residues-----	CXI, ICI, OMC. COS.
Methacrylate based cationic polyelectrolytes-----	CEL.
Methyl formcel-----	X.
Mixed alcohol borates-----	ENJ, PG.
Mixed chain length fatty acid, synthetic-----	TX.
Morpholine residue stream-----	TX.
Oxidate light ends-----	HCF.
Polymethacrylic acid esters-----	ABB, DUP.
Silicone resins for mold release agents-----	CNI.
Mixtures of miscellaneous acyclic chemicals not specifically itemized, all other-----	BTJ, DIX, MCB, UCC.

TABLE 3.--MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS: DIRECTORY OF MANUFACTURERS, 1985

ALPHABETICAL DIRECTORY BY CODE

[Names of manufacturers that reported production and/or sales of miscellaneous cyclic and acyclic chemicals to the U.S. International Trade Commission for 1985 are listed below in the order of their identification codes as used in table 2]

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
AAC	Alcolac, Inc.	DA	Diamond Shamrock Corp., Chemicals Div.
ABB	Abbott Laboratories	DAZ	Diaz Chemical Corp.
ACS	Allied Corp., Chemical Sector	DBC	Badiache Corp.
ACY	American Cyanamid Co.	DCC	Dow Corning Corp.
ADC	Anderson Development Co.	DIX	Dixie Chemical Co., Inc.
AGC	Alberta Gas Chemicals, Inc.	DKA	Denka Chemical Corp.
AIP	Air Products & Chemicals, Inc.	DOM	Dominion Products, Inc.
ALI	Anzon, Inc.	DOW	Dow Chemical Co.
ALW	Albright & Wilson, Inc.	DPW	Deepwater, Inc.
AMB	American Bio-Synthetics Corp.	DRL	Unichema Chemicals, Inc.
AMO	Amoco Corp.	DUP	E. I. duPont de Nemours & Co., Inc.
ANG	Angus Chemical Co.	DVC	Dover Chemical Corp. Sub. of ICC Industries, Inc.
ARA	Syntex Chemicals, Inc.		
ARC	Azko Chemie America, Armaq Chemicals	EFH	E. F. Houghton & Co.
ARS	Arsynco, Inc.	EHC	Ethichem Corp.
ARZ	Arizona Chemical Co.	EK	Eastman Kodak Co.:
ASH	Ashland Oil, Inc.	EKT	Tennessee Eastman Co. Div.
ASL	Specialtychem Products Corp.	EKX	Texas Eastman Co. Div.
ATL	Atlantic Industries, Inc.	ELC	Elco Corp. Sub of Detrex Chemical Industries, Inc.
ATR	Atlantic Richfield Co., Arco Chemical Co.		
AZT	Catalyst Resources, Inc.	EMR	Emery Industries Div. of National Distillers & Chemical Corp.
		ENJ	Exxon Chemical Americas
BAS	BASF Corp.	ESA	East Shore Chemical Co.
BCC	Buffalo Color Corp.	ESX	Essex Chemical Corp., Essex Industrial Chemicals, Inc.
BFG	B. F. Goodrich Co., B. F. Goodrich Chemical Group		
BKC	J. T. Baker Chemical Co.	EVN	W. R. Grace & Co., Organic Chemicals Div., Evans Chemetics
BKM	Buckman Laboratories, Inc.		
BOC	Biocraft Laboratories, Inc.		
BOR	Borden Inc., Borden Chemical Div.	FER	Ferro Corp.:
BRD	Lonza, Inc.		Ferro Chemical Div.
BTL	BTL of Illinois, Inc.		Grant Chemical Div.
			Keil Chemical Div.
CAD	Akzo Chemie America, Noury Chemicals	FKE	Frank Enterprises, Inc.
CAS	Caschem, Inc.	FMC	FMC Corp.:
CBD	Chembond Corp.	FMB	Specialty Chemicals Div.
CCA	Interstab Chemicals, Inc.	FMT	Fairmount Chemical Co., Inc.
CCC	C.N.C. Chemical Corp.	FOC	Handschy Industries, Inc., Farac Varnishes
CCW	Morton-Thiokol, Inc., Carstab Div.		Chemicals
CED	Cedar Chemical Co.	FOR	Formosa Plastics Corporation Louisiana
CEL	Celanese Corp.:	FRE	Freeman Chemical Corp.
	Celanese Chemical Co., Inc.	FRO	Vulcan Materials Co., Chemicals Div.
	Celanese Fibers Operations	FTE	Footo Mineral Co.
	Celanese Specialties Resins	FTX	Finetex, Inc.
CGY	Ciba-Geigy Corp.		
CHG	Hobay Chemical Corp., Agricultural Chemicals Div.	GAF	GAF Corp., Chemical Group
		GAN	Gane's Chemicals, Inc.
CHL	Chemol, Inc.	GE	General Electric Co.
CHP	C. H. Patrick & Co., Inc.	GGC	Georgia-Gulf Corp.:
CHT	Chattem, Inc.		Boundbrook Div.
CJO	C. J. Osborn Chemicals, Inc.		Plaquemine Div.
CLK	Clark Oil & Refining Corp.	GIV	Givaudan Corp.
CMB	Cambridge Industries Co.	GLY	Glyco, Inc.
CNI	Consp. Inc.	GP	Georgia-Pacific Corp.:
CNP	Nipro, Inc.		Plaquemine Div.
COC	Columbia Organic Chemicals Co., Inc.		Resins Operations
COS	Cosan Chemical Corp.	GTL	Great Lakes Chemical Corp.
CPS	CPS Chemical Co., Inc.	GYR	Goodyear Tire & Rubber Co.
CRN	CPC International, Inc., Amerchol Corp.		
CRZ	Crown Zellerbach Corp., Chemical Products Div.	HAL	C. P. Hall Co.
		HCC	Hatco Chemical Corp.
CWN	Upjohn Co., Fine Chemicals	HCF	Cape Industries
CXI	Chemical Exchange Industries, Inc.	HCP	Honig Chemical & Processing Corp.
CYL	Cyclo Chemical Corp.	HDG	Hodag Chemical Corp.
CYR	CYRO Industries	HEX	Hexagon Laboratories, Inc.

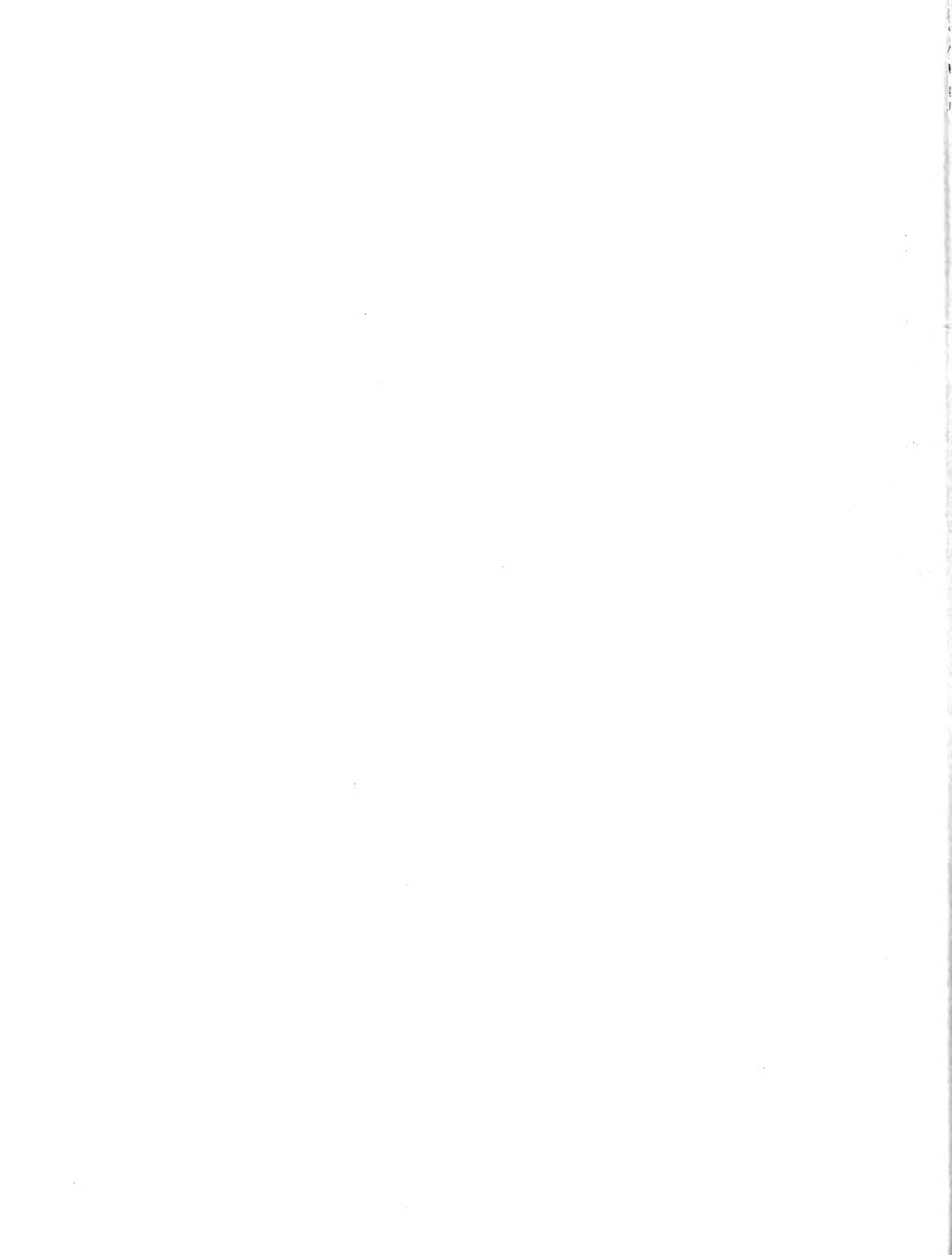
TABLE 3.--MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS: DIRECTORY OF MANUFACTURERS, 1985--CONTINUED

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
HFT	Syntex Agribusiness, Inc., Nutrition & Chemical Div.	PCI	Piedmont Chemical Industries, Inc.
HK	Occidental Chemical Corp., Industrial & Specialty Chemical Div.	PEL	Pelron Corp.
HML	Hummel Chemical Co.	PEN	CPC International, Inc., Penick Corp.
HMP	W. R. Grace & Co., Hampshire Chemicals Div.	PFN	Pfanstiehl Laboratories, Inc.
HMY	Humphrey Chemical Co.	PFZ	Pfizer, Inc. and Pfizer Pharmaceuticals, Inc.
HOC	Halocarbon Products Corp.	PG	Procter & Gamble Co., Procter & Gamble Mfg. Co.
HPC	Hercules, Inc.	PIC	Pierce Chemical Co.
HRT	Hart Products Corp.	PKI	Perkins Industries, Inc.
HST	American Hoechst Corp., Hoechst Fiber Industries Div.	PLC	Phillips Petroleum Co.
HTM	Haltermann Ltd. Co.	PLS	Plastics Engineering Co.
HXL	Hexcel Corp., Hexcel Chemical Products	PMP	PMP Fermentation Products, Inc.
ICI	ICI Americas, Inc., Chemicals Div.	PPG	PPG Industries, Inc.
IFF	International Flavors & Fragrances, Inc.	PSG	PMC Specialties Group Inc.
IMC	International Minerals & Chemical Corp., Industries Chemicals Div.	PST	Perstorp Polyols, Inc.
IOC	Sybron Chemicals, Inc.	QKO	QO Chemicals, Inc.
JRC	Jarchem Industries, Inc.	RBC	Fike Chemicals, Inc.
KAI	Kaiser Aluminum & Chemical Corp.	RCI	Reichhold Chemicals, Inc.
KCH	Joseph Ayers, Inc.	RCN	Racon, Inc.
KF	Dynamit Nobel of America, Dynamit Nobel Chemical Div.	RDA	Rhone-Poulenc, Inc.
KLM	Kalama Chemical, Inc.	REG	Regis Chemical Co.
KHI	Kemin Industries, Inc.	REM	Remington Arms Co., Inc.
KFT	Koppers Co., Inc.	RH	Rohm & Haas Co.
LCP	LCP Chemicals - West Virginia, Inc.	RPC	Millmaster Onyx Group, Inc., Lyndall Chemical Co. Div.
LEM	Napp Chemicals, Inc.	RSA	R.S.A. Corp.
LIL	Eli Lilly & Co.	RUC	Rubicon, Inc.
LYP	Lyondell Petrochemical Co.	SBC	Scher Chemicals, Inc.
MAL	Mallinckrodt, Inc.	SCM	SCM Corp.: Organic Chemicals Div.
MCB	Borg-Warner Corp., Borg-Warner Chemicals	PCR	PCR, Inc.
MCI	Mooney Chemicals, Inc.	SCP	Henkel Corp.
MCK	MacKenzie Chemical Works, Inc.	SD	Sterling Drug, Inc.:
MET	M & T Chemicals, Inc.	SDC	Sterling Pharmaceuticals, Inc.
MHI	Morton-Thiokol, Inc., Ventron Div.	SDH	Sandoz Chemicals Corp.
MIL	Milliken & Co., Milliken Chemical Co.	SDW	Sterling Drug, Inc.:
MLS	Miles Laboratories, Inc., Biotechnology Group	SDW	Hilton Davis Chemical Co. Div.
MMC	EM Industries, Inc., EM Science Div.	SFA	Sterling Organics Div.
MOB	Mobay Chemical Corp., Pittsburgh Div.	SFC	Stauffer Chemical Co.:
MON	Monsanto Co.	SFA	Agricultural Div.
MRF	Morflex Corp.	SFC	Calhio Chemicals, Inc.
MRK	Merck & Co., Inc.	SFS	Specialty & Intermediates Chemical Div.
NCC	Niacet Corp.	SHC	Shell Oil Co., Shell Chemical Co. Div.
NCI	Union Camp Corp., Terpene & Aromatics Div.	SHP	Shepherd Chemical Co.
NES	Ruetgers-Nease Chemical Co.	SHX	Sherex Chemical Co., Inc.
NEV	Neville Chemical Co.	SK	SmithKline Beckman Corp., SmithKline Chemicals Div.
NOC	Norac Co., Inc.: Mathe Div.	SM	Mobil Oil Corp.:
NOD	Nuodex, Inc.	SM	Mobil Chemical Co.
NSC	National Starch & Chemical Corp.	SM	Chemical Products Div.
NTB	National Biochemical Co.	SNO	Sunolin Chemical Co.
NWP	Norchem, Inc.	SNW	Sun Chemical Corp., Chemicals Div.
OH	Anaquest	SOH	Standard Oil Chemical Co.
OMC	Olin Corp.	SOL	Southland Corp., Fine Chemical Div.
ORT	Roehr Chemicals, Inc.	SPD	General Electric Co., Silicone Products Dept.
PAC	Pacific Anchor Chemical Corp.	STC	American Hoechst Corp., Sou-Tex Works
PAH	Parish Chemical Co.	SWS	Stauffer Chemical Co., Stauffer-Wacker Silicones Div.
PD	Parke-Davis, Div. of Warner-Lambert Co.	SYL	Sylvachem Corp.
PAS	Pennwalt Corp.	SYR	Plastic Specialties & Technology, Inc., Synthetic Products Co. Div.
		TCC	Sybron Chemicals, Inc.
		TCH	Emery Industries, Inc., Trylon Div.
		TIL	Tillett Chemical Co.
		TLC	Twin Lake Chemical, Inc.

TABLE 3.--MISCELLANEOUS CYCLIC AND ACYCLIC CHEMICALS: DIRECTORY OF MANUFACTURERS, 1985--CONTINUED

CODE	NAME OF COMPANY	CODE	NAME OF COMPANY
TNA	Ethyl Corp.	VGC	Virginia Chemicals, Inc.
TNI	Gillette Co., Chemical Div.	VIK	Viking Chemical Co.
TRO	Troy Chemical Corp.	VNC	Vanderbilt Chemical Corp.
TSA	Texas Alkyls, Inc.	VND	Van Dyk, Div. of Mallinckrodt, Inc.
TU	Tenn-USS Chemicals Co.	VST	Vista Chemical Co.
TX	Texaco, Inc., Texaco Chemical Co.	VTC	Vertac Chemical Corp.
TZC	Magnesium Elektron, Inc.		
UCC	Union Carbide Corp.	WAG	West Design-Chemical, Inc.
UPJ	Upjohn Co. and Polymer Chemical Div.	WCC	White Chemical Corp.
USB	U. S. Borax & Chemical Corp., U.S. Borax Research Corp.	WCL	Wright Chemical Corp.
USI	National Distillers & Chemicals Corp., U.S. Industrial Chemicals Co.	WLN	Wilmington Chemical Corp.
USR	Uniroyal, Inc., Uniroyal Chemical Div.	WM	Inolex Chemical Co.
USS	U.S. Steel Corp., USS Chemicals Div.	WPG	West Point-Pepperell, Inc., Griffitex Chemical Co. Sub.
VAL	United Merchants & Manufacturers, Inc., Valchem Div.	WTC	Witco Chemical Corp.
VCM	Vanchem, Inc.	WTH	Union Camp Corp.
VDM	Van De Mark Chemical Co., Inc.	WTK	Whittaker Corp., Heico Chemicals Div.
VEL	Velsicol Chemical Corp.	WTL	Pennwalt Corp., Lucidol Div.
		WVA	Westvaco Corp.,
		WYT	Wyeth Laboratories, Inc., Wyeth Laboratories Div. of American Home Products Corp.

Note.--Complete names, telephone number, and addresses of the above reporting companies are listed in table 1 of the appendix.



A P P E N D I X



APPENDIX

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TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS, BY COMPANY, 1985

[Names of synthetic organic chemicals manufacturers that reported production and/or sales to the U.S. International Trade Commission for 1985 are listed below alphabetically, together with their identification codes as used in table 2 of the 15 individual sections of this report]

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
AEP	: A & E Plastic Inc-----	: 818-968-3801	: 14505 Proctor Ave., P. O. Box 1268, Industry, CA 91749.
AZS	: AZS Corp-----	: 404-873-1851	: 762 Marietta Blvd., N.W., Atlanta, GA 30318.
	: A2S Chemical Corp-----	: 404-873-1850	: 762 Marietta Blvd., N.W., Atlanta, GA 30318.
ABB	: Abbott Laboratories-----	: 312-937-7262	: 14th St. & Sheridan Rd., N. Chicago, IL 60064.
ABS	: Abex Corp., Friction Products Div.- U.S.-----	: 703-662-3871	: P. O. Box 3250, Winchester, VA 22601.
AGO	: Adco Chemical Co-----	: 201-589-0880	: 49-129 Rutherford St., Newark, NJ 07105.
WLC	: Agrico Chemical Co-----	: 918-588-2000	: One William Center, Tulsa, OK 74172.
AIP	: Air Products & Chemicals, Inc-----	: 215-481-4911	: P. O. Box 538, Allentown, PA 18105.
AJY	: Ajay Chemicals, Inc-----	: 404-943-6202	: 1400 Industry Rd., Powder Springs, GA 30073.
AJI	: Ajinomoto U.S.A., Inc-----	: 919-832-2890	: 4020 Ajinomoto Dr., Raleigh, NC 27610.
ARC	: Akzo Chemie America, Armark Chemicals-----	: 312-786-0400	: 300 S. Wacker Dr., Chicago, IL 60614.
CAD	: Noury Chemicals-----	: 716-778-8554	: 2153 Lockport-Olcott Rd., Burt, NY 14028.
ABP	: Alabama By-Products Corp-----	: 205-250-5400	: P. O. Box 10246, Birmingham, AL 35202.
AGC	: Alberta Gas Chemicals, Inc-----	: 201-267-1400	: 7 Century Dr., Parsippany, NJ 07054.
ALW	: Albright & Wilson, Inc-----	: 804-798-4291	: P.O. Box 26229, Richmond, VA 23260-6229.
ALC	: Alco Chemical Corp-----	: 615-629-1405	: 909 Mueller Dr., Chattanooga, TN 37406.
AAC	: Alcolac, Inc-----	: 301-355-2600	: 3440 Fairfield Rd., Baltimore, MD 21226.
ALD	: Aldrich Chemical Co., Inc-----	: 414-273-3850	: 940 W. St. Paul Ave., Milwaukee, WI 53233.
ALE	: Alex Chemical Co-----	: 717-462-3500	: 119 N. Union St., Shenandoah, PA 17976.
ALG	: Allegheny Chemical Corp-----	: 814-776-1186	: Gillis Ave., Ridgway, PA 15853.
ALL	: Alliance Chemical, Inc-----	: 201-344-2344	: 33 Avenue P, Newark, NJ 07657.
	: Allied Corp.:	:	:
ACS	: Chemical Section-----	: 201-455-5000	: P. O. Box 1087-R, Morristown, NJ 07960.
ACU	: Union Texas Petroleum Corp-----	: 713-960-7500	: P. O. Box 2120, Houston, TX 77001.
BME	: Allied-Bendix Corp., Friction Materials Div.-----	: 518-273-6550	: P. O. Box 238, Green Island, NY 12180.
ALI	: Alox Corp-----	: 716-282-1295	: 3943 Buffalo Ave., Niagara Falls, NY 14303.
APH	: Alpha Corporation of Tennessee-----	: 901-853-2450	: P. O. Drawer A, Hwy. 57 E, Collierville, TN 38017.
ALP	: Alpha Laboratories, Inc-----	: 303-756-1338	: 1685 S. Fairfax St., P. O. Box 22223, Denver, CO 80222.
HES	: Amerada Hess Corp. (Hess Oil Virgin Island Corp.)-----	: 201-750-6000	: 1 Hess Plaza, Woodbridge, NJ 07095.
AMB	: American Bio-Synthetics Corp-----	: 414-384-7017	: 710 W. National Ave., Milwaukee, WI 53204.
ACY	: American Cyanamid Co-----	: 201-831-2768	: One Cyanamid Plaza, Wayne, NJ 07470.
HST	: American Hoechst Corp.:	:	:
	: Hoechst Fibers Industries Div-----	: 803-579-5750	: P. O. Box 5887, Spartanburg, SC 29301.
	: Petrochemicals/Plastics Group-----	: 201-231-2954	: Route 202-206 North, Somerville, NJ 08876.
STC	: Sou-tex Works-----	: 704-827-7531	: P. O. Box 866, Mount Holly, NC 28120.
	: Specialty Products Group, Rhode Island Works.-----	: 401-823-2000	: 129 Quindnick St., Coventry, RI 02816.
ASY	: American Synthetic Rubber Corp-----	: 502-448-2761	: P. O. Box 32960, Louisville, KY 40232.
HVG	: Ametek, Inc., Havag Div-----	: 302-995-0410	: 900 Greenbank Rd., Wilmington, DE 19808.
AMO	: Amoco Corporation-----	: 312-856-6111	: P. O. Box 87703 Mail Code 1201, Chicago, IL 60680-0703.
AMV	: Amvac Chemical Corp-----	: 213-264-3910	: 4100 E. Washington Blvd., Los Angeles, CA 90023.
OH	: Anaquest-----	: 608-273-0019	: 2005 W. Beltline Hwy., Madison, WI 53713.
ADC	: Anderson Development Co-----	: 517-263-2121	: 1415 E. Michigan St., Adrian, MI 49221.
ANG	: Angus Chemical Co-----	: 312-498-6700	: 2211 Sanders Rd., Northbrook, IL 60062.
ALI	: Anzon, Inc-----	: 215-427-3000	: 2545 Aramingo Ave., Philadelphia, PA 19125.
APX	: Apex Chemical Co., Inc-----	: 201-354-5420	: 200 S. First St., P. O. Box 254, Elizabethport, NJ 07206.
APO	: Apollo Colors, Inc-----	: 312-564-9190	: 899 Skokie Blvd., Northbrook, IL 60062.
ADM	: Ardmore Chemical Co-----	: 201-481-2406	: 29 Riverside Ave., Newark, NJ 07104.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS, BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
ARN	Arenol Chemical Corp-----	718-784-0948	40-33 - 23d St., Long Island City, NY 11101.
ARZ	Arizona Chemical Co-----	201-794-3200	200 So. Sudduth Pl., Panama City, FL 32404.
ALS	Armco, Inc., Eastern Steel Div-----	513-425-5000	703 Curtis St., Middletown, OH 45043.
ARP	Armour Pharmaceutical Co-----	815-932-6771	P. O. Box 511, Kankakee, IL 60901.
ARK	Armstrong World Industries, Inc-----	717-397-0611	Liberty & Charlotte Sts., Lancaster, PA 17604.
ARO	ARNCO-----	213-567-1378	5141 Firestone Place, South Gate, CA 90280.
ARL	Arol Chemical Products Co-----	201-344-1510	649 Ferry St., Newark, NJ 07105.
ARS	Arsynco, Inc-----	201-933-2323	126-20 Northern Blvd., Flushing, NY 11368.
ASH	Ashland Oil, Inc-----	614-889-3333	P. O. Box 2219, Columbus, OH 43216.
	Ashland Petroleum Co-----	606-329-3333	P. O. Box 391, Ashland, KY 41101.
API	Asoma Polymers, Inc-----	617-987-0144	Old Webster Rd., Oxford, MA 01540.
BLA	Astor Products, Inc., Blue Arrow Div.-----	904-783-5000	5244 Edgewood Ct., Jacksonville, FL 32205.
ATL	Atlantic Industries, Inc-----	201-235-1800	10 Kingsland Rd., Nutley, NJ 07110.
ATR	Atlantic Richfield Co., Arco Chemical Co.-----	215-557-2846	1500 Market St., Philadelphia, PA 19101.
APD	Atlas Powder Co. Sub. of Tyler Corp-----	417-624-0212	P. O. Box 87, Joplin, MO 64802.
APR	Atlas Processing Co-----	318-636-2711	P. O. Box 3099, Shreveport, LA 71133.
AUX	Auralux Corp-----	203-886-2616	29 Stott Ave., Norwich, CT 06360.
KCH	Joseph Ayers, Inc-----	215-837-1808	275 Keystone Dr., Bethlehem, PA 18017.
BTL	BTL of Illinois, Inc-----	419-244-5856	2112 Sylvan Ave., Toledo, OH 43606.
BAS	BASF Corp-----	616-392-2391	491 Columbus Ave., Holland, MI 49423.
		201-263-4050	and 100 Cherry Hill Rd., Parsippany, NJ 07054.
IGC	Inmont Div-----	201-263-4050	100 Cherry Hill Rd., Parsippany, NJ 07054.
IGF	Inmont Div-----	201-365-3400	1255 Broad St., Clifton, NJ 07015.
		201-263-4050	and 100 Cherry Hill Rd., Parsippany, NJ 07054.
DBC	Badische Corp-----	804-887-6000	P. O. Box Drawer D, Williamsburg, VA 23187.
BKG	J. T. Baker Chemical Co-----	201-859-2151	222 Red School Lane, Phillipsburg, NJ 08865.
BAX	Baxter Travenol Laboratories, Inc-----	312-948-2000	Route 120 & Wilson Rd., Round Lake, IL 60053.
BCK	Beckman Instruments, Inc-----	619-438-9151	6200 El Camino Real, Carlsbad, CA 92008.
BIB	Spinco Div-----	714-871-4848	1050 Page Mill Rd., Palo Alto, CA 94304.
BEE	Beecham, Inc., Beecham Laboratories Div.-----	201-469-5200	101 Possumtown Rd., Piscataway, NJ 08854.
BEW	Beecham, Inc.: Beecham Western Hemisphere, Inc-----	201-881-3000	3 Garret Mountain Plaza, West Paterson, NJ 07424.
BCH	Belding Chemical Industries-----	212-944-6040	P. O. Box 300, Grosvenor Dale, CT 06246.
BLZ	Belzak Corp-----	201-773-0602	850 Bloomfield Ave., Clifton, NJ 07012.
BEN	Bennett's Paint Corp-----	801-486-2211	2131 South West Salt Lake City, UT 84115.
BTS	Bethlehem Steel Corp-----	215-694-4522	Martin Tower - 8th Fl., Bethlehem, PA 18016.
BDS	Biddle Sawyer Corp-----	212-736-1580	2 Penn Plaza - Suite 2439, New York, NY 10121.
BNS	Binney and Smith, Inc-----	215-253-6271	P. O. Box 431, 1100 Church Lane, Easton, PA 18044-0431.
BOC	Biocraft Laboratories, Inc-----	201-796-3434	12 Industrial Park, Waldwick, NJ 07463.
BWP	Bison Nitrogen Products Co-----	712-277-1340	Terra Centre, 600 4th St., Sioux City, IA 51101.
BMX	Blu-Max Pigments Div-----	312-586-8400	7000 W. 60th, Chicago, IL 60638.
LAK	Bofors Nobel, Inc-----	616-788-2341	5025 Evanston Ave., Muskegon, MI 49443.
BOR	Borden, Inc.: Borden Chemical Div-----	614-225-4000	180 E. Broad St., Columbus, OH 43215.
MCB	Borg-Warner Corp., Borg-Warner Chemicals-----	304-424-5411	International Center, Parkersburg, WV 26101.
BFP	Breddo Inc-----	913-321-5300	18th & Kansas Ave., Kansas City, KS 66105.
BMC	Brin-Mont Chemicals, Inc-----	919-292-0566	3921 Spring Garden St., Greensboro, NC 27407.

APPENDIX

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TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS,
BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
BRS	Bristol-Myers Co-----	212-546-4000	345 Park Ave., 5th Fl., New York, NY 10154.
BRU	M. A. Bruder & Sons, Inc-----	215-353-5100	52nd St. & Grays Ave., Philadelphia, PA 19143.
BKM	Buckman Laboratories, Inc-----	901-278-0330	1256 N. McLean Blvd., Memphis, TN 38122.
BCC	Buffalo Color Corp-----	716-827-4500	100 Lee St., Buffalo, NY 14210.
BUR	Burroughs Wellcome Co-----	919-248-3000	3030 Cornwallis Rd., Research Triangle Park, NC 27709.
CFI	CF Industries, Inc-----	312-438-9500	Salem Lake Dr., Long Grove, IL 60047.
GLU	CL Industries, Inc-----	217-662-2136	P. O. Box 218 Georgetown, IL 61846.
CCC	C.N.C. International, Inc-----	401-751-7711	20 Priviledge St., Woonsocket, RI 02895.
ACR	CPC International, Inc.:		
CRN	Acme Resin Corp-----	312-771-9600	1401 Circle Ave., Forest Park, IL 60130.
PEN	Amerchol Corp-----	201-287-1600	136 Talmadge Rd., P. O. Box 4051, Edison, NJ 08818-4051.
CPS	Penick Corp-----	201-935-6600	158 Mount Olivet Ave., Newark, NJ 07114.
CYR	CPS Chemical Co., Inc-----	201-727-3100	P. O. Box 162, Old Bridge, NJ 08857.
CMB	CYRO Industries-----	201-930-0100	155 Tice Blvd., P. O. Box 8588, Woodcliff Lake, NJ 07675.
HCF	Cambridge Industries Co-----	617-924-0026	440 Arsenal St., Watertown, MA 02172.
SVC	Cape Industries-----	919-343-1150	310 N. Front St., P. O. Box 1694, Wilmington, NC 28402.
CBC	Capital City Products Co., Armstrong Chemical Plant.	608-752-9007	1530 S. Jackson St., Janesville, WI 53545.
CGL	Carbose Corp-----	814-443-1611	100 Maple St., Somerset, PA 15501.
CHC	Cargill, Inc-----	612-475-7634	P. O. Box 5630, Minneapolis, MN 55440.
BSC	Carpenter Chemical Co-----	804-359-0800	P. O. Box 27205, Richmond, VA 23261.
CAS	Cascade Resins, Inc-----	503-343-2111	P. O. Box 1989, Eugene, OR 97440.
AZT	Caschem, Inc-----	201-858-7900	40 Avenue A, Bayonne, NJ 07002.
CCL	Catalyst Resources, Inc-----	713-682-5300	P. O. Box 250, Elyria, OH 44035.
CEO	Catawba-Charlab, Inc-----	704-523-4242	5046 Old Pineville Rd., P. O. Box 240497, Charlotte, NC 28224.
CEL	Cedar Chemical Co-----	901-767-6851	P. O. Box 3, Rifle Range Road, Vicksburg, MS 39180.
CLP	Celanese Corp.:		
CNT	Celanese Chemical Co., Inc-----	214-689-4000	1250 W. Mockingbird Lane, Dallas, TX 75247.
CPR	Celanese Fibers Operations-----	704-554-2000	P. O. Box 32414, Charlotte, NC 28232.
GRS	Celanese Specialties-----	201-635-2600	26 Main St., Chatham, NJ 07928.
SOG	Celanese Specialty Resins-----	502-585-8011	P. O. Box 37600, Louisville, KY 40233.
CHA	Cell Products, Inc-----	201-828-6100	5 Georges Rd., New Brunswick, NJ 08901.
CHT	Certainteed Corp-----	215-341-7000	P. O. Box 860, Valley Forge, PA 19482.
CBD	Certified Processing Corp-----	201-923-5200	U.S. Highway #22, Hillside, NJ 07205.
CFX	Chem-Flex, Inc-----	512-882-8871	P. O. Box 9176, Corpus Christi, TX 78469.
CI	Chem-Flour, Inc-----	713-923-3578	P. O. Box 5008, Houston, TX 77012.
CGI	Chattanooga Coke & Chemicals Co., Inc-----	615-821-3541	4800 Central Ave., P. O. Box 2339, Chattanooga, TN 37409.
CHM	Chattem, Inc-----	615-821-4571	1715 W. 38th St., Chattanooga, TN 37409.
CHX	Chembond Corp-----	503-746-6501	1600 Valley River Dr., Suite 390, Eugene, OR 97401.
CHY	Chemfax, Inc-----	601-863-6511	Three Rivers Rd., Gulfport, MS 39503.
CHZ	Chem-Fleur, Inc-----	201-589-4266	200 Pulaski St., Newark, NJ 07105.
CH1	Chemical Exchange Industries, Inc-----	713-526-8291	3813 Buffalo Speedway, Houston, TX 77098.
CH2	The Chemithon Corp-----	206-937-9954	5430 W. Marginal Way, SW., Seattle, WA 98106.
CH3	Chemol Co-----	919-272-3121	2410 Randolph Ave., Greensboro, NC 27420.
CH4	Chemos Corp-----	201-623-3334	225-235 Emmett St., Newark, NJ 07114.
CH5	Chevron Chemical Co-----	713-754-2000	595 Market St., San Francisco, CA 94120.
CH6	Chevron Corp., Chevron Chemical Corp-----	415-894-7700	575 Market St., San Francisco, CA 94105.
CH7	CHR. Hansen's Laboratory, Inc-----	414-476-3630	9015 W. Maple St., West Allis, WI 53214.
CH8	Ciba-Geigy Corp-----	914-478-3131	444 Saw Mill River Rd., Ardsley, NY 10502.
CH9	Agricultural Div-----	919-292-7100	P. O. Box 18300, Greensboro, NC 27419.
CH0	Citgo Petroleum Corp-----	314-491-7356	P. O. Box 1562, Lake Charles, LA 70602.
CH1	Clark Oil & Refining Corp-----	314-889-9600	7930 Clayton Rd., St. Louis, MO 63117.

SYNTHETIC ORGANIC CHEMICALS, 1935

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS,
BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
CLI	Clintwood Chemical Co-----	312-890-5790	4342 S. Wolcott Ave., Chicago, IL 60609.
CSP	Coastal Refining & Marketing Inc-----	512-887-4100	Nine Greenway Plaza, Houston, TX 77046.
CP	Colgate-Palmolive Co-----	212-310-2000	300 Park Ave., New York, NY 10022.
CLD	Colloids, Inc-----	201-926-6100	394 Frelinghuysen Ave., Newark, NJ 07114.
CCS	Colorado Chemical Specialties, Inc-----	303-278-1963	4880 Robb St. - Unit #2, Wheat Ridge, CO 80033.
CRS	Colorado Resins, Inc-----	303-278-1963	4880 Robb St. - Unit #2, Wheat Ridge, CO 80033.
CIG	Color Chem International Corp-----	201-444-8563	7 Plymouth Rd., Glen Rock, NJ 07452.
CNC	Columbia Nitrogen Corp-----	404-823-4000	P. O. Box 1483(13), Augusta, GA 30913.
COC	Columbia Organic Chemical Co., Inc-----	803-425-1786	P. O. Box 1045, Camden, SC 29020.
CEI	Combustion Engineering, Inc., C-E Cast Products-----	412-344-7500	305 Mt. Lebanon Blvd., Pittsburgh, PA 15234.
CAC	Cominco American, Inc-----	509-747-6111	W. 818 Riverside Ave., Spokane, WA 99201.
CMF	Commercial Products Co., Inc-----	201-427-6887	117 Ethel Ave., Hawthorne, NJ 07506.
CNI	Conap, Inc-----	716-372-9650	1405 Buffalo St., Olean, NY 14760.
CON	Concord Chemical Co., Inc-----	609-966-1526	17th & Federal Sts., Camden, NJ 08105.
CO	Conoco Specialty Products, Inc-----	713-293-1767	600 N Daisy Ashford Rd., P. O. Box 2197, Houston, TX 77252.
CTL	Continental Chemical Co-----	201-472-5000	270 Clifton Blvd., Clifton, NJ 07015.
CTP	Continental Polymers, Inc-----	213-637-2103	2225 E. Del Amo Blvd., Compton, CA 90220.
CPV	Cook Paint & Varnish Co-----	816-391-6000	P. O. Box 389, Kansas City, MO 64141.
COP	Coopers Creek Chemical Corp-----	215-828-0375	River Rd., West Conshohocken, PA 19428.
CPY	Copolymer Rubber & Chemical Corp-----	504-355-5655	P. O. Box 2591, Baton Rouge, LA 70821.
CRP	Corpus Christi Petrochemicals Co-----	713-751-7100	1000 Louisiana St., Suite 2700, Houston, TX 77002.
COS	Cosan Chemical Corp-----	201-460-9300	400 - 14th St., Carlstadt, NJ 07072.
CRD	Croda, Inc-----	212-683-3089	183 Madison Ave., New York, NY 10016.
CK	Crompton & Knowles Corp-----	215-376-8749	P. O. Box 341, Reading, PA 19603.
GCP	Crown Central Petroleum Corp-----	301-539-7400	1 N Charles St., Baltimore, MD 21203.
USM	Crown Metro, Inc-----	803-277-1870	P. O. Box 5695, Greenville, SC 29606.
GRZ	Crown Zellerbach Corp., Chemical Products Div.-----	206-254-0922	P. O. Box 4266, Vancouver, WA 98662.
CYT	Cumberland International Corp-----	713-682-1221	1523 N. Post Oak Rd., Houston, TX 77055.
CUS	Custom Pigments Corp-----	312-252-7273	2125 W. Rice St., Chicago, IL 60622.
CTR	Customs Resins Div. of Bemis Co., Inc-----	612-340-6000	800 Northstar Ctr., Minneapolis, MN 42420.
CYH	Cychem, Inc-----	513-641-4371	P. O. Box 16056, Cincinnati, OH 45216.
CYL	Cyclo Chemical Corp-----	305-592-6700	7500 N.W. 66th St., Miami, FL 33166.
AMD	Cyclo Products, Inc-----	213-582-6411	1922 E. 64th St., Los Angeles, CA 90001.
DAN	Dan River, Inc., Chemical Products Div.-----	804-799-7000	P. O. Box 261, Danville, VA 24543.
DPI	Dart Polymers, Inc., Sub. of Dart Container Corp.-----	517-676-3800	432 Hogsback Rd., Mason, MI 48854.
DGO	Day-Glo Color Corp-----	216-391-7070	4515 St. Clair Ave., Cleveland, OH 44103.
DFW	Deepwater, Inc-----	714-751-3522	P. O. Box 17599, Irvine, CA 92713.
DGC	Degussa Corp-----	201-288-6500	Rt. 46 at Hollister Rd., Teterboro, NJ 07608.
DRR	Delta Resins & Refractories, Inc-----	414-462-1200	6263 N. Teutonia Ave., Milwaukee, WI 53209.
OKA	Denka Chemical Corp-----	713-477-8821	8701 Park Place Blvd., Houston, TX 77017.
DNS	Dennis Chemical Co-----	314-771-1800	2700 Papin St., St. Louis, MO 63103.
DRB	Derby Co., Inc-----	617-342-5831	231 Industrial Park, 119 Authority Dr., Fitchburg, MA 01420.
DSO & PLX	DeSoto, Inc-----	312-391-9000	1700 S. Mt. Prospect Rd., Des Plaines, IL 60018.
UDI	DeSoto Petrochemicals Inc-----	817-625-2111	510 E. Central St., Fort Worth, TX 76113.
DEX	Dexter Chemical Corp-----	212-542-7700	845 Edgewater Rd., Bronx, NY 10474.
HYA	Dextex Corp., Hysol Aerospace & Industrial Products Div., Dexter Specialty Chemicals Group.-----	818-968-6511	15051 East Don Julian Rd., Industry, CA 91746.
HYC	Hysol Electronic Chemical Div., Dexter Specialty Chemicals Group.-----	818-968-6511	15051 E. Don Julian Rd., Industry, CA 91749.
MID	Midland Div-----	312-623-4200	E. Water St., Waukegan, IL 60085.
AGP	Dial Corp-----	312-892-4381	2000 Aucutt Rd., Montgomery, AL 60538.

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS,
BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
DA	Diamond Shamrock Chemicals Co-----	214-659-7000	351 Phelps Ct., Irving, TX 75015.
DAZ	Diaz Chemical Corp-----	716-638-6321	P. O. Box 194, Holley, NY 14470.
PLN	Disogrin Industries Corp-----	603-669-4050	Greiner Industrial Airpark, Manchester, NH 03130.
GNT	Diversitech General, Polymers Div-----	216-798-3320	1 General St., Akron, OH 44329.
DIX	Dixie Chemical Co., Inc-----	713-526-2604	3635 W. Dallas Ave., Houston, TX 77019.
DRC	Dock Resins Corp-----	201-862-2351	1512 W. Elizabeth Ave., Linden, NJ 07036.
DOM	Dominion Products, Inc-----	718-499-3050	882 - 3d Ave., Brooklyn, NY 11232.
DVC	Dover Chemical Corp. Sub. of ICC Industries, Inc.	216-343-7711	W. 15th & Davis Sts., P. O. Box 40, Dover, OH 44622.
DOW	Dow Chemical Co-----	517-636-6125	2020 Willard H. Dow Center, Midland, MI 48674.
TGI	Chemical Corp., Texize Division-----	803-963-4261	P. O. Box 368, Greenville, SC 29602.
DCC	Dow Corning Corp-----	517-496-4000	2200 W. Salzburg Rd., Auburn, MI 48640.
DRX	Drexel Chemical Co-----	901-774-4370	2487 Penn St., P. O. Box 9306, Memphis, TN 38109.
DUP	E. I. duPont de Nemours & Co., Inc-----	302-774-0911	DuPont Bldg., Wilmington, DE 19898.
DSC	Dye Specialties, Inc-----	201-866-9504	100 Plaza Center, Secaucus, NJ 07094.
KF	Dynamit Nobel of America, Dynamit Nobel Chemicals Div.	201-784-0200	10 Link Dr., Rockleigh, NJ 07647.
MHC	EM Industries, Inc., EM Science Div-----	609-354-9200	2909 Highland Ave., Cincinnati, OH 45212.
AGI	EMS-American Grilon, Inc-----	803-481-9173	P. O. Box 1948, Sumter, SC 29151.
EPI	Eagle Fitcher Industries, Ohio Rubber Co. Div.	216-942-0500	P. O. Box 1398, Denton, TX 76201.
ECC	Eastern Color & Chemical Co-----	401-331-9000	35 Livingston St., Providence, RI 02904.
EK	Eastman Kodak Co-----	716-724-4000	343 State St., Rochester, NY 14650.
EKT	Tennessee Eastman Co. Div-----	615-229-2000	P. O. Box 1974, Kingsport, TN 37662.
EKX	Texas Eastman Co. Div-----	214-236-5000	P. O. Box 1974, Kingsport, TN 37662.
ESA	East Shore Chemical Co., Inc-----	616-726-3106	1221 E. Barney Ave., Muskegon, MI 49443.
EEP	Eaton Corp., Industrial Polymers Products Div.	216-523-5000	1199 S. Chillicothe Rd., Aurora, OH 44202.
ELN	Elan Chemical Co-----	201-344-8014	268 Doremus Ave., Newark, NJ 07105.
ELC	Elco Corp. Sub. of Detrex Chemical Industries, Inc.	216-749-2605	P. O. Box 09186, Cleveland, OH 44109.
ELP	El Paso Products Co-----	915-333-7200	619 N. Grant, Odessa, TX 79760.
EMR	Emery Chemicals, Division of National Distillers & Chemical Corp.	513-530-7300	11501 North Lake Dr., Cincinnati, OH 45249.
TCH	Emery Industries, Inc., Trylon Div-----	803-963-4031	P. O. Box 628, Mauldin, SC 29662.
USM	Emhart Corp., Bostik U.S. Div-----	617-777-0100	Boston St., Middleton, MA 01949.
EMK	Emkay Chemical Co-----	201-352-7053	319 - 2d St., Elizabeth, NJ 07206.
EKO	Empire Coke Co-----	205-323-2400	1927 1st Ave., N. Birmingham, AL 35203.
ENO	Enenco, Inc-----	901-320-5800	P. O. Box 125, Memphis, TN 38101.
EPC	Enterprise Products Co. of Mississippi.	713-880-6500	P. O. Box 4324, Houston, TX 77210.
ESS	Essential Chemicals Corp-----	404-691-3000	28391 Essential Rd., Merton, WI 53056.
ESX	Essex Chemical Corp., Essex Industrial Chemicals, Inc.	201-773-6300	1401 Broad St., Clifton, NJ 07015.
EHC	Ethichem Corp-----	201-933-7880	150 Grand St., Carlstadt, NJ 07072.
TNA	Ethyl Corp-----	804-788-5000	330 S. 4th St., Richmond, VA 23219.
ENJ	Exxon Chemical Americas-----	713-870-6000	13501 Katy Freeway, Houston, TX 77079.
FMC	FMC Corp-----	215-299-6000	2000 Market St., Philadelphia, PA 19103.
FMN	Agricultural Chemical Group-----	215-299-6000	2000 Market St., Philadelphia, PA 19103.
FMB	Specialty Chemicals Div-----	716-876-8300	Sawyer Ave. & River Rd., Town of Tonawanda, NY 14150.
FRP	FRP Co-----	912-367-3616	P. O. Box 349, Baxley, GA 31513.
FAB	Fabricolor Manufacturing Corp-----	201-742-3900	24-1/2 Van Hoaten St., Paterson, NJ 07505.
FMT	Fairmont Chemical Co., Inc-----	201-344-5790	117 Blanchard St., Newark, NJ 07105.
FRI	Farmland Industries, Inc-----	816-459-6000	3315 North Oak Trafficway, Kansas City, MO 64116.
FRI	Farmland Industries, Inc-----	913-843-7300	P. O. Box 69, Lawrence, KS 66044.
FEL	Felton International, Inc-----	718-497-4664	599 Johnson Ave., Brooklyn, NY 11237.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS, BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
FER	Ferro Corp.:		
	Ferro Chemical Div-----	216-641-8580	7050 Krick Rd., Bedford, OH 44146.
	Grant Chemical Div-----	504-654-6801	P. O. Box 263, Baton Rouge, LA 70821.
	Keil Chemical Div-----	219-931-2630	3000 Sheffield Ave., Hammond, IN 46320.
	Productol Chemical Div-----	213-945-3401	10051 Romandel Ave., Santa Fe Springs, CA 90670.
RBC	Fike Chemicals, Inc-----	304-755-3336	P. O. Box 550, Nitro, WV 25143.
CSD	Fina Oil & Chemical Co., Cosden Chemical Div.:	214-750-2400	8350 N. Central, Dallas, TX 75206.
FTX	Finetex, Inc-----	201-797-4686	418 Falmouth Ave., Elmwood Park, NJ 07407.
	Firestone Tire & Rubber Co.:		
FRF	Firestone Fibers & Textile Co-----	804-541-2000	P. O. Box 450, Hopewell, VA 23869.
FRS	Firestone Synthetic Rubber & Latex Co. Div.:	216-379-7495	P. O. Box 2786, Akron, OH 44301.
FST	First Chemical Corp-----	601-762-0870	P. O. Box 1427, Pascagoula, MS 39567.
FFC	Flambeau Paper Corp-----	715-762-3231	P. O. Box 340, Park Falls, WI 54552.
FLM	Fleming Laboratories, Inc-----	704-372-5613	2215 Thrift Rd., P. O. Box 34384, Charlotte, NC 28234.
CIK	Flint Ink Corp., Cal/Ink Div-----	415-525-1188	1404 - 4th St., Berkeley, CA 94710.
FTE	Foote Mineral Co-----	215-363-6500	Route 100, Exton, PA 19341.
FMO	Ford Motor Co., Paint Operations-----	313-466-1913	400 Groesbeck Hwy., Mt. Clemens, MI 48043.
FOR	Formosa Plastics Corp.:		
	Louisiana-----	504-356-3341	P. O. Box 271, Baton Rouge, LA 70821.
	USA-----	201-966-6980	66 Hanover Rd., Florham Park, NJ 07932.
FJI	Foy-Johnston, Inc-----	513-631-4270	1776 Mentor Ave., Cincinnati, OH 45212.
FKE	Frank Enterprise, Inc-----	614-253-5519	700 Rose Ave., Columbus, OH 43219.
FLN	Franklin International-----	614-443-0241	2020 Bruck St., Columbus, OH 43207.
FRE	Freeman Chemical Corp-----	414-284-5541	P. O. Box 247, Port Washington, WI 53074.
FB	Fritzsche Dodge & Olcott, Inc-----	212-929-4100	76 - 9th Ave., New York, NY 10011.
FLH	H. B. Fuller Co-----	612-645-3401	3520 Lexington Ave. N., St. Paul, MN 55126.
GAF	GAF Corp., Chemical Corp-----	201-862-2600	P. O. Box 12, Linden, NJ 07036.
GLX	Galxie Chemicals Corp-----	201-279-0558	26 Piercy St., Paterson, NJ 07524.
GAN	Gane's Chemicals, Inc-----	212-391-2580	1114 Avenue of the Americas, New York, NY 10036.
GNR	Genencor, Inc-----	415-588-3475	180 Kimball Way, S. San Francisco, CA 94080.
GE	General Electric Co-----	614-622-5310	1350 S. Second St., Coshocton, OH 43812
		413-494-4793	and 1 Plastics Ave., Pittsfield, MA 01201.
GEI	Insulating Materials-----	518-385-7999	RV-28, 1 Campbell Rd., Schenectady, NY 12345.
SPD	Silicone Products Div-----	518-266-3330	Mechanicville Rd., Waterford, NY 12188.
GNF	General Foods Manufacturing Corp., Maxwell House Coffee Div.:	201-420-3436	1125 Hudson St., Hoboken, NJ 07030.
GLC	General Latex & Chemical Corp-----	617-576-8000	675 Mass. Ave., Cambridge, MA 02139.
GRG	P D George Co-----	314-621-5700	5200 N. Second St., St. Louis, MO 63147.
GGC	Georgia Gulf Corp., Bound Brook Div-----	404-395-4533	400 Perimeter Ctr., Terr. Suite 595, Atlanta, GA 30348.
GGC	Houston Div-----	404-521-4000	400 Perimeter Ctr., Terr. Suite 595, Atlanta, GA 30348.
GGC	Plaquemine Div-----	404-521-4000	400 Perimeter Ctr., Terr. Suite 595, Atlanta, GA 30348.
GGC	PVC Compound Div-----	404-521-5200	P. O. Box 629, Evergreen Rd., Plaquemine, LA 70765.
	Georgia-Pacific Corp.:		
PSP	Bellingham Div-----	206-733-4410	P. O. Box 1236, Bellingham, WA 98227.
GP	Resins Inc-----	404-521-4000	133 Peachtree St. NE., Atlanta, GA 30361.
TNI	The Gillette Co., Chemical Div-----	617-421-7000	3500 W. 16th St., N. Chicago, IL 60064.
GBF	Gist-Brocades, USA, Inc-----	704-527-9000	5550 - 77 Center Dr., P. O. Box 241068, Charlotte, NC 28224.
GIV	Givaudan Corp-----	201-365-8000	100 Delawanna Ave., Clifton, NJ 07014.
GAI	Glasureit America, Inc-----	313-861-1000	3301 Bourke Ave., Detroit, MI 48238.

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS,
BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
GLY	Glyco, Inc-----	203-847-1191	488 Main St., P. O. Box 5100, Norwalk, CT 06856.
BFG	B. F. Goodrich-Ameripol SBR Div-----	216-374-2000	500 S. Main St., Akron, OH 44318.
BFG	B. F. Goodrich Co.:		
	B. F. Goodrich Chemical Group-----	216-447-6000	6100 Oak Tree Blvd., Cleveland, OH 44131.
HGC	Goodson Chemical Corp-----	801-278-5311	3760 S. Highland Dr., Suite 200, Salt Lake City, UT 84106.
GVR	Goodyear Tire & Rubber Co-----	216-796-7383	1144 E. Market St., Akron, OH 44316.
	W. R. Grace & Co.:		
GCG	Agricultural Chemicals Group-----	901-357-2311	P. O. Box 27147, Memphis, TN 38127.
HMP	Hampshire Chemicals Div-----	617-861-6600	55 Hayden Ave., Lexington, MA 02173.
EVN	Organic Chemicals Div., Evans Chemetics.:	203-655-8741	90 Tokeneke Rd., Darien, CT 06820.
GRD	Polymers & Chemicals Div-----	617-861-6600	55 Hayden Ave., Lexington, MA 02173.
GPC	Grain Processing Corp-----	319-264-4211	P. O. Box 349, Muscatine, IA 52761.
CFG	Grant Industries, Inc-----	201-791-6700	P. O. Box 360, Elmwood Park, NJ 07407.
GTL	Great Lakes Chemical Corp-----	317-463-2511	P. O. Box 2200, Hwy. 52, W. Lafayette, IN 47906.
GNW	Greenwood Chemical Co-----	703-456-6832	P. O. Box 26, State Hwy. #690, Greenwood, VA 22943.
GDC	Gresto Mfg. Inc-----	919-475-8101	216 E. Holly Hill Rd., Thomasville, NC 27360.
GRV	Guardsman Chemicals, Inc-----	616-452-5181	1350 Steele Ave., S.W., Grand Rapids, MI 49507.
HAR	Haermann & Reimer Corp-----	201-686-3132	70 Diamond Rd., Springfield, NJ 07081.
HAL	C. P. Hall Co-----	312-767-4600	7300 S. Central Ave., Chicago, IL 60638.
HOC	Halocarbon Products Corp-----	201-343-8703	82 Burlews Ct., Hackensack, NJ 60638.
HTM	Haltermann Ltd. Co-----	713-452-5951	16717 Jacintoport Blvd., Houston, TX 77015.
FOG	Handschy Industries, Inc., Farac Vernishes & Chemicals.:	312-597-7990	13601 S. Ashland Ave., Riverdale, IL 60627.
HAN	Hanna Chemical Coatings Corp-----	614-294-3361	1313 Windsor Ave., P. O. Box 147, Columbus, OH 43216.
HSB	Harshaw/Filtrol Partnership-----	216-292-9200	3400 Bank St., Louisville, KY 40212.
HRT	Hart Products Corp-----	201-433-6665	173 Sussex St., Jersey City, NJ 07302.
HCG	Hatco Chemical Co-----	201-738-1000	King George Post Rd., Fords, NJ 08863.
HEK	Hawkeye Chemical Co-----	319-243-5800	P. O. Box 899, Clinton, IA 52733.
HAP	Helmerich & Payne, Inc., Natural Gas Odorizing Div.:	713-424-5568	3601 Decker Dr., P. O. Box 4176, Baytown, TX 77520.
SCP	Henkel Corp-----	612-828-8000	7900 W. 78th St., Minneapolis, MN 55435.
HPC	Hercules, Inc-----	302-594-5000	Hercules Plaza, Wilmington, DE 19899.
HER	Heresite-Saekaphen, Inc-----	414-684-6646	822 S. 14th St., Manitowoc, WI 54220.
HTN	Heterene Chemical Corp-----	201-278-2000	790 - 21st Ave., Paterson, NJ 07513.
HET	Heterochemical Corp-----	516-561-8225	111 E. Hawthorne Ave., P. O. Box 157, Valley Stream, NY 11580.
HEU	Heubach Inc-----	201-242-1800	Heubach Ave., Newark, NJ 07114.
HEC	Hewchem-----	601-863-6600	2500 - 33d Ave., Gulfport, MS 39501.
HEW	Hewitt Soap Co., Inc-----	513-253-1151	333 Linden Ave., Dayton, OH 45403.
HEX	Hexagon Laboratories, Inc-----	212-324-7550	4166 Boston Rd., Bronx, NY 10475.
HXL	Hexcel Corp., Hexcel Chemical Products.:	201-472-6800	205 Main St., Lodi, NJ 07644.
HIP	High Point Chemical Corp-----	919-884-2214	601 Taylor Ave., High Point, NC 27261.
HIM	Himont, U.S.A., Inc-----	302-594-5500	1313 N. Market St., Wilmington, DE 19894.
HDG	Hodag Chemical Corp-----	312-675-3950	7247 N. Central Park Ave., Skokie, IL 60076.
HOF	Hoffmann-LaRoche, Inc-----	201-235-5000	340 Kingsland St., Nutley, NJ 07110.
HCP	Honig Chemical & Processing Corp-----	201-344-0881	414 Wilson Ave., Newark, NJ 07105.
EFH	E. F. Houghton & Co-----	215-666-4000	Hadison & Van Buren Aves., Valley Forge, PA 19482.
HML	Hummel Chemical Co., Inc-----	201-754-1800	P. O. Box 250, S. Plainfield, NJ 07080.
HMY	Humphrey Chemical Co-----	203-281-0012	P. O. Box 325, N. Haven, CT 06473-0325.
WAY	Philip A. Hunt Chemical Corp., Organic Chemical Div.:	201-977-6000	One Wellington Rd., Lincoln, RI 02865.
HNT	Huntington Laboratories, Inc-----	219-356-8100	970 E. Tipton St., Huntington, IN 46750.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS, BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
HUS	Husky Industries, Inc-----	404-393-1430	P. O. Drawer I, Dickinson, ND 58601.
HYN	Hynson, Westcott, & Dunning, Inc-----	301-837-0890	Charles & Chase Sts., Baltimore, MD 21202.
ICI	ICI Americas, Inc-----	302-575-3000	Concord Pike & Murphy Rd., Wilmington, DE 19897.
	Chemicals Div-----	302-575-3000	Wilmington, DE 19897.
RAY	ITT Rayonier, Inc-----	203-348-7000	1177 Summer St., Stamford, CT 06904.
IGC	Indiana Gas & Chemical Corp-----	812-232-0231	1341 Hulman St., Terre Haute, IN 47808.
IND	Indol Color Co., Inc-----	201-242-1300	1029 Newark Ave., Elizabeth, NJ 07201.
IDC	Industrial Color, Inc-----	815-722-7402	50 Industry Ave., Bldg. 28, Joliet, IL 60435.
INL	Inland Steel Co-----	219-392-5408	3210 Watling, E. Chicago, IL 46312.
WM	Inolx Chemical Co-----	215-271-0800	Jackson & Swanson Sts., Philadelphia, PA 19148.
	Insilco Corp.:		
ENP	Enterprise Co-----	312-541-9000	1191 S. Wheeling Rd., Wheeling, IL 60090.
SPC	Sinclair Paint Co. Div-----	213-268-2511	3960 E. Washington Blvd., Los Angeles, CA 90023.
ILI	Interlake, Inc-----	312-986-6600	2015 Spring Rd., Oak Brook, IL 60521.
IFF	International Flavor & Fragrances, Inc-----	212-765-5500	521 W. 27th St., New York, NY 10019.
IMC	International Minerals & Chemical Corp-----	812-232-0121	P. O. Box 207, Terra Haute, IN 47808.
	Industrial Chemicals Div-----	312-566-2600	421 E. Hawley St., Mundelein, IL 60060.
IPC	Interplastic Corp-----	612-331-6850	2015 NE Broadway, Minneapolis, MN 55413.
CCA	Interstab Chemicals, Inc-----	201-247-2202	500 Jersey Ave., New Brunswick, NJ 08903.
IOV	Iovita, Inc-----	312-481-8900	21625 Oak St., P. O. 129, Matteson, IL 60443.
IRI	Ironsides Co-----	614-224-2228	270 W. Mound St., Columbus, OH 43215.
JRC	Jarchem Industries, Inc-----	201-344-0600	40 Ball St., Newark, NJ 07105.
JFR	Georgia A. Jeffreys & Co., Inc-----	703-389-8220	P. O. Box 909, Salem, VA 24153.
JRG	Andrew Jergens Co-----	513-421-1400	2535 Spring Grove Ave., Cincinnati, OH 45214.
JTO	Jetco Chemicals, Inc-----	214-872-3011	P. O. Box 1898, Corsicana, TX 75110.
UPF	Jim Walter Resources, Inc., CIC Div-----	205-849-3032	P. O. Box 5327, Birmingham, AL 35217.
MRI	Johnson Matthey, Inc., Pigments Dept-----	201-373-7801	1200 Grove St., Irvington, NJ 07111.
JNS	S. C. Johnson & Son, Inc-----	414-631-2000	1525 Howe St., Racine, WI 53403.
JOB	Jones-Blair Co-----	214-353-1600	2728 Empire Central, Dallas, TX 75235.
JOR	Jordan Chemical Co-----	215-583-7000	1830 Columbia Ave., Folcroft, PA 19032.
KAI	Kaiser Aluminum & Chemical Corp-----	415-271-3300	P. O. Box 337, Gramercy, LA 70052.
KLM	Kalama Chemical, Inc-----	206-682-7890	Suite 1110, Bank of California Center, Seattle, WA 98164.
KAN	Kanasco, Ltd-----	301-789-7800	6110 Robinwood Road, Baltimore, MD 21175.
KMP	Kelly-Moore Paint Co., Inc-----	415-592-8337	987 Commercial St., San Carlos, CA 94070.
KMI	Kemlin Industries, Inc-----	515-266-2111	2100 Maury St., Des Moines, IA 50301.
KCU	Kemacott Minerals Co., Utah Copper Div-----	801-322-6178	P. O. Box 31838, Salt Lake City, UT 84106.
KPI	Kenrich Petrochemicals, Inc-----	201-823-9000	P. O. Box 32, 140 E. 22nd St., Bayonne, NJ 07002.
KTP	Kent Polymers, Inc-----	717-455-2021	666 Dietrich Ave., P. O. Box 658, Hazleton, PA 18201.
KYS	Keycor Century Corp-----	805-259-2360	P. O. Box 308, Saugus, CA 91350.
KCW	Keystone Color Works, Inc-----	717-854-9541	151 W. Gay Ave., York, PA 17403.
CHF	Kincaid Enterprises, Inc-----	304-755-3377	P. O. Box 671, Nitro, WV 30067.
KHI	Koch Refining Co-----	316-832-5217	P. O. Box 2302, Wichita, KS 67201.
KON	H. Kohnstamm & Co., Inc-----	212-620-4800	161 Avenue of the Americas, New York, NY 10013.
KMC	Komac Paint, Inc-----	303-534-5191	201 Osage ST., Denver, CO 80204.
KPT	Koppers Co., Inc-----	412-227-2228	Koppers Bldg., K-1050, 10th Fl., Pittsburgh, PA 15219.
LCP	LCP Chemicals:		
	Maine-----	201-225-4840	P. O. Box 149, Orrington, ME 04474.
	West Virginia, Inc-----	304-843-1310	P. O. Box Box J, Moundsville, WV 26041.

APPENDIX

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TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS,
BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
LTV	LTV Steel Co., Inc.	216-622-5000	LTV Steel Bldg., 25 W. Prospect Ave., Cleveland, OH 44115.
LKY	Lake States Div. of Rhineland Paper Co.	715-369-4356	515 W. Davenport St., Rhineland, WI 54501.
LUR	Laurel Products Corp.	215-423-5300	2600 E. Tioga St., Philadelphia, PA 19134.
LII	Lawter International, Inc.	312-498-4700	990 Skokie Blvd., Northbrook, IL 60062.
LLI	Lee Laboratories, Inc.	804-862-2534	P. O. Box 1658, Petersburg, VA 23805.
SAR	Leksi, Inc.	215-521-3800	P. O. Box 56, Essington, PA 19029.
LEV	Lever Brothers Co.	212-906-6000	390 Park Ave., New York, NY 10022.
LVR	C. Lever Co., Inc.	215-639-8640	736 DunksFerry Rd., Bensalem, PA 19020.
LIL	Eli Lilly & Co.	317-261-2000	307 E. McCarthy St., Indianapolis, IN 46285.
	Eli Lilly Industries, Inc.	809-757-4150	Call Box 1198 - Pueblo Station, Carolina, PR 00628-1198.
LIC	Lilly Industrial Coatings, Inc.	317-634-8512	P. O. Box 946, Indianapolis, IN 46206.
BRD	Lonza, Inc.	201-794-2400	22-10 Route 208, Fair Lawn, NJ 07410.
LC	Lord Corp., Chemical Products Group	814-868-3611	2000 W. Grandview Blvd., P. O. Box 10038, Erie, PA 16514-0038.
LAS	Los Angeles Soap Co.	213-627-5011	617 E. 1st St., P. O. Box 2198 T.A., Los Angeles, CA 90051.
LCS	Louisiana Chemical Specialties, Inc.	504-775-1801	12537 Scenic Hwy., Baton Rouge, LA 70807.
LYP	Lyondell Petrochemical Co.	713-652-7200	1221 McKinney, Suite 1600, Houston, TX 77253.
MCK	MacKenzie Chemical Works, Inc.	516-234-8600	1 Cordello Ave., Central Islip, NY 11722.
MCC	McCloskey Varnish Co.	215-624-4400	7600 State Rd., Philadelphia, PA 19136.
MCC	McCloskey Varnish Co., Oregon	503-226-3751	4155 N.W. Yeon Ave., Portland, OR 97210.
MCC	McCloskey Varnish Co., California	213-726-7272	5501 W. Slauson, Commerce, CA 90040.
STG	McCormick & Co., Inc., McCormick-Strange, Flavor Div.	301-667-7400	230 Schilling Circle S., Hunt Valley, MD 21031.
MCK	McLaughlin Gormley King Co.	612-544-0341	8810 - 10th Ave., N., Minneapolis, MN 55427.
MMP	McWhorter, Inc.	312-428-2657	400 E. Cottage Place, Carpentersville, IL 60110.
MAK	MAK Chemical Corp.	317-288-4464	1200 Rochester Ave., P. O. Box 2423, Muncie, IN 47302.
SOR	MW Manufacturers, Inc., Southern Resin Div.	703-483-0211	P. O. Box 68, Thomasville, NC 27360.
TZC	Magnesium Elektron, Inc.	201-782-5800	R.D. #2, Box 251, Flemington, NJ 08822.
MGR	Magruder Color Co., Inc.	201-242-1300	1029 Newark Ave., Elizabeth, NJ 07201.
MAL	Mallinckrodt, Inc.	314-895-2000	675 McDonnell Blvd., Building-10-3-5, St. Louis, MO 63134.
HOC	Marathon Petroleum Co., Texas Refining Div.	419-422-2121	539 S. Main St., Findlay, OH 45840.
MRD	Marden-Wild Corp.	617-666-0400	500 Columbia St., P.O. Box 499, Somerville, MA 02143.
MRV	Marlowe-Van Loan Corp.	919-886-7126	1511 Joshua Circle, P. O. Box 1851, High Point, NC 27261.
MCA	Masonite Corp., Alpine Resin Div.	601-863-5772	P. O. Box 2392, Gulfport, MS 39505.
MYO	Mayo Chemical Co.	404-696-6711	5544 Oakdale Rd., Smyrna, GA 30080.
MZC	Mazer Chemicals, Inc.	312-244-3410	3938 Poret Dr., Gurnee, IL 60031.
MLC	Melamine Chemicals, Inc.	504-473-3121	P. O. Box 748, Donaldsonville, LA 70346.
MRK	Merck & Co., Inc.	201-574-4000	P. O. Box 2000, Rahway, NJ 07065.
MER	Merichem Co.	713-455-1311	1914 Haden Rd., Houston, TX 77015.
MLS	Miles Laboratories, Inc., Biotechnology Group.	219-262-7445	1127 Myrtle St., Elkhart, IN 46515.
MIL	Milliken & Co., Milliken Chemical Div.	803-472-9041	P. O. Box 817, Inman, SC 29349.
RFC	Millmaster Onyx Group, Inc., Lyndal Chemical Co. Div.	212-687-2757	Coronet Dr., Dalton, GA 30720.
MMM	Minnesota Mining & Manufacturing Co.	612-736-0940	3M Center 224-6SE, St. Paul, MN 55144.
MIR	Miranol Chemical Co., Inc.	201-329-3900	P. O. Box 436, Dayton, NJ 08810.
MSC	Mississippi Chemical Corp.	601-746-4131	P. O. Box 388, Yazoo City, MS 39194.
CHG	Mobay Chemical Corp., Agricultural Chemicals Div.	816-242-2345	P. O. Box 4913, Hawthorne Rd., Kansas City, MO 64120.
VPC	Dye & Pigment Div.	201-686-3700	P. O. Box 385, Union, NJ 07083.
MOB	Pittsburgh Div.	412-777-2000	Mobay Rd., Pittsburgh, PA 15205.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS, BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
SM	Mobil Oil Corp.:		
	Gas Liquids Dept-----	703-849-3000	P. O. Box 900, Dallas, TX 75221.
	Mobil Chemical Co-----	212-883-4242	P. O. Box 726, Paramus, NJ 07652.
	Chemical Products Div-----	201-321-6000	P. O. Box 250, Edison, NJ 08818.
	Petrochemicals Div-----	713-590-7700	World Tower One, 15600 Drummit Blvd., Houston, TX 77032.
MOA	Mona Industries, Inc-----	201-345-8220	76 E. 24th St., Paterson, NJ 07544.
MON	Monsanto Co-----	314-694-1000	800 N. Lindberg Blvd., St. Louis, MO 63167.
MCI	Mooney Chemicals, Inc-----	216-781-8383	2301 Scranton Rd., Cleveland, OH 44113.
MCP	Moretex Chemical Products, Inc-----	803-583-8441	314 W. Henry St., Spartanburg, SC 29304.
MRF	Morflex Chemical Co., Inc-----	919-292-1781	2110 High Point Road, Greensboro, NC 27403.
	Morton Thiokol, Inc.:		
CGW	Carstab Div-----	513-733-2100	West St., Reading, OH 45215.
MRT	Morton Chemical Div-----	312-621-5555	2 N. Riverside Plaza, Chicago, IL 60606.
MHI	Ventron Div-----	617-774-3100	150 Andover St., Danvers, MA 01923.
MOT	Motomco, Ltd-----	608-244-2904	P. O. Box 8422, Madison, WI 53708.
PNX	The Murphy-Phoenix Co-----	216-831-0404	23811 Chagrin Blvd., Beechwood, OH 44122.
NTL	NL Industries, Inc-----	212-621-9400	1230 Avenue of the Americas, New York, NY 10020.
	NL Chemicals Div-----	609-443-2450	P. O. Box 700, Hightstown, NJ 08520.
CHN	N-Ren Corp., Cherokee Nitrogen Div-----	800-543-6736	P. O. Box 429, Pryor, OK 74362.
LEM	Napp Chemicals, Inc-----	201-773-3900	199 Main St., Lodi, NJ 07644.
NTB	National Biochemical Co-----	312-722-0126	3127 W. Lake St., Chicago, IL 60612.
NTC	National Casein Co-----	312-846-7300	601 W. 80th St., Chicago, IL 60620.
NCJ	National Casein of New Jersey-----	609-829-1880	P. O. Box 226, Riverton, NJ 08077.
USI	National Distillers & Chemicals Corp., U.S. Industrial Chemicals Co-----	513-530-6500	11500 N. Lake Dr., P. O. Box 429550, Cincinnati, OH 45249.
NMC	National Milling & Chemical Co., Inc-----	215-482-6600	4601 Flat Rock Rd., Philadelphia, PA 19127.
NSC	National Starch & Chemical Corp-----	201-685-5000	10 Finnerde Ave., Bridgewater, NJ 08807.
NTS	National Steel Corp., Great Lakes Plant-----	313-297-3601	1 Quality Dr., Ecorse, MI 48229.
NEP	Nepera, Inc-----	914-782-8171	Route #17, Harriman, NY 10926.
NVM	Nevamar Corp-----	301-569-5000	8339 Telegraph Rd., Odenton, MD 21113.
NEV	Neville Chemical Co-----	412-331-4200	Grand Avenue, Neville Island, Pittsburgh, PA 15225.
NCC	Niacet Corp-----	716-285-1474	400 - 47th St., Niagara Falls, NY 14304.
NLO	Niklor Chemical Co., Inc-----	213-830-2253	2060 E. 220th St., Long Beach, CA 90810.
NCP	Wiles Chemical Paint Co-----	616-683-3377	P. O. Box 307, Files, MI 49120.
	Kordell Industries Div-----	219-255-9678	413 Clover Rd., P. O. Box 930, Mishawaka, IN 46544.
CNP	Nipro, Inc-----	404-823-4000	P. O. Box 1483(13), Augusta, GA 30913.
NOC	The Norac Co., Inc-----	818-334-2908	405 S. Motor Ave., Azusa, CA 91702.
	Mathe Div-----	201-779-4981	169 Kennedy Dr., P. O. Box 2230, Lodi, NJ 07644.
FSN	NOR-AM Chemical Co-----	302-575-2000	3509 Silverstone Road, P. O. Box 7495, Wilmington, DE 19803.
NWP	Norchem, Inc-----	402-633-5735	Two Center Park Plaza, Norchem Center, Omaha, NB 68102.
NW	Northwestern Chemical Co-----	312-231-6111	120 W. Aurora St., West Chicago, IL 60185.
NPC	Northwest Petrochemical Corp-----	206-293-3176	P. O. Box 99, Anacortes, WA 98221.
NOR	Norwich Eaton Pharmaceutical, Inc-----	607-335-2111	17 Eaton Ave., Norwich, NY 13815.
NBI	Novo Biochemical Industries Inc-----	919-494-2014	P. O. Box 576, Franklinton, NC 27525.
NOD	Nuodex, Inc-----	201-981-5000	P. O. Box 365, Turner Place, Piscataway, NJ 08854.
NSW	The Nutrasweet Co-----	312-982-7000	4711 Golf Rd., Skokie, IL 60076.
NUT	Nutrius, Inc-----	216-526-5522	8221 Brecksville Rd., Brecksville, OH 44141.
OBC	The O'Brien Corp-----	415-761-2300	450 E. Grand Ave., S. San Francisco, CA 94080.
	Occidental Chemical Corp.:		
HKD	Durez Div-----	716-696-6000	Walck Rd., N. Tonawanda, NY 14120.
HK	Industrial & Specialty Chemical Div-----	716-286-3000	360 Rainbow Blvd. S., Niagara Falls, NY 14303.

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS, BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
HKP	: PVC Div-----	: 215-327-6400	: P. O. Box 699, Pottstown, PA 19464.
OMC	: Olin Corp-----	: 203-356-2000	: 120 Long Ridge Rd., Stamford, CT 06904.
ONX	: Onyx Chemical Co-----	: 201-434-1700	: 190 Warren St., Jersey City, NJ 07302.
ORG	: Organics/LaGrange, Inc-----	: 312-764-6700	: 7125 N. Clark St., Chicago, IL 60626.
OCC	: Orient Chemical Corp-----	: 201-465-0714	: 121 Tyler St., Port Newark, NJ 07114.
BSW	: Original Bradford Soap Works, Inc-----	: 401-821-2141	: 200 Providence St., W. Warwick, RI 02893.
CJO	: C. J. Osborn Chemicals, Inc-----	: 609-662-0128	: 820 Sherman Ave., Pennsauken, NJ 08109.
OCF	: Owens-Corning Fiberglas Corp-----	: 419-248-8000	: Fiberglas Tower, Toledo, OH 43659.
PBI	: PBI-Gordon Corp-----	: 816-421-4070	: 1217 W. 12th St., Kansas City, MO 64101-9984.
PSG	: PMC Specialities Group, Inc-----	: 216-356-0700	: 20525 Center Ridge Rd, Suite 235, Rocky River, OH 44116.
PMP	: PMP Fermentation Products, Inc-----	: 414-352-3001	: 7670 N. Port Washington Rd., Milwaukee, WI 53217.
PPG	: PPG Industries, Inc-----	: 412-434-3131	: PPG Place, Pittsburgh, PA 15272.
PAC	: Pacific Anchor Chemical Corp-----	: 213-725-1800	: 6055 E. Washington Blvd., Suite 700, Los Angeles, CA 90040.
PNT	: Pantasote, Inc., Film/Compound Div-----	: 201-777-8500	: 26 Jefferson St., Passaic, NJ 07055.
PAH	: Parish Chemical Co-----	: 801-226-2018	: 145 N. Geneva Rd., Orem, UT 84057.
PD	: Parke-Davis Div. of Warner Lambert Co-----	: 201-540-2000	: 188 Howard Ave., Holland, MI 49423.
PSC	: Passaic Color & Chemical Co-----	: 201-279-0400	: 28-36 Paterson St., Paterson, NJ 07501.
CHP	: C. H. Patrick & Co., Inc-----	: 803-244-4831	: P. O. Box 2526, Greenville, SC 29602.
PEL	: Pelron Corp-----	: 312-442-9100	: 7847 W. 47th St., Lyons, IL 60534.
PAS	: Penwalt Corp-----	: 215-587-7000	: Three Parkway, Philadelphia, PA 19102.
WTL	: Lucidol Div-----	: 716-877-1740	: 1740 Military Rd., Buffalo, NY 14240.
MOR	: Pennzoil Co., Pennzoil Morco Co-----	: 713-337-1534	: P. O. Drawer C, Dickinson, TX 77539.
PAR	: Pennzoil Co., Penreco Div-----	: 412-283-5600	: Union Bank Bldg. Butler, PA 16001.
PKI	: Perkins Industries, Inc-----	: 913-677-5831	: 6405 Metcalf St., Suite 422, Overland Park, KS 66202.
BPT	: Permuthane, Inc-----	: 617-531-1880	: Corwin St., Peabody, MA 01960.
PER	: Perry & Derrick Co., Inc-----	: 513-351-5800	: 2510 Highland Ave., Cincinnati, OH 45212.
PST	: Perstorp Compounds, Inc-----	: 413-584-2472	: 238 Nonotuck St., Florence, MA 01060.
PST	: Perstorp Polyols, Inc-----	: 419-729-5448	: 600 Matzinger Rd., Toledo, OH 43612.
UDI	: Petrochemicals/Desoto, Inc-----	: 817-625-2111	: 510 E. Central St., Fort Worth, TX 76113.
PFN	: Pfanstiehl Laboratories, Inc-----	: 312-623-0370	: 1219 Glen Rock Ave., Waukegan, IL 60085.
FCW	: Pfister Chemical, Inc-----	: 201-945-5400	: Linden Ave., Ridgefield, NJ 07657.
PFZ	: Pfizer, Inc-----	: 212-573-2323	: 235 E. 42d St., New York, NY 10017.
PHR	: Pfizer Pharmaceuticals, Inc-----	: 809-846-4300	: P. O. Box 628, Barceloneta, PR 00617.
PLB	: Pharmachem Corp-----	: 215-867-4654	: 719 Stefko Blvd., Bethlehem, PA 18016.
PLB	: Pharmacia P-L Biochemicals, Inc-----	: 414-225-2600	: 2202 N. Bartlett Ave., Milwaukee, WI 53202.
PDI	: Phelps Dodge Industries, Inc., : Phelps Dodge Magnet Wire Co. Div. :	: 219-456-4444	: 4300 New Haven Ave., Fort Wayne, IN 46803.
PPX	: Phillips Paraxylene, Inc-----	: 809-864-1515	: P. O. Box 1166, Guayama, PR 00655.
PLC	: Phillips Petroleum Co-----	: 918-661-6600	: 15 Al Phillips Bldg., Bartlesville, OK 74004.
PPR	: Phillips Puerto Rico Core, Inc-----	: 809-864-1515	: P. O. Box 1166, Guayama, PR 00655.
PHC	: Phthalchem, Inc-----	: 513-681-0099	: 6675 Beechlands Dr., Cincinnati, OH 45237.
PCI	: Piedmont Chemical Industries, Inc-----	: 919-885-5131	: 331 Burton Ave., High Point, NC 27260.
PIC	: Pierce Chemical Co-----	: 815-968-0747	: 3747 N. Meridian Rd., Rockford, IL 61103.
PIL	: Pilot Chemical Co-----	: 213-723-0036	: 11756 Burke St., Santa Fe Springs, CA 90670.
PPL	: Pioneer Plastics Div. of LOF : Plastics, Inc. :	: 207-784-9111	: Pionite Rd., Auburn, ME 04210.
PKL	: Plaskolite, Inc-----	: 614-294-3281	: P. O. Box 1497, Columbus, OH 43216.
PSL	: Plaslok Corp-----	: 716-681-7755	: 3155 Broadway, Buffalo, NY 14227.
PLS	: Plastics Engineering Co-----	: 414-458-2121	: 3518 Lakeshore Rd., Sheboygan, WI 53081.
PMC	: Plastics Manufacturing Co-----	: 214-330-8671	: 2700 S. Westmoreland, Dallas, TX 75233.
SYP	: Plastics Specialities & Technology, : Inc., Synthetic Products Co. :	: 216-531-6010	: 16601 St. Clair Ave., Cleveland, OH 44110.
PTC	: Polycast Technology Corp-----	: 203-327-6010	: 69 Southfield Ave., Stamford, CT 06902.
PAI	: Polymer Applications, Inc-----	: 716-875-0775	: 3445 River Rd., Tonawanda, NY 14150.
PYI	: Polymer Industries-----	: 803-244-5351	: P. O. Box 2184, Roberts Rd., Greenville, SC 29602.
PVZ	: Polyrez Co., Inc-----	: 609-845-1813	: S. Columbia St. & R.R., Woodbury, NJ 08096.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS, BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
PLR	Polysar, Inc.:		
	Latex Div-----	216-836-0451	1795 W. Market St., Akron, OH 44313.
	Plastics Div-----	671-537-9901	29 Fuller St., Leominster, MA 01453.
PVI	Polyvinyl Chemical Industries-----	617-658-6600	730 Main St., Wilmington, MA 01887.
POP	Pope Chemical Corp-----	201-279-2702	33 - 6th Ave., Paterson, NJ 07524.
PRT	Pratt & Lambert, Inc., Paint Div-----	716-873-6000	75 Tonawanda, Buffalo, NY 14207.
JLP	J. L. Prescott Co-----	201-777-4200	27 - 8th St., Passaic, NJ 07055.
PG	Procter & Gamble Co., Procter & Gamble Mfg. Co.:	513-627-5194	P. O. Box 599, Cincinnati, OH 45201.
PRC	Products Research & Chemical Corp-----	818-240-2060	5430 San Fernando Rd., P. O. Box 1800, Glendale, CA 91209.
QKO	QO Chemicals, Inc-----	312-850-2330	823 Commerce Dr., Suite 200, Oak Brook, IL 60521.
QCP	Quaker Chemical Corp-----	215-828-4250	Elm & Lee Sts., Conshohocken, PA 19428-0809.
QUN	K. J. Quin & Co., Inc-----	617-321-3200	195 Canal St., Malden, MA 02148.
RSA	R.S.A. Corp-----	914-693-1818	690 Saw Mill River Rd., Ardsley, NY 10502.
RCN	Racon, Inc-----	316-524-3245	6040 S. Ridge Rd., P. O. Box 198, Wichita, KS 67201.
RAS	Raffi and Swanson, Inc-----	617-933-4200	100 Eames St., Wilmington, MA 01887.
BLC	Ranbar Technology, Inc., Ball Chemical Co.:	412-486-1111	1114 William Flinn Highway, Glenshaw, PA 15116.
RAB	Raymark Corp-----	203-371-0101	1204 Darlington Ave., Crawfordsville, IN 47933.
MAR	Reed Lignin, Inc-----	203-625-0710	81 Holly Hill Lane, Greenwich, CT 06830.
RBI	Reeves Brothers, Inc-----	803-576-1210	P. O. Box 1898, Spartanburg, SC 29304.
REG	Regis Chemical Co-----	312-967-6000	8210 Austin Ave., Morton Grove, IL 60053.
RCI	Reichhold Chemicals, Inc-----	914-682-5700	525 N. Broadway, White Plains, NY 10603.
RIL	Reilly Tar & Chemical Corp-----	317-247-8141	1510 Market Square Center, 151 N. Delaware St., Indianapolis, IN 46204.
REL	Reliance Universal, Inc., Louisville Resins Div.:	502-459-9110	P. O. Box 37510, Louisville, KY 40232.
REM	Remington Arms Co., Inc-----	203-333-1112	939 Barnum Ave., Bridgeport, CT 06601.
RDA	Rhone-Poulenc, Inc-----	201-846-7700	120 Jersey Ave., New Brunswick, NJ 08903.
RCD	Richardson Polymer Corp-----	203-245-0441	17 Woodland Rd., Madison, CT 06443.
AMS	Ridgway Color Co-----	814-776-2151	75 Front St., Ridgway, PA 15853.
RTC	Riegel Textile Corp., Riechem Div-----	803-242-6050	P. O. Box 3478, Greenville, SC 29602.
RIK	Riker Laboratories, Inc. Sub. of 3M Co.:	818-341-1300	19901 Nordhoff St., Northridge, CA 91324.
RSN	Rilsan Corp-----	201-447-3300	266 Harristown Rd., Glen Rock, NJ 07452.
RIV	Riverdale Chemical Co-----	312-756-2010	220 E. 17th St., Chicago Heights, IL 60411.
ROB	Robeco Chemicals, Inc., Div. of Aceto Corp.:	212-986-6410	99 Park Ave., New York, NY 10016.
ORT	Roehr Chemicals, Inc-----	718-784-8473	52-20 - 37th St., Long Island City, NY 11101.
RH	Rohm & Haas Co-----	215-592-3000	Independence Mall West., Philadelphia, PA 19105.
ROM	Roma Color, Inc-----	617-676-3481	749 Quequechan St., P. O. Box 268, Fall River, MA 02722.
RUC	Rubicon, Inc-----	302-575-3596	P. O. Box 751, Wilmington, DE 19897 and P. O. Box 517, Geismar, LA 70734.
RUO	Ruco Polymer Corp-----	516-931-8104	New South Rd., Hicksville, NY 11804.
NES	Ruetgers-Nease Chemical Co-----	814-238-2424	201 Struble Rd., College, PA 16801.
SBP	SBS Products Inc-----	517-799-4941	302 Waller St., P. O. Box 1387, Saginaw, MI 48605.
SCM	SCM Corp.:		
	Coatings & Resins Div-----	216-344-8000	925 Euclid Ave., Cleveland, OH 44115.
	Organic Chemicals Div-----	904-764-1711	P. O. Box 389, Jacksonville, FL 32201.
	PCR, Inc-----	904-764-1711	P. O. Box 389, Jacksonville, FL 32201.
SDS	S.D.S. Biotech Corp-----	216-357-3000	7528 Auburn Rd., P. O. Box 348, Painesville, OH 44077.

APPENDIX

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TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS, BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
SOS	: SSC Industries, Inc-----	: 404-762-9651	: 1550 E. Taylor Ave., East Point, GA 30344.
NPR	: Safeway Stores, Inc-----	: 415-944-4473	: 2800 Ignacio Valley Rd., Walnut Creek, CA 94598.
STX	: St. Croix Petrochemical Corp-----	: 809-778-6450	: P. O. Box 6801, Christiansted, St. Croix, U.S., VI 00820.
SLM	: Salem Oil & Grease Co-----	: 617-745-0585	: 60 Grove ST., Salem, MA 01970.
SAL	: Salsbury Laboratories, Inc-----	: 515-257-2422	: 2000 Rockford Ln., Charles City, IA 50616.
SBG	: Samuel Bingham Co-----	: 312-298-6777	: 11101 W. Franklin Ave., Franklin Park, IL 60131.
SDC	: Sandoz Chemicals Corp-----	: 704-372-0120	: 4000 Monroe Rd., Charlotte, NC 28205.
S	: Sandoz, Inc., Colors & Chemicals Div-----	: 704-372-0210	: 4000 Monroe Rd., Charlotte, NC 28205.
SCN	: Schenectady Chemicals, Inc-----	: 518-370-4200	: P. O. Box 1046, Schenectady, NY 12306.
SBC	: Scher Chemicals, Inc-----	: 201-471-1300	: Industrial West, Clifton, NJ 07012.
SCH	: The Schering Corp-----	: 201-558-4000	: 1011 Morris Ave., Union, NJ 07083.
SCO	: Scholler, Inc-----	: 215-739-0900	: P. O. Box 26968, Philadelphia, PA 19134.
SPR	: Scientific Protein Laboratories-----	: 608-849-5944	: 700 E. Main St., Waukesha, WI 53597.
SFA	: Scott Paper Co-----	: 215-521-5000	: P. O. Box 925, Everett, WA 98206.
SEA	: Seaboard Chemicals, Inc-----	: 617-745-1915	: 30 Foster St., P. O. Box 707, Salem, MA 01970.
SRL	: G. D. Searle & Co-----	: 312-982-7000	: 5200 Old Orchard Rd., Skokie, IL 60076.
SKP	: Shakespeare Monofilament Div-----	: 803-754-7011	: 6111 Shakespeare Rd., Columbia, SC 29223.
SHO	: Shell Oil Co-----	: 713-241-5105	: P. O. Box 3105, Houston, TX 77002.
SHC	: Shell Chemical Co-----	: 713-241-5105	: P. O. Box 3105, Houston, TX 77002.
SGO	: Shenango, Inc-----	: 412-771-4400	: 200 Neville Rd., Pittsburgh, PA 15225.
SHP	: Shepherd Chemical Co-----	: 513-731-1110	: 4900 Beech St., Cincinnati, OH 45212.
SHX	: Sherex Chemical Co., Inc-----	: 614-764-6500	: P. O. Box 646, Dublin, OH 43017.
	: The Sherwin-Williams Co.:		
BAL	: Consumer Div-----	: 301-837-3030	: 2325 Hollins Ferry Rd., Baltimore, MD 21230.
SHT	: Shintech, Inc-----	: 713-965-0713	: 24 Greenway Plaza, Suite 811, Houston, TX 77046.
SMP	: J. R. Simplot Co-----	: 208-336-2110	: 151 North 3rd Ave., Pocatello, ID 83204.
SIM	: Simpson Timber Co-----	: 503-289-1111	: 2301 N. Columbia Blvd., Portland, OR 97217.
GFS	: G. Frederick Smith Chemical Co-----	: 614-881-5501	: P. O. Box 23214, Columbus, OH 43223.
SK	: SmithKline Beckman Corp., SmithKline Chemicals Div.-----	: 215-270-7000	: P. O. Box 900, 900 River Rd., Conchohocken, PA 19428.
SMO	: Smooth-On, Inc-----	: 201-647-5800	: 1000 Valley Rd., Gillette, NJ 07933.
SLT	: Soltex Polymer Corp-----	: 713-522-1781	: P. O. Box 1000, Deer Park, TX 77536.
SLC	: Soluol Chemical Co., Inc-----	: 401-821-8100	: Green Hill & Market Sts., P. O. Box 112, W. Warwick, RI 02893.
SAC	: Southeastern Adhesives Co-----	: 704-754-3493	: P. O. Box 2070, Lenoir, NC 28645.
SOP	: Southern Chemical Products Co-----	: 912-746-5147	: 430 Lower Boundary St., P. O. Box 205, Macon, GA 31202.
	: Southland Corp.:		
ACT	: Chemical Div-----	: 312-458-8450	: 7666 W. 63d St., Summit, IL 60501.
SOL	: Fine Chemical Div-----	: 214-828-7011	: 2828 N. Haskell Ave., Dallas, TX 75204.
SWR	: Southwestern Refining Co., Inc-----	: 512-884-8863	: P. O. Box 9217, Corpus Christi, TX 78469.
SPL	: Spaulding Fibre Co., Inc., Industrial Plastics Div.-----	: 716-692-2000	: 310 Wheeler St., Tonawanda, NY 14150.
ASL	: SpecialtyChem Products Corp-----	: 715-735-9033	: 2 Stanton St., Marinette, WI 54143.
SOI	: Specialty Organics, Inc-----	: 818-962-2008	: 5623 N. 4th St., Irwindale, CA 91706.
IPP	: Spectrachem Corp-----	: 201-595-8181	: 200 Sheridan Ave., Paterson, NJ 07502.
TRD	: Squibb Manufacturing, Inc-----	: 809-852-1255	: P. O. Box 609, Humacao, PR 00661.
SCC	: Standard Chlorine of Delaware, Inc-----	: 201-997-1700	: 1015 Belleville Turnpike, Kearny, NJ 07032.
SOH	: Standard Oil Chemical Co-----	: 216-575-4141	: 200 Public Square, Cleveland, OH 44114.
SIO	: Standard Oil Co-----	: 216-586-5180	: 200 Public Square, Cleveland, OH 44114.
SIF	: Standard Oil Co., Filon Div., Engineered Materials Co.-----		: 12333 S. Van Ness Ave., Hawthorne, CA 90250.
SIC	: Standard Oil Co., Silmer Div., Engineered Materials Co.-----		: 12333 S. Van Ness Ave., Hawthorne, CA 90250.
	: Stauffer Chemical Co.:		
SFA	: Agricultural Product Div-----	: 203-222-3521	: Nyala Farm Rd., Westport, CT 06881.
SFC	: Calhio Chemicals, Inc-----	: 203-222-3521	: Nyala Farm Rd., Westport, CT 06881.
SFI	: Chlor Alkali Products-----	: 203-222-3000	: Nyala Farm Rd., Westport, CT 06880.
SFS	: Specialty Group-----	: 203-222-3000	: Nyala Farm Rd., Westport, CT 06881.
SWS	: Stauffer-Wacker Silicones Corp-----	: 517-263-5711	: 3301 Sutton Rd., Adrian, MI 49221.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS, BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
STP	: Stepan Chemical Co-----	: 312-446-7500	: RR #1, Elwood, IL 60421 and 100 W. Henter Ave., Maywood, NJ 07607.
SD	: Sterling Drug, Inc-----	: 212-907-2000	: 2144 E. State St., Trenton, NJ 08619.
SDH & TMS	: Hilton Davis Chemical Co. Div-----	: 513-841-4000	: 2235 Langdon Farm Rd., Cincinnati, OH 45237.
SDW	: Sterling Organics Div-----	: 212-907-2000	: 90 Park Ave., New York, NY 10016.
SD	: Sterling Pharmaceuticals, Inc-----	: 212-907-2000	: P. O. Box 11247, Barcelonita, PR 00617.
CIN	: Stockhausen, Inc-----	: 919-378-9393	: P. O. Box 16025, Greensboro, NC 27406.
	: Sun Chemical Corp.:		
SNW	: Chemicals Div-----	: 201-224-4600	: P. O. Box 70, Chester, SC 29706.
SNA	: Pigments Div-----	: 212-986-5500	: 411 Sun Ave., Cincinnati, OH 45232.
SUN	: Sun Company, Inc-----	: 215-293-6600	: 100 Matsonford Rd., Radnor, PA 19087.
SNO	: SunOlin Chemical Co-----	: 302-792-3100	: P. O. Box 609, Claymont, DE 10703.
IOC, JSC & TCC	: Sybron Chemical, Inc-----	: 609-893-1100	: P. O. Box 66, Birmingham Rd., Birmingham, NJ 08011.
SYL	: Sylvachem Corp-----	: 904-764-1711	: P. O. Box 690, Jacksonville, FL 32218.
INP	: Synair Corp-----	: 615-698-8801	: 2003 Amnicola Hwy., P. O. Box 5269, Chattanooga, TN 37406.
BUC	: Synalloy Corp., Blackman Uhler Chemical Div-----	: 803-585-3661	: P. O. Box 5627, Craft Industrial Park, Spartanburg, SC 29304.
SPO	: Synpol, Inc-----	: 409-722-8321	: P. O. Box 667, Port Neches, TX 77651.
SRV	: Synray Corp-----	: 201-245-2600	: 209 N. Michigan Ave., Kenilworth, NJ 07033.
HFT	: Syntex Agribusiness, Inc., Nutrition & Chemical Div-----	: 417-866-7291	: P. O. Box 1246 S.S., Springfield, MO 65805.
ARA	: Syntex Chemicals, Inc-----	: 303-443-1926	: 2075 N. 55th St., Boulder, CO 80302.
SYT	: Synthron, Inc-----	: 704-437-8611	: P. O. Box 1111, Morganton, NC 28655.
TEK	: Teknor Apex Co-----	: 401-725-8000	: 505 Central Ave., Pawtucket, RI 02861.
TLI	: Teledyne Industries, Inc., Teledyne McCormick Selph-----	: 408-637-3731	: 3601 Union Rd., Hollister, CA 95024-8006.
TOC	: Tenneco Oil Co-----	: 713-757-2635	: P. O. Box 2511, Houston, TX 77001.
HN	: Tenneco Polymers, Inc-----	: 713-475-5000	: 1149 Ellsworth Dr., Pasadena, TX 77501.
TEM	: Tennessee Chemical Co-----	: 615-496-3331	: 1 Ocoee St., Copperhill, TN 37317.
TVA	: Tennessee Valley Authority, NFDC, TVA, OACD, Div. of Developmental Production-----	: 205-386-2377	: Muscle Shoals, AL 35660.
TU	: Tenn-USS Chemicals Co-----	: 713-884-4400	: P. O. Box 600, Pasadena, TX 77501.
TER	: Terra International, Inc-----	: 712-277-1340	: Terra Centre, 600 - 4th St., Sioux City, IA 51101.
TER	: Terra Nitrogen, Inc-----	: 712-277-1340	: Terra Centre, 600 - 4th St., Sioux City, IA 51101.
COO	: Terrell Corp-----	: 616-658-3351	: 820 Woburn St., Wilmington, MA 01887.
TX	: Texaco, Inc., Texaco Chemical Co-----	: 713-666-8000	: 4800 Fournace Place, Bellaire, TX 77401.
TUS	: Texaco Butadiene Co-----	: 713-666-8000	: P. O. Box 430, Bellaire, TX 77401.
TSA	: Texas Alkyls, Inc-----	: 713-479-8411	: P. O. Box 600, Deer Park, TX 77536.
TCR	: Texas City Refining, Inc-----	: 409-945-4451	: P. O. Box 121, Texas City, TX 77592-1271.
TPC	: Texas Petrochemicals Corp-----	: 713-477-9211	: 8600 Park Place Blvd., Houston, TX 77017.
TXS	: Textstyrene Plastics, Inc-----	: 817-831-0533	: 3607 N. Sylvania Ave., Fort Worth, TX 76111.
TMH	: Thompson Hayward Chemical Co-----	: 913-321-3131	: 5200 Speaker Rd., Kansas City, KS 66106.
TRI	: Triad Chemical-----	: 504-473-9231	: P. O. Box 310, Donaldsonville, LA 70346.
TRO	: Troy Chemical Co-----	: 201-589-2500	: One Avenue L, Newark, NJ 07105.
TUL	: Tull Chemical Co., Inc-----	: 205-831-1154	: P. O. Box 3246, Oxford, AL 36203.
TLC	: Twin Lake Chemical, Inc-----	: 716-433-3824	: 540 Mill St., P. O. Box 411, Lockport, NY 14094.
UPH	: UOP, Inc., UOP Process Div-----	: 312-391-2000	: Box 5017, Des Plaines, IL 60017.
UHL	: Paul Uhlich & Co., Inc-----	: 914-478-2000	: 1 Railroad Ave., Hastings-on-Hudson, NY 10706.
UNG	: Ungerer & Co-----	: 201-628-0600	: 4 Bridgewater Lane, Lincoln Park, NJ 07035.
DRL	: Unichema Chemical, Inc-----	: 201-327-6100	: 4650 S. Racine Ave., Chicago, IL 60609.
WTH	: Union Camp Corp-----	: 201-628-2000	: P. O. Box 220, Dover, OH 44622.
NCI	: Chemical Products Div-----	: 201-628-2000	: 1600 Valley Rd., Wayne, NJ 07470.
NCI	: Terpene & Aromatics Div-----	: 201-628-2000	: P. O. Box 60369, Jacksonville, FL 32236.

APPENDIX

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TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS,
BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
UCC	Union Carbide Corp.	203-794-3113	39 Old Ridgebury Rd., Danbury, CT 06817.
UOC	Union Oil Co. of California	213-977-7746	461 S. Boylston St., Los Angeles, CA 90017.
USR	Uniroyal, Inc., Uniroyal Chemical Div.	203-573-3886	World Headquarters, Middlebury, CT 06749
UNN	United Chemical Corp. of Norwood	617-762-4057	P. O. Box 367, Endicott St., Norwood, MA 02062.
UNO	United Erie, Inc.	814-456-7561	438 Huron St., Erie, PA 16502.
VAL	United Merchants & Manufacturers, Inc., Valchem Div.	201-837-1700	1650 Palisades Ave., Teaneck, NJ 07666.
USB	U.S. Borax & Chemical Corp., U.S. Borax Research Corp.	213-381-5311	3075 Wilshire Blvd., Los Angeles, CA 90010.
USS	U.S. Steel Corp.: Clairton Plant	412-433-5425	600 Grant St., Rm. 1937, Pittsburgh, PA 15230.
	Gary Works	412-433-5425	600 Grant St., Rm. 1937, Pittsburgh, PA 15230.
	Geneva Plant	412-433-5425	600 Grant St., Rm. 1937, Pittsburgh, PA 15230.
ARM	USS Agri-Chemicals Div	404-572-4000	P. O. Box 1685, Atlanta, GA 30301.
	USS Chemicals Div	412-433-7636	600 Grant St., Rm. 2880, Pittsburgh, PA 15230.
UPJ	The Upjohn Co.	616-323-4000	7000 Portage Rd., Kalamazoo, MI 49001 and 555 Alaska Ave., Torrance, CA 90503.
CWN	Fine Chemicals	203-281-2722	410 Sackett Point Rd., North Haven, CT 06473.
UPJ	Polymer Chemical Div	713-479-1541	P. O. Box 685, LaPorte, TX 77571.
VSV	Valentine Sugars, Inc., Valite Div.	504-532-2541	Rt 2, Box 625, Lockport, LA 70374.
VCM	Vanchem, Inc.	716-434-2624	1 North Transit Rd., Lockport, NY 14094.
VDM	Van De Mark Chemical Co., Inc.	716-433-6764	1 N Transit Rd., Lockport, NY 14094.
VNC	Vanderbilt Chemical Corp.	203-744-3900	31 Taylor Ave., P. O. Box 20, Bethel, CT 06801 and Rt. #2, Box 54, Penny Rd., Murray, KY 42071.
		203-853-1400	
VND	Van Dyk, Div. of Mallinckrodt, Inc.	201-759-3225	Main & William Sts., Belleville, NJ 07109.
INL	Van Leer Containers, Inc.	312-568-3535	4300 W. 130th St., Chicago, IL 60658.
VEL	Velsicol Chemical Corp.	312-670-4500	341 E. Ohio St., Chicago, IL 60611.
VTC	Vertac Chemical Corp.	901-767-6851	P. O. Box 69, Jacksonville, AR 72076.
	West Helena Plant	501-572-3701	Hwy. 242 S., West Helena, AR 72390.
GRL	Vestal Laboratories, Inc.	314-535-1810	5035 Manchester Ave., St. Louis, MO 63110.
VIK	Viking Chemical Co.	612-333-0394	838 Baker Bldg., Minneapolis, MN 55402.
VIN	Vineland Chemical Co., Inc.	609-691-3535	W. Wheat Rd., Vineland, NJ 08360.
VCC	Vinings Chemical Co.	404-436-1542	3950 Cumberland Pkwy., Atlanta, GA 30339.
VGC	Virginia Chemicals, Inc.	804-483-7000	801 Water Street, Portsmouth, VA 23704.
VST	Vista Chemical Co.	713-531-3200	15990 N. Barker's Landing Rd., P. O. Box 19029, Houston, TX 77224.
VST	Vista Polymers, Inc.	713-531-3200	15990 N. Barker's Landing Rd., P. O. Box 19029, Houston, TX 77224.
VTM	Vitamins, Inc.	312-861-0700	200 E. Randolph Dr., Chicago, IL 60601.
VIT	Vititec Corp.	805-725-5637	Rt. #2, P. O. Box 580, Delano, CA 93215.
FRO	Vulcan Materials Co., Chemicals Div.	205-877-3000	P. O. Box 7689, Birmingham, AL 35208.
WJ	Warner-Jenkinson Mfg. Co.	314-658-7315	2526 Baldwin St., St. Louis, MO 63106.
WCA	West Coast Adhesives Co.	503-286-3515	11104 NW Front Ave., Portland, OR 97231.
EW	Westinghouse Electric Corp., Insulating Materials Div.	412-864-7960	Manor, PA 15665.
WAG	West Design Chemical, Inc.	913-384-4646	4350 Johnson Drive, Suite 280, Fairway, KS 66205.
WPG	West Point-Pepperell, Inc., Griffitex Chemical Co. Sub.	404-645-4000	1900 Cunningham Dr., Opelika, AL 36801.
WVA	Westvaco Corp.	212-688-5000	P. O. Box 70848, Charleston Heights, SC 29415.
WRD	Weyerhaeuser Co.	715-384-2141	1401 E. 4th St., Marshfield, WI 54449.
WPS	Wheeling-Pittsburgh Steel Corp.	412-288-3600	Four Gateway Center, Pittsburgh, PA 15230.
WBG	The White & Bagley Co.	617-791-3201	P. O. Box 706, Worcester, MA 01613.
WCC	White Chemical Corp.	201-621-4100	660 Frelinghuysen Ave., Newark, NJ 07114.
WHL	Whitmoyer Laboratories, Inc.	717-866-2151	99 S. Fairlane Ave., Myerstown, PA 17067.

SYNTHETIC ORGANIC CHEMICALS, 1985

TABLE 1.--SYNTHETIC ORGANIC CHEMICALS: ALPHABETICAL DIRECTORY OF MANUFACTURERS,
BY COMPANY, 1985--CONTINUED

IDENTIFICATION CODE	NAME OF COMPANY	TELEPHONE NUMBER	OFFICE ADDRESS
WTK	: Whittaker Corp., Heico Chemicals Div---	: 717-476-0353	: Rt. 611, Delaware Water Gap, PA 18327.
WHW	: Whittmore-Wright Co., Inc-----	: 617-242-1180	: 62 Alford St., Boston, MA 02129.
WLN	: Wilmington Chemical Corp-----	: 302-658-3515	: Pyles Lane, Wilmington, DE 19899.
WTC	: Witco Chemical Corp-----	: 201-573-2800	: 155 Tice Blvd., Woodcliff Lake, NJ 07675.
WCL	: Wright Chemical Corp-----	: 919-655-2263	: P. O. Box 402, Riegelwood, NC 28456.
WYK	: Wyckoff Chemical Co., Inc-----	: 616-637-8474	: 1421 Kalamazoo St., S. Haven, MI 49090.
WYC	: Wycon Chemical Co-----	: 307-637-2700	: P. O. Box 1287, Cheyenne, WY 82003.
WYT	: Wyeth Laboratories, Inc., Wyeth	: 215-644-8000	: P. O. Box 831, Lancaster Pike, Paoli, PA
	: Laboratories Div. of American Home	:	: 19301.
	: Products Corp.	:	:
	:	:	:
ZOC	: Zoecon Corp-----	: 415-847-1130	: P. O. Box 10975, 975 California Ave., Palo
	:	:	: Alto, CA 94301.
	:	:	:

TABLE 2.--CYCLIC INTERMEDIATES: GLOSSARY OF SYNONYMOUS NAMES

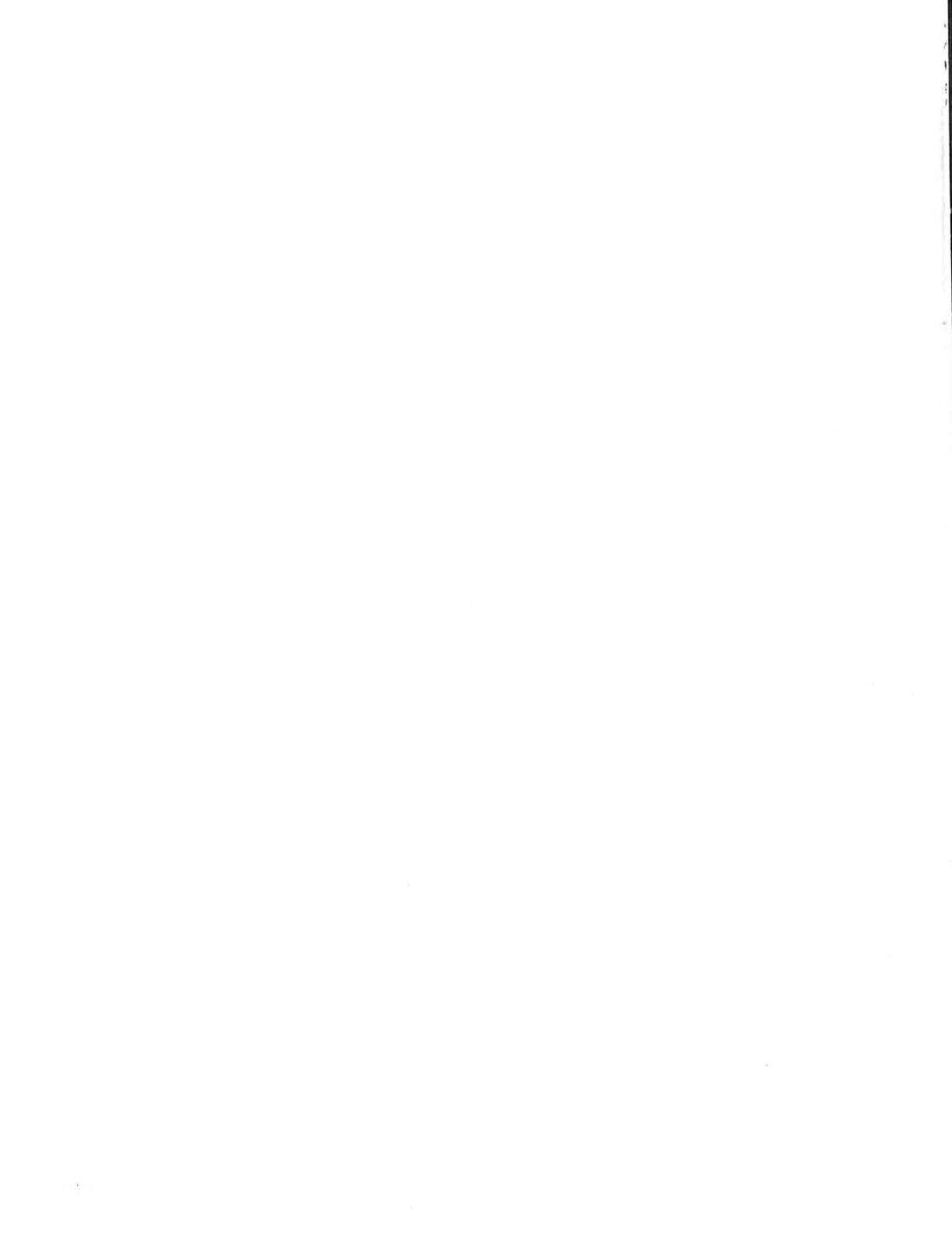
COMMON NAME	STANDARD (CHEMICAL ABSTRACTS) NAME
A Acid	3,5-Dihydroxy-2,7-naphthalenedisulfonic acid.
Acetyl-p-phenylenediamine	4'-Aminoacetanilide.
1,2,4-Acid	4-Amino-3-hydroxy-1-naphthalenesulfonic acid (1-Amino-2-naphthol-4-sulfonic acid).
Acid yellow 9	6-Amino-3,4'-azodibenzenesulfonic acid.
p-Aminobenzenesulfonic acid	Sulfanilic acid and salt.
m-Aminobenzoyl J acid	4-Hydroxy-7-(m-aminobenzamido)-2-naphthalenesulfonic acid.
Aminoepsilon acid	8-Amino-1,6-naphthalenedisulfonic acid.
Amino G acid	7-Amino-1,3-naphthalenedisulfonic acid.
Amino J acid	6-Amino-1,3-naphthalenedisulfonic acid.
Amino R salt	3-Amino-2,7-naphthalenedisulfonic acid.
Aniline oil	Aniline
Anthraflavic acid	2,6-Dihydroxyanthraquinone.
Anthrarufin	1,5-Dihydroxyanthraquinone.
Armstrong & Wynne's acid	4-Hydroxy-2-naphthalenesulfonic acid.
B Acid	5-Amino-4-hydroxy-1,7-naphthalenedisulfonic acid.
2B Acid	6-Amino-4-chloro-m-toluenesulfonic acid.
4B Acid	6-Amino-m-toluenesulfonic acid.
Benzal chloride	α, α -Dichlorotoluene.
Benzanthrone	7H-Benz[de]anthracen-7-one.
Benzotrichloride	α, α, α -Trichlorotoluene.
Bisphenol A	4,4'-Isopropylidenediphenol.
B.O.N.	3-Hydroxy-2-naphthoic acid.
Broenner's acid	6-Amino-2-naphthalenesulfonic acid.
Bromamine acid	1-Amino-4-bromo-2-anthraquinonesulfonic acid.
Bromobenzanthrone	3-Bromo-7H-benz[de]anthracen-7-one
C Acid	3-Amino-1,5-naphthalenedisulfonic acid.
C.A. Acid	3-Amino-6-chloro-4-sulfobenzoic acid.
C-Amine (Lake Red C acid)	2-Amino-5-chloro-p-toluenesulfonic acid.
Cassella acid	5-Hydroxy-1-naphthalenesulfonic acid.
Chicago Acid (SS acid)	4-Amino-5-hydroxy-1,3-naphthalenedisulfonic acid.
Chlorobenzanthrone	Chloro-7H-benz[de]anthracen-7-one.
Chromotropic acid	4,5-Dihydroxy-2,7-naphthalenedisulfonic acid.
Chrysazin	1,8-Dihydroxyanthraquinone.
1,6-Cleve's acid	5-Amino-2-naphthalenesulfonic acid.
1,7-Cleve's acid	8-Amino-2-naphthalenesulfonic acid.
Crocein acid	7-Hydroxy-1-naphthalenesulfonic acid.
2-Cyanopyridine	Picolinonitrile.
3-Cyanopyridine	Nicotinonitrile.
Cyanuric chloride	2,4,6-Trichloro-s-triazine.
D Acid	6-Amino-1-naphthalenesulfonic acid.
DADI	Dianisidine diisocyanate.
DDB	p-Dibutoxybenzene.
Decacyclene	Diacenaphtho[1,2-j;1',2'-k]fluoranthene.
Dehydrothio-p-toluidine	2-(p-Aminophenyl)-6-methylbenzothiazole.
Developer Z	3-Methyl-1-phenyl-2-pyrazolin-5-one.
o-Dianisidine	3,3'-Dimethoxybenzidine.
1,1'-Dianthrimide	1,1'-Iminodianthraquinone.
Dibenzanthrone	Violanthrone.
Dichlone	2,3-Dichloro-1,4-naphthoquinone.
4,4'-Dihydroxydiphenylsulfone	4,4'-Sulfonyldiphenol.
Dimethyl POPOP	1,4-Bis[2-(4-methyl-5-phenyloxazolyl)]benzene.
4,5-Dinitrochrysazin	1,8-Dihydroxy-4,5-dinitroanthraquinone.
Dioxy S acid	4,5-Dihydroxy-1-naphthalenesulfonic acid.
Diphenyl Epsilon Acid	6,8-Dianilino-1-naphthalenesulfonic acid.
Durene	1,2,4,5-Tetramethylbenzene.
Epsilon Acid (Andresen's acid)	8-Hydroxy-1,6-naphthalenedisulfonic acid.
F Acid	7-Hydroxy-2-naphthalenesulfonic acid.
Fast Red G base	2-Nitro-p-toluidine [NH ₂ =1].
Fast Scarlet R base	5-Nitro-o-anisidine [NH ₂ =1].
Fischer's aldehyde	1,3,3-Trimethyl- δ^2, α -indolineacetaldehyde.
Fischer's base	1,3,3-Trimethyl-2-methyleneindoline.
Freund's acid	4-Amino-2,7-naphthalenedisulfonic acid.

TABLE 2.--CYCLIC INTERMEDIATES: GLOSSARY OF SYNONYMOUS NAMES--CONTINUED

COMMON NAME	STANDARD (CHEMICAL ABSTRACTS) NAME
G salt	7-Hydroxy-1,3-naphthalenedisulfonic acid.
Gamma acid	6-Amino-4-hydroxy-2-naphthalenesulfonic acid, sodium salt.
Gold salt	9,10-Dihydro-9,10-dioxo-1-anthracenesulfonic acid and salt.
H Acid	4-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid, (8-Amino-1-naphthol-3,6-disulfonic acid).
Hellimellitene	1,2,3-Trimethylbenzene.
Indoxyl	3(2H)-Indolone.
Isodurene	1,2,3,5-Tetramethylbenzene.
J Acid	7-Amino-4-hydroxy-2-naphthalenesulfonic acid, sodium salt.
J Acid Urea	7,7'-Ureylenebis[4-hydroxy-2-naphthalenesulfonic acid].
K Acid	4-Amino-5-hydroxy-1,7-naphthalenedisulfonic acid.
Koch's Acid	8-Amino-1,3,6-naphthalenetrisulfonic acid.
L Acid	5-Hydroxy-1-naphthalenesulfonic acid.
Lake Red C amine	2-Amino-5-chloro-p-toluenesulfonic acid.
Laurent's acid	5-Amino-1-naphthalenesulfonic acid.
M Acid	8-Amino-4-hydroxy-2-naphthalenesulfonic acid.
MEP	5-Ethyl-2-picoline (2-Methyl-5-ethylpyridine).
Mesitylene	1,3,5-Trimethylbenzene.
Methane base	4,4'-Methylenebis[N,N-dimethylaniline].
Michler's hydrol	4,4'-Bis[dmethylamino]benzhydrol
Michler's ketone	4,4'-Bis[dmethylamino]benzophenone.
MOCA	3,3'-Dichloro-4,4'-diaminodiphenylmethane
MVP	5-Vinyl-2-picoline.
Naphthionic acid	4-Amino-1-naphthalenesulfonic acid.
o-Naphthionic acid	1-Amino-2-naphthalenesulfonic acid.
β -Naphthol	2-Naphthol, tech.
Naphthol AS	3-Hydroxy-2-naphthamide.
α -Naphthylamine	1-Naphthylamine.
Neville & Winther's acid	4-Hydroxy-1-naphthalenesulfonic acid.
m-Nitrobenzoyl J acid	4-Hydroxy-7-(m-nitrobenzamido)-2-naphthalenesulfonic acid.
Oxy Koch's acid	1-Naphthol-3,6,8-trisulfonic acid.
Pentaanthrimide	1,4,5,8-Tetrakis(1-anthraquinonylamino)anthraquinone.
Peri Acid	8-Amino-1-naphthalenesulfonic acid.
Phenylbiphenyl	Terphenyl.
N-Phenyldiethanolamine	2,2'-(Phenyl)imino]diethanol.
Phenyl Gamma acid	6-Anilino-4-hydroxy-2-naphthalenesulfonic acid.
Phenyl J acid	7-Anilino-4-hydroxy-2-naphthalenesulfonic acid.
Phenyl peri acid	8-Anilino-1-naphthalenesulfonic acid.
Picric acid	2,4,6-Trinitrophenol.
POPOP	1,4-Bis[2-(5-phenylxazolyl)]benzene.
Pseudocumene	1,2,4-Trimethylbenzene.
Pyrazoleanthrone	Anthra[1,9-cd]pyrazol-6(2H)-one.
Pyrazoleanthrone yellow	[3,3'-Bianthra[1,9-cd]pyrazole]-6,6'-(2H,2'H)dione.
Pyrazolone T	5-Oxo-1-(p-sulfophenyl)-2-pyrazolone-3-carboxylic acid.
Quinizarin	1,4-Dihydroxyanthraquinone.
2-Quinizarinsulfonic acid	9,10-Dihydro-1,4-dihydroxy-9,10-dioxo-2-anthracenesulfonic acid.
Quinoline yellow base	Quinophthalone.
R salt	3-Hydroxy-2,7-naphthalenedisulfonic acid, disodium salt.
RG Acid (Violet acid)	4-Hydroxy-2,7-naphthalenedisulfonic acid.
Rhoduline acid (J Acid Imide)	7,7'-Iminobis[4-hydroxy-2-naphthalenesulfonic acid].
RR acid	3-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid.
S Acid	4-Amino-5-hydroxy-1-naphthalenesulfonic acid.
Schaffer's acid	6-Hydroxy-2-naphthalenesulfonic acid.
Silver salt	9,10-Dihydro-9,10-dioxo-2-anthracenesulfonic acid and salt.
Solvent Yellow 1	p-Phenylazoaniline and hydrochloride.
Solvent Yellow 3	4-(o-Tolylazo)-o-toluidine.
SS Acid (Chicago acid)	4-Amino-5-hydroxy-1,3-naphthalenedisulfonic acid.
Sulfanilic acid	p-Aminobenzenesulfonic acid.
o-Sulfobenzaldehyde	o-Formylbenzenesulfonic acid.

TABLE 2.--CYCLIC INTERMEDIATES: GLOSSARY OF SYNONYMOUS NAMES--CONTINUED

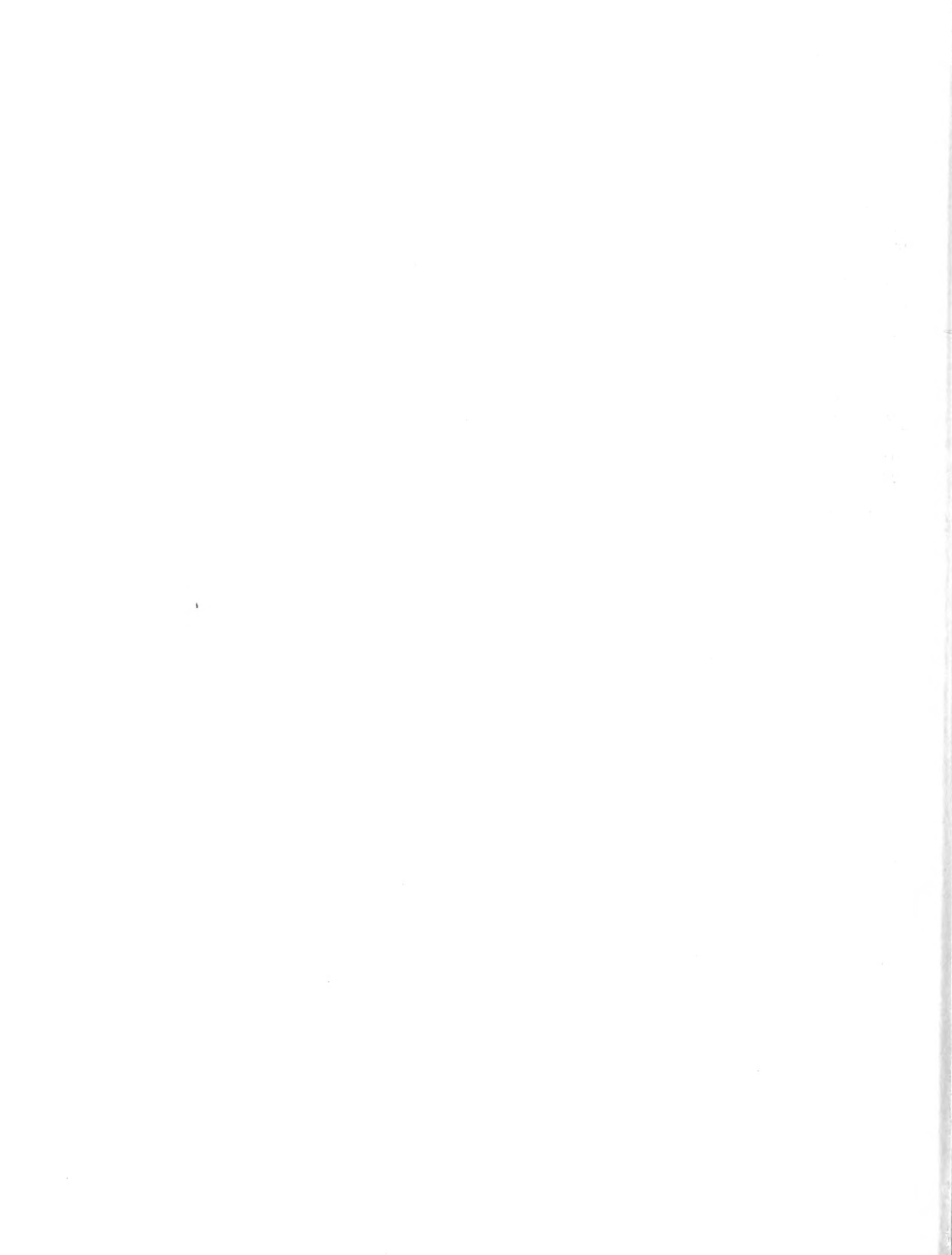
COMMON NAME	STANDARD (CHEMICAL ABSTRACTS) NAME
Tetralin	1,2,3,4-Tetrahydronaphthalene.
Thioindoxyl	3(2H)-Thianaphthenone.
Thiosalicylic acid	o-Mercaptobenzoic acid.
Tobias Acid	2-Amino-1-naphthalenesulfonic acid.
TODI	Bitolylene diisocyanate.
o-Tolidine	3,3'-Dimethylbenzidine.
o-Toluic acid	Phenylacetic acid.
o-Tolunitrile	Phenylacetoneitrile.
4-m-Tolylenediamine	Toluene-2,4-diamine.
Trimellitic anhydride	1,2,4-Benzenetricarboxylic acid, 1,2-anhydride.
Trimethyl base	1,3,3-Trimethyl-2-methyleneindoline.
Trinitrophenol	Picric acid.
Urea J Acid (J Acid Urea)	7,7'-Ureylenebis[4-hydroxy-2-naphthalenesulfonic acid].
Veratraldehyde	3,4-Dimethoxybenzaldehyde
Veratrole	o-Dimethoxybenzene.
Vinyltoluene	ar-Methylstyrene.
Violet acid (RG Acid)	4-Hydroxy-2,7-naphthalenedisulfonic acid.



**SYNTHETIC ORGANIC CHEMICALS, U.S. PRODUCTION AND SALES, 1985,
HARMONIZED SYSTEM BASIS**

The following table contains 1985 U.S. production and sales data for synthetic organic chemicals in the proposed 6-digit Harmonized System (HS) format. The Commission decided to compile such data in this format in response to the decision by the U.S. Bureau of the Census to publish Standard Industrial Classification (SIC) data which will be convertible to the HS beginning with the 1987 *Census of Manufactures*. The U.S. Bureau of the Census has historically referred to the *Synthetic Organic Chemicals, United States Production and Sales* (SOC) report in the chemicals section of the *Census of Manufactures*, which permits them to omit collecting synthetic organic chemicals production and shipments data from its respondents. Because of this situation, the SOC data will now also be compiled on an HS basis to provide comparability with the new SIC format.

The table provides production and sales data on a 6-digit HS basis only where publication would not violate the statutory provisions relating to unlawful disclosure of information accepted in confidence by the Commission. It includes only the 6-digit item numbers with publishable data from a number of HS chapters in which these chemicals are classified, but does not provide totals by chapter or overall total figures.



APPENDIX

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TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U. S. PRODUCTION AND SALES, 1985, HARMONIZED SYSTEM BASIS

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	VALUE (DOLLARS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
151800	Chemically modified fats and oils and their fractions (except those of heading 1516)	122,807,141	73,388,784	123,356,180	73,388,784
151919	Other industrial monocarboxylic fatty acids nspf	.....	30,940,155	78,949,001	30,940,155
220720	Ethyl alcohol and other spirits, denatured, of any strength	648,784,109	.....	.....	.....
271113	Butanes, liquefied	3,853,212,562	240,840,411	2,018,651,787	240,840,411
271114	Ethylene, propylene, butylene and butadiene, liquefied	2,076,792,925	237,764,042	1,418,842,149	237,764,042
271119	Other petroleum gases and other gaseous hydrocarbons nspf, liquefied	5,631,262,233	185,230,581	2,769,056,755	185,230,581
271129	Other petroleum gases and other gaseous hydrocarbons nspf, in gaseous state	10,305,103,235	685,713,446	6,240,393,468	685,713,446
290110	Acyclic hydrocarbons, saturated	1,886,147,097	167,179,173	759,382,864	167,179,173
290121	Ethylene	29,846,725,767	1,527,216,484	9,728,703,105	1,527,216,484
290122	Propene (Propylene)	14,886,848,689	1,183,802,614	7,677,850,673	1,183,802,614
290123	Butene (Butylene) and isomers thereof	.....	66,057,409	303,384,313	66,057,409
290124	Buta-1,3-diene and isoprene	2,406,060,505	693,468,280	2,084,241,947	693,468,280
290129	Unsaturated acyclic hydrocarbons nspf	2,467,226,243	368,130,008	1,362,274,895	368,130,008
290211	Cyclohexane	1,657,169,298	317,680,579	1,264,448,976	317,680,579
290219	Other cyclanes, cyclenes and cycloterpene nspf	225,582,382	58,623,600	132,027,875	58,623,600
290220	Benzene	9,389,805,477	.....	.....	.....
290230	Toluene	5,073,965,774	.....	.....	.....
290250	Styrene	7,622,245,000	930,288,000	3,842,582,000	930,288,000
290260	Ethylbenzene	7,386,036,846	32,962,268	185,808,806	32,962,268
290270	Cumene	2,626,548,725	253,969,464	1,228,011,867	253,969,464

TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U. S. PRODUCTION AND SALES, 1985, HARMONIZED SYSTEM BASIS--CONTINUED

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	VALUE (DOLLARS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
290290	Other cyclic hydrocarbons nsfp	2,823,309,790		2,014,389,410	522,192,345
290311	Chloromethane (Methyl chloride) and chloroethane (Ethyl chloride)			256,703,017	49,846,407
290312	Dichloromethane (Methylene chloride)	467,118,422		502,502,540	94,519,356
290313	Chloroform (Trichloromethane)	275,255,111		383,722,660	54,507,729
290314	Carbon tetrachloride	645,617,544		360,327,642	58,219,847
290315	1,2-Dichloroethane (Ethylene dichloride)	12,100,887,859		409,989,526	38,775,916
290319	Other saturated chlorinated derivs of acyclic hydrocarbons nsfp	1,699,151,778		1,159,567,835	316,855,579
290321	Vinyl chloride (Chloroethylene)	9,462,978,782		2,868,762,390	459,809,976
290329	Other unsaturated chlorinated derivs of acyclic hydrocarbons nsfp			105,706,000	61,857,506
290330	Fluorinated, brominated or iodinated derivs of acyclic hydrocarbons	163,883,375		88,770,832	74,003,149
290340	Halogenated derivs of acyclic hydrocarbons containing two or more different halogens	963,161,784		777,950,943	602,838,575
290369	Other halogenated derivs of aromatic hydrocarbons nsfp	169,596,768		115,727,929	115,791,976
290410	Hydrocarbon derivs containing only sulfo groups, their salts and ethyl esters	797,881,980		358,953,022	182,090,334
290420	Hydrocarbon derivs containing only nitro or only nitroso groups	1,721,667,356		432,073,737	129,607,394
290490	Other sulfonated, nitrated or nitrosated derivs of hydrocarbons nsfp, whether or not halogenated	189,091,160		41,537,028	27,038,504
290511	Methanol (Methyl alcohol)	5,002,918,000		2,656,904,000	192,377,000
290512	Propan-1-ol (Propyl alcohol) and propan-2-ol (Isopropyl alcohol)	1,379,836,327		937,504,486	231,599,302
290513	Butan-1-ol (n-Butyl alcohol)	716,241,905		459,627,954	100,957,875

TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U. S. PRODUCTION AND SALTS, 1985, HARMONIZED SYSTEM BASIS--CONTINUED

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	VALUE (DOLLARS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
290514	Other butanols nspf-----	2,127,454,015	.....	.....	.....
290519	Other saturated acyclic monohydric alcohols nspf-----	635,563,692	292,999,985	114,871,219	5,681,930
290522	Acyclic terpene alcohols-----	1,841,840	1,729,986	500,861,744	148,351,507
290531	Ethylene glycol (Ethane-1,2-diol)-----	4,178,310,455	2,896,756,605	927,618,978	59,072,000
290532	Propylene glycol (Propane-1,2-diol)-----	499,529,000	466,912,690	49,884,961	67,291,721
290539	Other acyclic diols nspf-----	2,382,474,677	1,586,358,568	.....	.....
290542	Pentaerythritol-----	93,725,650	116,551,000	.....	.....
290544	D-glucitol (Sorbitol)-----	179,087,065	133,998,380	.....	.....
290549	Other acyclic polyhydric alcohols nspf-----	947,205,748	894,852,353	.....	.....
290550	Halogenated, sulfonated, nitrated or nitrosated derivs of acyclic alcohols-----	48,913,807	18,354,011	19,293,536	.....
290629	Other aromatic cyclic alcohols and their halo, sulfo, nitro or nitroso derivs nspf-----	1,080,431	460,181	2,527,174	.....
290711	Phenol (Hydroxybenzene) and its salts-----	2,840,712,000	1,431,310,000	403,389,000	.....
290723	4,4'-Isopropylidenediphenol (Bisphenol A, Diphenylpropane) and its salts-----	949,253,000	329,739,000	158,439,000	.....
290810	Derivatives of phenols or phenol-alcohols containing only halogen substituents and their salts-----	80,208,229	53,199,180	40,710,088	.....
290820	Derivatives of phenols or phenol-alcohols containing only sulfo groups, their salts and esters-----	6,362,821	3,227,371	2,462,912	.....
290890	Other halo, sulfo, nitro or nitroso derivs of phenols or phenol-alcohols nspf-----	60,233,610	29,896,484	32,180,739	.....
290919	Other acyclic ethers, and their halo, sulfo, nitro or nitroso derivs-----	2,050,320,216	1,640,488,447	411,917,685	.....
290930	Aromatic ethers and their halo, sulfo, nitro or nitroso derivs-----	143,215,034	94,702,228	73,571,772	.....

TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U.S. PRODUCTION AND SALES, 1985, HARMONIZED SYSTEM BASIS--CONTINUED

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	VALUE (DOLLARS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
290941	2,2'-Oxydiethanol (Diethylene glycol, Digol)-----	440,549,038		336,662,377	53,952,582
290942	Monomethyl ethers of ethylene glycol or of diethylene glycol-----	123,659,643		110,542,992	32,489,244
290943	Monobutyl ethers of ethylene glycol or of diethylene glycol-----	347,182,096		332,103,089	103,868,428
290944	Other monoalkyl ethers of ethylene glycol or of diethylene glycol nspf-----	165,809,063		98,246,031	35,265,169
290949	Other ether-alcohols and their halo, sulfo, nitro or nitroso derivs nspf-----	602,877,188		435,909,540	240,879,914
290950	Ether-phenols, ether-alcohol-phenols and their halo, sulfo, nitro or nitroso derivs-----	348,865,826		319,573,125	141,081,255
290960	Alcohol-, ether- and ketone peroxides and their halo, sulfo, nitro or nitroso derivs-----	66,580,824		36,376,718	53,818,682
291010	Oxirane (Ethylene oxide)-----	5,430,359,182		615,170,283	130,971,316
291090	Other epoxides, epoxyalcohols, epoxyphenols and epoxyethers, with 3-membered ring, and halo, sulfo, nitro or nitroso derivs-----	20,028,504		13,296,720	27,199,315
291211	Methanal (Formaldehyde)-----	5,606,139,746		1,742,408,655	108,780,083
291213	Butanal (Butyraldehyde, normal isomer)-----	1,286,228,576		38,258,061	6,380,895
291219	Other acyclic aldehydes without other oxygen function nspf-----	681,654,217		94,127,452	51,446,910
291229	Other cyclic aldehydes without other oxygen function nspf-----	8,193,404		5,961,840	17,588,173
291230	Aldehyde-alcohols-----	.....		2,303,313	9,608,364
291411	Acetone-----	1,787,800,192		1,533,978,283	266,656,640
291413	4-Methylpentan-2-one (Methyl isobutyl ketone)-----	144,300,469		146,142,855	55,879,567
291422	Cyclohexanone and methycyclohexanones-----	790,825,388		.....	.....

TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U. S. PRODUCTION AND SALES, 1985, HARMONIZED SYSTEM BASIS--CONTINUED

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	VALUE (DOLLARS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
291430	Aromatic ketones without other oxygen function-----	3,819,584	2,289,337	5,109,033	
291441	4-Hydroxy-4-methylpentan-2-one (Diacetone alcohol)-----	36,924,700	30,636,885	12,468,079	
291521	Acetic acid-----	2,897,465,000	1,027,636,000	141,730,000	
291522	Sodium acetate-----	13,195,004	.....	.....
291529	Acetic acid salts nspf-----	5,766,569	6,446,850	6,846,960	
291531	Ethyl acetate-----	191,981,484	178,402,921	44,573,044	
291532	Vinyl acetate-----	2,112,433,487	1,309,337,594	278,455,035	
291533	n-Butyl acetate-----	179,140,127	112,601,064	48,479,055	
291534	Isobutyl acetate-----	76,732,292	57,032,551	17,121,773	
291535	2-Ethoxyethyl acetate (Ethylene glycol, Monoethyl ether acetate)-----	103,037,675	101,556,889	43,776,417	
291539	Other esters of acetic acid nspf-----	198,024,966	172,961,808	106,582,093	
291540	Mono-, di- or trichloroacetic acids, their salts and esters-----	14,737,079	.....	.....
291550	Propionic acid, its salts and esters-----	147,496,663	93,156,004	42,905,279	
291570	Palmitic acid, stearic acid, their salts and esters-----	195,605,441	176,234,507	134,105,420	
291590	Other saturated acyc monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids; halo, sulfo, nitro, nitroso derivs nspf-----	371,014,188	208,081,347	156,937,724	
291611	Acrylic acid and its salts-----	785,014,900	142,677,105	63,505,800	
291612	Esters of acrylic acid-----	902,584,789	550,052,940	264,860,727	
291614	Esters of methacrylic acid-----	969,503,877	204,409,148	169,175,414	
291615	Oleic, linoleic or linolenic acids, their salts and esters-----	77,791,590	70,485,081	39,668,412	

TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U. S. PRODUCTION AND SALES, 1985, HARMONIZED SYSTEM BASIS--CONTINUED

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	VALUE (DOLLARS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
291619	Other unsaturated ayc monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids nspf; halo, sulfo, nitro, nitroso deriv-----	43,088,958		40,509,815	53,909,694
291620	Cyclic, cyclic or cycloterpenic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivs-----	22,964,220		20,417,930	98,291,554
291639	Other aromatic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivs nspf-----	14,748,173		12,108,191	43,648,343
291719	Other ayc. polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids nspf; halo, sulfo, nitro or nitroso derivs-----	584,310,281		464,955,374	265,804,879
291732	Dioctyl orthophthalates-----	275,391,735		288,312,758	87,724,202
291734	Esters of orthophthalic acid nspf-----	414,803,348		381,861,447	154,571,258
291735	Phthalic anhydride-----	820,222,394		523,568,910	134,447,113
291739	Other aromatic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids nspf and their derivs-----	3,728,897,758		711,743,938	298,316,461
291819	Other carbox. acids w/ add alcohol function only, anhydrides, halides, peroxides, peroxyacids nspf; halo, sulfo, nitro, nitroso derivs-----	32,310,642		16,774,124	22,503,476
291822	O-Acetylsalicylic acid (Aspirin), its salts and esters-----	28,159,765		.....	.....
291829	Other carboxylic acids w/ add phenol funct only, anhydrides, halides, peroxides, peroxyacids nspf; halo, sulfo, nitro, nitroso derivs-----	3,206,195		2,877,171	9,006,418
291830	Other carboxylic acids with add aldehyde or ketone function only, anhydrides, halides, peroxides, peroxyacids nspf; halo, etc. derivs-----	540,358,405		29,308,138	18,900,499
291890	Other carboxylic acids w/ add oxygen function, anhydrides, halides, peroxides, peroxyacids nspf; halo, sulfo, nitro, nitroso derivs-----	105,928,563		114,346,178	293,902,926
291900	Phosphoric esters and their salts, incl. lactophosphates; their halo, sulfo, nitro, nitroso derivs-----	161,219,360		131,813,915	149,498,899

TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U. S. PRODUCTION AND SALES, 1985, HARMONIZED SYSTEM BASIS

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	VALUE (DOLLARS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
292250	Amino-alcohol-phenols, amino-acid-phenols and other amino-compounds with oxygen function-----	33,448,407	59,428,390	26,898,053	59,428,390
292390	Other quaternary ammonium salts and hydroxides nspf-----	37,930,240	49,386,901	35,183,750	49,386,901
292410	Acyclic amides (including acyclic carbamates), and their derivs; salts thereof-----	264,047,827	160,784,585	181,335,188	160,784,585
292421	Ureines and their derivs; salts thereof-----	39,286,814	98,870,204	27,615,041	98,870,204
292429	Other cyclic amides nspf (including cyclic carbamates) and their derivs; salts thereof-----	178,264,145	507,549,440	161,511,732	507,549,440
292519	Other imides nspf and their derivs; salts thereof-----	10,784,822	18,825,334	7,481,750	18,825,334
292520	Imines and their derivs; salts thereof-----	257,703,469	87,494,841	148,301,939	87,494,841
292690	Other nitrile-function compounds nspf-----	4,136,751,238	704,850,455	1,733,334,976	704,850,455
292700	Diazo-, azo-, or azoxy-compounds-----	16,609,754	41,955,863	11,157,928	41,955,863
292800	Organic derivs of hydrazine or of hydroxylamine-----	3,750,142	12,910,386	4,031,348	12,910,386
292910	Isocyanates-----	1,355,957,038	952,799,104	1,228,086,536	952,799,104
292990	Other compounds nspf with other nitrogen functions-----	102,574,963	34,963,237	66,497,513	34,963,237
293020	Thiocarbamates and dithiocarbamates-----	73,421,216	238,725,336	92,902,261	238,725,336
293090	Other organo-sulfur compounds nspf-----	626,484,978	350,591,581	209,918,347	350,591,581
293100	Other organo-inorganic compounds-----	547,736,230	789,506,096	152,535,404	789,506,096
293211	Tetrahydrofuran-----	120,208,627	43,279,019	46,250,746	43,279,019
293229	Other lactones nspf with oxygen hetero-atom(s) only-----	113,310,805	71,530,007	23,375,972	71,530,007
293290	Other heterocyclic compounds with oxygen hetero atom(s) only nspf-----	74,562,183	211,228,374	42,217,808	211,228,374
293319	Other heterocyclic cmpds with nitrogen hetero-atom(s) only nspf, with unfused pyrazole ring (hydrogenated or not) in structure-----	225,252	.....	.....	.....

TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U. S. PRODUCTION AND SALES, 1985, HARMONIZED SYSTEM BASIS--CONTINUED

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	VALUE (DOLLARS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
293329	Other heterocyclic cmpds with nitrogen hetero-atom(s) : only nsfp, with unfused imidazole ring (hydrogenated : or not) in structure-----	3,689,326	.....	.....	.....
293339	Other heterocyclic cmpds with nitrogen hetero-atom(s) : only nsfp, with unfused pyridine ring (hydrogenated : or not) in structure-----	94,586,787	62,718,754	387,834,984	.....
293359	Heterocyc cmpds w/ nitrogen hetero-atom(s) only, : pyrimidine (hydrogenated or not) or piperazine ring : in struct; nucleic acids, salts-----	34,877,633	16,309,968	111,151,378	.....
293369	Other heterocyc cmpds w/ nitrogen hetero-atom(s) only : nsfp, with unfused triazine ring (hydrogenated or : not) in the structure-----	438,726,672	270,616,727	689,943,480	.....
293371	6-Hexanelactam (epsilon-Caprolactam)-----	1,089,497,100	.....	.....	.....
293390	Other heterocyclic compounds with nitrogen hetero : atom(s) only nsfp-----	167,368,798	95,441,648	147,694,332	.....
293420	Heterocyclic compounds containing a benzothiazole : ring-system (hydrogenated or not), not further fused-----	82,411,510	44,277,895	107,104,563	.....
293490	Other heterocyclic compounds nsfp-----	72,777,699	47,091,994	208,214,100	.....
293500	Sulfonamides-----	14,193,130	9,239,114	56,360,038	.....
293722	Halogenated derivs of adrenal cortical hormones-----	25,959	.....	.....	.....
293799	Other hormones, natural or synthetic nsfp, derivs : used primarily as hormones; steroids used primarily : as hormones-----	.....	10,440	39,227,650	.....
294110	Penicillins and their derivs with a penicillanic acid : structure; salts thereof-----	6,749,329	1,623,665	37,178,890	.....
294190	Other antibiotics nsfp-----	4,438,774	2,684,853	261,010,643	.....
294200	Organic compounds nsfp-----	394,990,206	354,894,211	260,634,581	.....
310210	Urea, whether or not in aqueous solution-----	11,136,899,409	9,099,806,645	664,198,976	.....
320411	Disperse dyes and preparations based thereon-----	25,091,100	25,734,531	94,318,078	.....

TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U. S. PRODUCTION AND SALES, 1985, HARMONIZED SYSTEM BASIS--CONTINUED

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	VALUE (DOLLARS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
320412	Acid dyes, premetalized or not, mordant dyes and preparations based thereon-----	19,374,237	84,963,131	33,188,310	84,963,131
320413	Basic dyes and preparations based thereon-----	11,661,379	56,146,356	11,156,290	56,146,356
320414	Direct dyes and preparations based thereon-----	29,661,057	79,393,941	56,414,838	79,393,941
320415	Vat dyes (including those usable in that state as pigments) and preparations based thereon-----	36,330,312	84,095,008	39,089,976	84,095,008
320417	Pigments and preparations based thereon-----	85,681,716	453,003,006	73,306,952	453,003,006
320419	Other synth. organic coloring matter nsfp and preparations based thereon, incl mixtures of subheadings 3204.11 thru 3204.19-----	35,400,557	127,948,152	33,434,150	127,948,152
320420	Fluorescent brightening agents-----	58,028,454	73,884,103	61,369,944	73,884,103
380610	Rosin-----	169,420,597	49,187,646	150,708,734	49,187,646
380630	Ester gums-----	170,976,264	109,379,574	165,351,810	109,379,574
380991	Other finishing agents, dye carriers, like products nsfp, for textile industry use-----	40,996,359	19,396,954	39,567,256	19,396,954
380999	Other finishing agents, dye carriers, like products nsfp, for leather industry use-----	23,535,159	15,548,763	24,407,708	15,548,763
381121	Lubricating oil additives containing petroleum oils or oils obtained from bituminous minerals-----	1,468,680,460	798,961,636	1,042,502,300	798,961,636
381210	Prepared rubber accelerators-----	.....	7,516,209	2,870,862	7,516,209
381230	Antioxidizing preps and compound stabilizers for rubber or plastics-----	35,548,755	42,251,046	29,575,676	42,251,046
381590	Reaction initiators, reaction accelerators, and catalytic preps, nsfp-----	87,917,577	32,352,467	12,761,389	32,352,467
382220	Naphthenic acids, their water-insoluble salts and their esters-----	69,162,172	20,400,105	69,250,631	20,400,105
382390	Other chemical products, preparations, and residual products of the chemical or allied industries nsfp-----	8,732,418,924	739,534,977	3,472,445,116	739,534,977

TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U. S. PRODUCTION AND SALES, 1985, HARMONIZED SYSTEM BASIS--CONTINUED

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	QUANTITY (POUNDS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
390110	Polyethylene having a specific gravity of less than 0.94-----	8,804,592,087		7,687,157,549	2,645,416,856
390120	Polyethylene having a specific gravity of 0.94 or more-----	6,513,464,986		6,172,680,297	1,879,478,567
390210	Polypropylene-----	5,654,450,319		4,393,155,314	1,489,417,572
390311	Polystyrene, expandable-----	513,238,333		479,756,659	227,026,522
390319	Polystyrene, other than expandable-----	3,415,665,710		2,799,178,822	982,133,026
390320	Styrene-acrylonitrile (SAN) copolymers-----	769,561,699		598,128,778	251,563,332
390330	Acrylonitrile-butadiene-styrene (ABS) copolymers-----	1,347,657,836		1,038,888,525	846,227,987
390390	Other polymers of styrene nsfp, in primary forms-----	1,167,245,448		1,062,834,541	729,046,759
390461	Polytetrafluoroethylene (PTFE)-----	25,493,750		20,017,035	126,933,447
390511	Polymers of vinyl acetate in aqueous dispersion-----	635,589,415		495,603,278	301,834,117
390520	Polyvinyl alcohols, whether or not containing unhydrolyzed acetate groups-----	166,819,000		143,391,267	119,638,444
390590	Polymers of vinyl esters nsfp, in primary forms; other vinyl polymers nsfp, in primary forms-----	569,172,221		497,213,058	428,853,632
390610	Polyethyl methacrylate-----	482,612,049		336,887,004	358,136,178
390690	Other acrylic polymers nsfp in primary forms-----	1,943,105,890		1,034,350,903	1,089,524,011
390730	Epoxide resins-----	420,760,000		323,332,000	389,781,000
390750	Alkyd resins-----	830,372,000		458,565,000	296,297,000
390760	Polyethylene terephthalate-----	3,663,183,411		.....	.....
390791	Other polyesters nsfp, unsaturated, in primary forms-----	1,358,912,021		1,278,995,353	828,861,667
390799	Other polyesters nsfp, saturated, in primary forms-----	218,168,021		156,361,405	194,418,368
390890	Other polyamides nsfp in primary forms-----	395,364,085		316,884,013	527,291,985
390920	Urethane resins-----	208,316,034		177,353,893	154,623,201

TABLE 3.--SYNTHETIC ORGANIC CHEMICALS: U.S. PRODUCTION AND SALTS, 1985, HARMONIZED SYSTEM BASIS--CONTINUED

HS NUMBER	DESCRIPTION	PRODUCTION		SALES	
		QUANTITY (POUNDS)	VALUE (DOLLARS)	QUANTITY (POUNDS)	VALUE (DOLLARS)
390940	Phenolic resins-----	1,713,618,000	659,773,000	1,206,766,000	373,572,251
390950	Polyurethanes-----	339,717,786	137,455,225	230,954,383	373,572,251
391290	Cellulose and its chemical derivatives nspf, in primary forms-----	813,064,898	137,455,225	165,512,057	137,455,225
400219	Styrene-butadiene rubber (SBR), carboxylated styrene butadiene rubber (XSBR), except latex-----	1,456,171,872	379,574,512	691,010,118	379,574,512
400299	Other synthetic rubber nspf-----	1,177,268,110	918,936,884	712,478,295	918,936,884

ALPHABETICAL CHEMICAL INDEX

The alphabetical index of chemicals contained in this appendix table is an outgrowth of the processing of data by the U.S. International Trade Commission for its annual report *Synthetic Organic Chemicals, United States Production and Sales*. This index will aid those who have an interest in the report, either as users of the published data or as suppliers of individual company data to the Commission, principally by showing the section number and line item number of specific chemicals. This information can be used to assist in locating a chemical in the report and to provide respondents to the Commission's questionnaire with information on where to list their production and sales data. The index shows only those chemicals for which production or sales were reported to the Commission for this edition of the report.

The index, initially designed for Commission use in computer processing of data for the annual report, has certain characteristics that should be noted to increase its usefulness. For example, superior headings for individual entries are not shown in the index. Thus, understanding the contents of the first item in the index, "accelerators, activators, and vulcanizing agents, acyclic, *other*," necessitates that the index user turn to the individual section (in the report) and item number (in the questionnaire) to find those acyclic accelerators, activators, and vulcanizing agents already specified. Similarly, the index entry "specific gravity 0.940 and below" does not by itself identify the chemical product. The index user will need to turn to the indicated section number and item number to determine the chemical referred to—in this case, polyethylene.

The chemical names used in this report and in the questionnaires sent to U.S. producers to obtain the data aggregated in the report are listed alphabetically in the first column of each listing in the index. The second column refers to the section in the report and questionnaire containing the chemical, and the third column shows the appropriate item number in that section in the questionnaire.



Table 4.---Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Accelerators, activators, and vulcanizing agents, cyclic, other	09	49,000	N-[(Acetylamino)methyl]-2-chloro-N-(2,6-diethylphenyl)acetamide	13	168,995
Acetanilide	06	378,100	Acetyl-n-butyl (2,3-hexanedione)	07	126,100
Acetaldehyde	15	782,000	Acetyl chloride (Vestoflex)	07	133,550
Acetamide	08	19,000	Acetylcyclohexane sulfonyl peroxide	15	49,000
Acetanilide hydrochloride	15	227,000	Acetylene (For chemical use only)	02	38,000
Acetanilide hydroxide	12	219,000	N-Acetyl methyl anthranilate	07	126,500
Acetanilidoethanol (N-Acetyl-ethanolamine)	12	220,000	Acetyl peroxide	15	93,555
3-Acetanilido-N-(2-succinimidosthyl)-K-ethylaniline	03	392,000	Acetyl pyridine (2,3-Fentanedione)	07	126,600
Acetanilophen	06	7,000	2-Acetylpyridine	03	19,450
Acetanilide, tech.	03	735,000	5-Acetylsalicylamide	03	19,470
Acetamide, amides with polyalkylene polyamines, salt	12	357,900	Acid black 1	04	205,000
Acetic acid, Benzyl ester (100%)	03	8,000	Acid black 24	04	211,000
Acetic acid, synthetic (100%)	15	485,000	Acid black 25	04	213,000
Acetic acid, salts, all other	15	508,000	Acid black 58	04	213,000
Acetic anhydride from acetaldehyde (100%)	15	485,000	Acid black 69	04	214,063
Acetic anhydride from acetic acid, other than recovered, by the vapor-phase process (100%)	15	487,000	Acid black 63	04	214,063
Acetic anhydride from acetic acid, recovered, by vapor-phase process	15	488,000	Acid black 107	04	216,000
Acetone	15	489,000	Acid black 172	04	216,000
Acetone, crude (p-Methyl naphthyl ketone)	03	9,000	Acid black 194	04	218,172
o-Acetacetamide	03	7,000	Acid black dyes, all other	04	219,000
o-Acetacetyl chloride	05	7,000	Acid blue 9	04	132,000
o-Acetacetyl chloride, yellow, all others	05	7,000	Acid blue 15	04	133,000
p-Acetacetotoluidide	03	11,000	Acid blue 25	04	136,000
2,4'-Acetacetoxylidide	03	11,500	Acid blue 27	04	137,000
Acetacet-m-xylidide	03	11,513	Acid blue 29	04	138,000
Acetacetamide	06	685,000	Acid blue 41	04	140,000
2-Acetonephthone	03	12,000	Acid blue 45	04	141,000
Acetone, crude (p-Methyl naphthyl ketone)	07	1,500	Acid blue 80	04	143,000
Acetone from cumene	15	809,000	Acid blue 104	04	156,000
Acetone-formaldehyde resins	15	806,000	Acid blue 113	04	157,000
Acetone from isopropyl alcohol	08	807,000	Acid blue 118	04	158,000
Acetone sodium Bisulfite	15	1281,500	Acid blue 145	04	161,000
Acetonitrile	15	432,000	Acid blue 156, 158, 158'1, and 158'2	04	162,000
3-(o-Acetylphenyl)-4-hydroxycoumarin (Warfarin)	13	169,000	Acid blue 277	04	168,000
Acetophenone, tech.	03	14,000	Acid blue 283	04	168,277
Acetophenone, technical	03	15,000	Acid blue 298	04	168,283
1-Acetoxy-2,4-bis(4-ethyl-1-ethenyl)cyclohexane	07	93,500	Acid blue 321	04	168,326
4-Acetoxyethyl-4-monomer	15	1,000	Acid blue 334	04	168,334
Acetylacetone peroxide	07	126,050	Acid blue 330	04	168,330
	15	1281,990	Acid blue 395	04	168,595
			Acid blue dyes, all other	04	169,000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT: NO.	ITEM NO.	CHEMICAL NAME	SECT: NO.	ITEM NO.
Acid Brown 14	04	189,000	Acid Red 114	04	92,000
Acid Brown 19	04	190,000	Acid Red 119	04	94,000
Acid Brown 45	04	194,000	Acid Red 137	04	97,000
Acid Brown 50	04	194,050	Acid Red 151	04	99,000
Acid Brown 97	04	196,000	Acid Red 167	04	100,170
Acid Brown 98	04	197,000	Acid Red 174	04	103,000
Acid Brown 147	04	199,160	Acid Red 186	04	105,000
Acid Brown 160	04	199,161	Acid Red 194	04	107,000
Acid Brown 165	04	199,165	Acid Red 213	04	110,000
Acid Brown 227	04	200,227	Acid Red 226	04	110,226
Acid Brown 239	04	200,239	Acid Red 257	04	110,257
Acid Brown 264	04	200,264	Acid Red 266	04	111,000
Acid brown dyes, all other	04	202,000	Acid Red 296	04	111,296
(Acid Green 3)	05	230,003	Acid Red 327	04	112,327
Acid Green 1	04	172,000	Acid Red 364	04	114,000
Acid Green 2	04	172,000	Acid Red 392	04	115,361
Acid Green 20	04	179,000	Acid Red 408	04	115,392
Acid Green 70	04	184,000	Acid Red 410	04	115,408
Acid green dyes, all other	04	186,000	Acid Red dyes, all other	04	115,410
Acid Orange 7	04	43,000	Acid Red dyes, all other	04	116,000
Acid Orange 8	04	45,000	Acid Violet 7	04	118,000
Acid Orange 10	04	49,049	Acid Violet 9	04	119,000
Acid Orange 24	04	54,000	Acid Violet 12	04	120,000
Acid Orange 60	04	57,000	Acid Violet 17	04	121,000
Acid Orange 64	04	57,000	Acid Violet 49	04	126,000
Acid Orange 69	04	58,000	Acid Violet dyes, all other	04	129,000
Acid Orange 85	04	61,089	(Acid Yellow 1)	05	204,021
Acid Orange 89	04	61,089	(Acid Yellow 2)	05	204,022
Acid Orange 116	04	62,000	(Acid Yellow 3)	04	6,000
Acid Orange 128	04	64,000	Acid Yellow 17	04	7,000
Acid Orange 152	04	65,152	Acid Yellow 19	04	8,000
Acid Orange 153	04	65,152	Acid Yellow 23	04	11,000
Acid Orange 161	04	65,161	Acid Yellow 34	04	12,000
Acid orange dyes, all other	04	66,000	Acid Yellow 36	04	14,000
Acid Red 1	04	67,000	Acid Yellow 40	04	17,000
Acid Red 4	04	68,000	Acid Yellow 49	04	18,000
Acid Red 14	04	71,000	Acid Yellow 54	04	18,000
Acid Red 18	04	71,000	Acid Yellow 59	04	21,000
Acid Red 57	04	79,000	Acid Yellow 95	04	22,000
Acid Red 83	04	83,000	Acid Yellow 87	04	23,000
Acid Red 87	04	84,000	Acid Yellow 89	04	24,087
Acid Red 88	04	85,000	Acid Yellow 99	04	25,000
Acid Red 97	04	87,000	Acid Yellow 119	04	26,119

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Acid yellow 127	04	29,000	Alcohols, monohydric, and their esters, C ₈ and higher, mixed	15	1425,200
Acid yellow 129	04	31,000	Alcohols and phenols, alkoxylated and phosphated or polyphosphated, all other	12	91,000
Acid yellow 135	04	33,000	Alcohols, unmarked C11 or lower, all other	15	870,000
Acid yellow 151	04	35,000	Aldehyde-amine reaction products, cyclic, other	05	805,000
Acid yellow 159	04	35,000	Aldehydes, acyclic, all other	05	805,000
Acid yellow 174	04	37,000	Alkane-amine condensates, all other	14	253,000
Acid yellow 198	04	37,218	Alkanolamine condensates, all other	12	575,000
Acid yellow 206	04	37,218	Alkane thio phosphonate	14	265,000
Acid yellow 219	04	37,219	Alkenyl succinimide	14	245,000
Acid yellow 226	04	24,096	3-Alkoxy- β -hydroxypropyl trimethyl ammonium chloride	13	245,021
Acid yellow 239	04	37,239	Alkyl phenol	08	1,905
Acid yellow 259	04	38,000	Alkyl copolymers, all other	08	3,900
Acid yellow dyes, all other	06	648,100	Alkyl alcohol ethoxylated and carbonated, sodium salt	12	316,600
Acromethasone	05	783,000	Alkyl alcohol ethoxylated and carbonated, sodium salt	08	3,900
Acrylamide-2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer	14	395,000	Alkylamine bismethylene phosphonic acid	15	307,950
Acrylamide-2-acrylamido-2-methylpropanesulfonic acid, sodium salt copolymer	14	395,000	Alkylamine bismethylene phosphonic acid	15	307,950
Acrylamide-acrylic acid copolymer, sodium salt	14	397,000	Alkylamine bismethylene phosphonic acid salts	14	28,000
Acrylamide-acrylic acid copolymer, sodium salt	14	397,000	Alkyl aromatics; all other	02	4,000
Acrylamide-N-dimethylaminomethylacrylamide copolymer	14	399,000	Alkylaryls-p-phenylenediamines	09	55,100
Acrylamide monomer	15	228,000	Alkylaryl phosphites mixed	09	84,800
Acrylate-alkyl copolymer resins	08	1,900	Alkylbenzene all other (except dodecyl, tridecyl and straight-chain)	03	23,000
Acrylic acid	15	491,000	Alkylbenzene straight-chain (except dodecyl and tridecyl)	03	23,000
Acrylic acid	15	884,000	Alkylbenzene sulfonates, all other	02	22,000
Acrylic monomers, mixed	08	42,000	Alkylbenzene sulfonates, all other	02	22,000
Acrylonitrile-butadiene-styrene (ABS) terpolymer resins	08	42,000	Alkylbenzene sulfonates, all other	02	22,000
Acrylonitrile, monomer, face-active agents, all other	15	43,000	Alkyl glycidyl ethers, C ₈ -C ₁₈	12	142,000
Acrylonitrile, monomer, face-active agents, all other	15	43,000	Alkyl glycidyl ethers, C ₈ -C ₁₈	12	142,000
Acrylic herbicides, all other	13	195,000	Alkyl glycidyl ethers, C ₈ -C ₁₈	15	1317,320
Acrylic herbicides	13	212,000	Alkyl glycidyl ethers, C ₈ -C ₁₈	15	1317,320
Acrylic plasticizers, all other	11	130,000	3-(C12-15 alkylalkoxy)-1-propanamine	12	321,045
Acrylovin	06	186,800	3-(C12-18 alkylalkoxy)-1-propanamine	12	321,050
Acrylic elastomers, all other	10	21,000	Alkylphenol-formaldehyde condensate, alkoxylated, all other	15	3,450
Adipic acid	15	492,000	Alkylphenol-formaldehyde condensate, alkoxylated, all other	15	3,450
Adipic acid	15	613,000	Alkylphenol-formaldehyde copolymer	12	726,000
Adipic acid-crosslinked polyacrylamide	14	153,000	Alkylphenol-formaldehyde copolymer	12	726,000
Adipic acid esters, all other	14	153,000	Alkylphenols, mixed	14	219,000
Adipic acid esters, all other	14	153,000	Alkylphenols, mixed	14	219,000
Adipic acid type complex linear polyesters and polyamide plasticizers	11	656,000	Alkylphenols, mixed	14	219,000
Adiponitrile	11	131,100	Alkylsuccinimides, mixed	03	23,100
Adiponitrile	11	131,100	Alkylsuccinimides, mixed	03	23,100
Alkamide	15	434,000	Alkyl succinic anhydride	03	23,350
Alkamide	15	434,000	Alkyl succinic anhydride	03	23,350
Alkamide lactates	06	163,000	Alkyl terephthalate	14	268,000
Alkamide lactates	06	163,000	Alkyl terephthalate	14	268,000
Alkamine	06	574,800	All other (specify)	14	252,000
Alkamine	06	574,800	All other (specify)	14	252,000
C ₁₂ -C ₁₈ alcohols lactates	15	1432,000	All other benzoclic flavor and perfume materials	07	12,000
Alcohol mixtures, other	15	883,300	All other benzoclic flavor and perfume materials	07	12,000
Alcohol mixtures, C-19 and C-20 only	15	883,300	All other benzoclic flavor and perfume materials	07	12,000
Alcohol mixtures, C-19 and C-20 only	15	883,300	All other benzoclic flavor and perfume materials	07	12,000
Alcohol mixtures, C-12 through C-18 only	15	883,300	All other organic acid esters	04	1215,000
Alcohol mixtures, C-12 through C-18 only	15	883,300	All other organic acid esters	04	1215,000
Allo-oicaine	07	126,800	Allo-oicaine	07	126,800

Table 4. --Alphabetical Chemical Index

CHEMICAL NAME	SECT: NO.	ITEM NO.	CHEMICAL NAME	SECT: NO.	ITEM NO.
Allopurinol	06	829,000	Amiacin sulfate	06	38,500
All other products from petroleum and natural gas, cyclic	02	36,000	Amine hydrochloride	06	736,500
All other terpenoid, heterocyclic, or allycyclic flavor and perfume chemicals	07	126,000	Amine oxides and oxygen-containing amines (Except those with amide linkages), acyclic, all other	12	341,000
Allyl alcohol	15	840,000	Amine oxides and oxygen-containing amines (Except those having amine linkages), cyclic, all other	12	357,000
Allyl amines	05	258,000	Amine salts (Not containing oxygen), all other	15	407,000
Allyl amine	07	2,605	Other salts (Sulfate, rosini, and tall oil acids, all other)	12	35,000
Allyl anthranilate	07	93,560	3'-Aminoacetamide	03	26,000
Allyl cyclohexyl propionate	07	4,000	4'-Aminoacetamide (Acetyl-p-phenylenediamine)	03	27,000
Allyl 1,1,2-dimethoxybenzene (4-Allylveratrole)	07	126,900	3'-Amino-p-acetanside	03	27,100
Allyl disulfide	15	317,330	Amino acids and salts, acyclic, all other	14	22,000
Allyl glycidyl ether (allyloxy-2,3-epoxypropane)	07	126,990	Amino acids and salts, cyclic, all other	14	23,000
Allyl hexanoate	07	127,000	2-(p-Aminoanilino)-5-nitrobenzenesulfonic acid	03	34,000
Allyl isocyanate	07	127,260	3-Amino-p-anisamide	03	35,000
Allyl methacrylate	15	865,000	6-Amino-p-arylamide and sulfonic acid	03	37,000
Allyl methacrylate	07	5,000	Yellow 9	03	44,000
4-Allyl-2-methoxyphenol (Eugenol)	07	127,270	p-Aminobenzamide	03	45,100
4-Allyl-2-methoxyphenol acetate (Eugenol acetate)	08	4,000	3'-Aminobenzamide	03	50,500
Allyl octanoate (Allyl caprylate)	07	127,290	o-Aminobenzamide	03	53,000
Allyl resins	12	209,500	Aminobenzoic acid	06	393,000
Allyl sulfonate, sodium salt	15	714,000	p-Aminobenzoic acid, tech.	03	56,000
Allylsulfonic acid, sodium salt	02	82,100	2-Amino-6-benzothiazolesulfonic acid	03	58,990
Alpha olefins, C ₆ -C ₁₀ and higher	02	42,100	1-Amino-6-bromo-2,10-dihydro-9,10-dioxo-2-oxo-1,2-dihydro-4-hydroxyanthraquinone	03	61,000
Alprazolam	06	466,500	1-Amino-2-bromo-4-hydroxyanthraquinone	03	62,000
Alprostadiol	06	679,100	7-Aminocephalosporanic acid	03	64,500
Aluminum acetate	15	587,000	2-Amino-5-chlorobenzophenone	03	72,200
Aluminum acetylacetonate complex	15	1355,200	6-Amino-5-chloro-p-toluenesulfonic acid [SO ₃ H=1] (2B)	03	82,000
Aluminum di-sec-butoxide acetoacetic ester chelate	15	1355,560	p-Aminoethylmethane carbonate	03	85,100
Aluminum diisopropoxide acetoacetic ester chelate	15	1355,580	3-Amino-2,5-dichlorobenzonic acid, ammonium salt (2,5-)	03	136,000
Aluminum diisobutoxide	15	746,000	4-Amino-N,N-di(4-hydroxyethyl)amine sulfate	03	91,503
Aluminum diisobutoxide	15	1355,600	5-Amino-4,5-dimethylbenzoic acid, methyl ester	03	92,303
Aluminum ethyl-3-oxobutanoate-01,02-dihydroxy T-4	15	1355,600	4-Amino-6-(1,1-dimethyl-ethyl)-3-(methylthio)-1,2,4-triazin-5-(NH)-one	03	92,503
Aluminum isopropoxide (Aluminum isopropylate)	15	747,000	2-Aminoethanol hydrochloride	13	40,600
Aluminum monostearate	15	713,000	2-Aminoethanol (monoethanol amine) sulfate	15	309,900
Aluminum octanoate	15	1355,590	Aminoethanol (aminoethanolamine)	15	310,000
Aluminum octanoate	15	728,000	3-Amino-9-ethylthiazole	03	92,000
Aluminum palmitate	06	552,000			
Aluminum phenolsulfonate	15	1355,750			
Aluminum tri-sec-butoxide	15	706,000			
Aluminum tristearate	15	237,000			
Aluminum triacetate	15	228,300			
Amides, all other	15	228,300			
Amido amine salts as curing agents	15	228,300			

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
(2-Aminoethyl)hydrogenated tallow alkyl(2-hydroxyethyl)ammonium ethyl sulfate	12	448,000	p-[(p-Aminophenyl)azo]benzenesulfonic acid	03	188,000
2-Thioethyl mercaptosuccinate (Monothanolamine)	15	313,000	7-[(4-Aminophenyl)azo]-1,3-naphthalenedisulfonic acid	03	188,500
1-(2-Aminoethyl)-2-nor(tall oil alkyl)-2-imidazoline	12	406,000	2,2'-(4-Aminophenyl)azo-1,3-naphthalenedisulfonic acid diacetate ester	03	190,300
1-(2-Aminoethyl)piperazine, technical	15	4,000	2-(p-Aminophenyl)-6-methyl-7-benzothiazolesulfonic acid and salt	03	192,000
2-Amino-2-ethyl-1,3-propanediol	15	311,000	1-(3-Aminopropyl)morpholine	15	6,000
Aminoglutethimide	06	417,000	2-Aminopropyltriethoxysilane	15	1378,700
Ampoguanidine hydrochloride	15	315,020	4-Aminopyridine	03	194,000
N-Amino-N-methylamine	03	99,100	Amino resins, all other	03	195,000
2-Aminopropionic acid	06	574,900	5-Aminotetrazole	06	142,000
(Tris(hydroxyethyl)-1,3-propanediol	15	316,000	4-Aminothiazole nitrate	03	200,000
4-Amino-3-hydroxy-1-naphthalenesulfonic acid	03	109,000	4-Amino-m-toluenesulfonic acid [50,H=1]	03	202,000
2-(2-Amino-5-hydroxy-1-naphthalenesulfonic acid) nitrobenzoic acid	03	113,500	6-Amino-m-toluenesulfonic acid [50,H=1]	03	203,000
2-Amino-5-mercapto-1,3,4-thiadiazole	14	320,000	m-[(4-Amino-3-tolyl)azo]benzenesulfonic acid	03	206,000
4-Amino-5-methoxyacetanilide	03	115,800	6-Amino-3,6-trichloropicolinic acid (Picloram)	13	41,000
1-(4-Hydroxy-2-methylbenzenesulfonic acid (5-hydroxy-o-aminidnesulfonic acid)	03	116,803	Amiripyrilium phosphonic acid	14	30,000
2-Amino-2-methoxyphenylazobenzenesulfonic acid	03	118,000	Amiripyrilium hydrochloride	06	524,900
2-Amino-2-methyl-1,3-benzoxanediol	15	316,700	Ammonium acetate	06	525,000
2-Amino-2-methyl-1-propanol	15	317,000	Ammonium benzoate	15	368,000
2-Amino-2-methyl-1-propanol hydrochloride	15	319,000	Ammonium citrate	15	621,000
2-Amino-2-methylpropyl 6-bromothioaphyllinate	03	130,100	Ammonium heparin	06	623,000
2-Amino-3-methylpyridine	03	133,500	Ammonium mercaptoacetate	15	722,000
2-Amino-4-methylpyridine	03	133,550	Ammonium oxalate	06	553,000
2-Amino-5-methylpyridine	03	133,600	Ammonium phenolsulfonate	06	426,000
7-Amino-5-methylpyridine	03	134,000	Ammonium stearate	14	749,000
6-Amino-2-naphthalenesulfonic acid (Amino G acid)	03	150,000	Amobarbital	15	1,000
8-Amino-2-naphthalenesulfonic acid (Brommar's acid)	03	159,000	Ano-barbital, sodium	06	443,000
5-(and 6)-Amino-2-naphthol	03	162,000	Ano-disquine hydrochloride	06	164,000
8-Amino-2-naphthol	03	166,000	Ano-kicillin (trihydrate)	06	164,000
2-(4-Amino-2-nitroanilino)ethanol	03	169,890	Ano-kicillin (anhydrous)	06	9,500
2-Amino-6-nitrobenzothiazole	03	171,202	Amphetamine sulfate	06	512,000
2-Amino-4-nitrophenol	03	175,000	Amphetamine sulfate	06	513,000
Propylamino-2-nitrophenylamino-2-hydroxyethyl-1,3-propanediol	03	176,200	Amicillin (anhydrous)	06	1,000
4-Amino-4'-nitro-2,2'-stilbenedisulfonic acid	03	177,000	Amicillin (trihydrate)	06	10,000
2-Amino-5-nitrothiazole	03	177,000	Amicillin, sodium	06	10,100
2-Amino-4-nitrotoluene hydrochloride	03	178,000	Amprolium	06	166,000
3-Amino-2-oxazolidinone	03	182,100	Amyl acetate (n-Pentyl acetate)	15	889,000
6-Aminopenicillanic acid	03	182,100	Amyl acetates, all other	15	889,000
p-Aminophenol	03	186,000	Amyl alcohol, ethoxylated and Phosphated	12	76,050
			Amylases, all other	14	98,000
			o-Amyl cinnamic aldehyde	07	5,550

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME		SECT. NO.	ITEM NO.	CHEMICAL NAME		SECT. NO.	ITEM NO.
	Amyl cinnamyl acetate	07	5,600	Arachidylbehenylalkyl amine	12	417,900	
	Amyl cinnamyl alcohol	07	5,580	Aromatics, C ₆	02	85,000	
	Amyl cyclohexyl acetate	07	9,580	Aryl alky	04	15,000	
	Amyl cyclohexyl acetate	07	9,580	Aryl alkyl polyether alcohol	14	324,000	
	Amyl hydrogen phosphate	15	8,000	Ascorbic acid	06	807,000	
	Amyl nitrate	06	1016,500	Aspartic acid	14	2,000	
	t-Amylphenol, ethoxylated	12	367,000	Aspirin	06	385,000	
	p-tert-Amylphenol sulfide (Tackifier)	09	742,050	Atacrium besylate	06	745,200	
	Amyl vinyl carbonyl acetate	07	124,000	Aurantiol	07	7,100	
	Amyl acetate	07	127,340	Azathioprine	06	398,000	
	Anabolic agents and androgens, all other	06	644,000	Azathioprine	15	493,000	
	Anaesthetics and antipretics, other than salicylates,	06	416,000	1,2'-Azobisformamide	15	229,000	
	Anhydrosorbitol diolate	12	589,000	2,2'-Azobis[2-methylpropanitrile]			
	Anhydrosorbitol esters, all other	12	603,000	Azoic black 4	15	435,000	
	Anhydrosorbitol monoester of tall oil acids	12	590,000	Azoic black compositions, all other	04	251,000	
	Anhydrosorbitol mono-oleate	12	591,000	Azoic blue 3	04	288,000	
	Anhydrosorbitol mono-oleate	12	592,000	Azoic brown 7	04	285,000	
	Anhydrosorbitol monopalmitate	12	593,000	Azoic brown 9	04	246,000	
	Anhydrosorbitol monostearate	12	594,000	Azoic coupling compositions, all other	04	298,000	
	Anhydrosorbitol sesquiolate	12	595,000	Azoic coupling composition 7	04	301,000	
	Anhydrosorbitol trioleate	12	596,500	Azoic coupling composition 8	04	302,000	
	Anhydrosorbitol tristearate	12	602,000	Azoic coupling composition 12	04	305,000	
	Aniline (aniline oil)	03	212,000	Azoic coupling composition 21	04	314,000	
	Aniline, ethoxylated	03	342,200	Azoic coupling composition 29	04	318,000	
	2-Anilinoethanol	03	215,000	Azoic coupling composition 35	04	318,000	
	7-Anilino-4-hydroxy-2-naphthalenesulfonic acid	03	219,000	Azoic coupling composition 43	04	317,000	
	Anilinoethanesulfonic acid and salt	03	218,000	Azoic diazo component 4	04	257,000	
	Anilinoethanesulfonic acid and salt	03	219,000	Azoic diazo component 5, base	04	262,000	
	p-Anilinoethanol	03	215,100	Azoic diazo component 13, base	04	263,000	
	Anilinoethanol sodium salt	03	215,100	Azoic diazo component 32, base	04	265,000	
	p-Anisaldehyde	07	6,000	Azoic diazo component 3, salt	04	271,000	
	o-Anisidinomethanesulfonic acid	03	228,000	Azoic diazo component 5, salt	04	275,000	
	Anisole, tech.	03	230,000	Azoic diazo component 6, salt	04	276,000	
	Anisoyl chloride	03	230,990	Azoic diazo component 8, salt	04	278,000	
	Anisoyl acetate	07	7,000	Azoic diazo component 9, salt	04	279,000	
	Anisyl butyrate	07	7,010	Azoic diazo component 10, salt	04	280,000	
	Anisyl propylate	07	7,010	Azoic diazo component 11, salt	04	280,000	
	Anthrone, reduced	03	237,000	Azoic diazo component 12, salt	04	281,000	
	Antifungal agents, all other	06	141,000	Azoic diazo component 13, salt	04	282,000	
	Anti-infective agents, all other	06	276,000	Azoic diazo component 14, salt	04	283,000	
	Antineoplastic agents, all other	06	283,000	Azoic diazo component 20, salt	04	284,000	
	Antiprotozoan agents, arsenic and bismuth compounds, all other	06	162,000	Azoic diazo component 32, salt	04	285,000	
	Antiviral agents, all other	06	189,000				
	1-Arabinose	14	455,000				

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Basic Diazo Component 34, salt	04	285,000	Basic Green 4	04	354,000
Basic Diazo Component 35, salt	04	287,000	Basic Green dyes, all other	04	355,000
Basic Diazo Component 42, salt	04	291,000	(Basic Green 1, PMA)	05	320,101
Basic Diazo Component 48, salt	04	293,000	Basic Orange 1	04	326,000
Basic Diazo Component 49, salt	04	294,000	Basic Orange 2	04	327,000
Basic Diazo Component 49, salt, all other	04	296,000	Basic Orange 21	04	372,000
Basic Diazo Component 49, salt	04	224,000	Basic orange dyes, all other	04	329,000
Basic Red 1	04	227,000	Basic orange dyes, all other, modified	05	215,001
Basic Red 2	04	228,000	(Basic Red 1)	04	333,000
Basic Red 6	04	229,000	Basic Red 12	04	383,000
Basic Red 7	04	230,000	Basic Red 15	04	384,000
Basic Red compositions, all other	04	235,000	Basic Red 16	04	385,000
Basic Violet 1	04	236,000	Basic Red 17	04	386,000
Basic violet compositions, all other	04	236,000	Basic Red 18	04	387,000
Aztreonam	06	220,000	Basic Red 22	04	389,000
Bacillus thuringiensis	13	166,010	Basic Red 23	04	389,023
Bacitracin (medicinal grade)	06	59,000	Basic Red 29	04	390,000
Bacitracin (animal feed grade)	06	53,000	Basic Red 46	04	591,046
Bacterial amylase	14	53,000	Basic Red 49	04	592,000
Banamine	15	677,000	Basic Red 51	04	592,051
Barium calcium laurate	15	677,000	Basic Red 73	04	592,073
Barium stearate	15	630,000	Basic Red 78	04	592,078
Basic black dyes, all other	04	750,000	Basic Red 104	04	592,104
Basic black dyes, all other, modified	04	359,999	Basic red dyes, all other	04	334,000
(Basic Blue 7)	05	420,000	Basic red dyes, all other, modified	04	393,000
Basic blue 1	04	343,000	(Basic Red 81, PMA)	05	210,050
Basic blue 2	04	344,000	(Basic Violet 1)	05	221,001
Basic blue 3	04	307,000	(Basic Violet 4)	05	221,004
Basic blue 7	04	307,000	(Basic Violet 10)	05	221,010
Basic blue 21	04	401,000	Basic Violet 1	04	335,000
Basic blue 26	04	350,000	Basic Violet 4	04	336,000
Basic blue 41	04	404,000	Basic Violet 10	04	338,000
Basic blue 54	04	407,000	Basic Violet 16	04	339,000
Basic blue 60	04	408,000	Basic violet dyes, all other	04	342,000
Basic blue 69	04	409,000	Basic Yellow 2	04	323,000
Basic blue 77	04	412,000	Basic Yellow 11	04	360,000
Basic blue 140 and 941	04	414,098	Basic Yellow 13	04	361,000
Basic blue dyes, all other	04	351,000	Basic Yellow 15	04	362,000
Basic blue dyes, all other, modified	04	415,000	Basic Yellow 54	04	363,000
(Basic Blue 14, PMA)	05	227,014	Basic Yellow 54	04	365,000
(Basic Blue 1, PMA)	05	227,011	Basic Yellow 25	04	367,000
Basic Brown 1	04	355,000	Basic Yellow 28	04	368,000
Basic Brown 4	04	357,000	Basic Yellow 39	04	324,000
Basic brown dyes, all other	04	358,000	Basic Yellow 37	04	370,049
Basic green 1	04	352,000	Basic Yellow 49	04	370,053
			Basic Yellow 53	04	370,053

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CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Basic Yellow 58	04	370,058	Benzoic acid, tech.	03	275,000
Basic Yellow 65	04	370,065	Benzoin isobutyl ether	03	277,000
Basic Yellow 76	04	370,076	Benzoin isobutyl ether	03	277,100
Basic Yellow 79	04	370,079	Benzoin isobutyl ether	06	425,000
Basic Yellow 92	04	370,092	Benzonitrile	03	278,000
Basic yellow dyes, all other	04	370,096	Benzophenone	07	8,000
Basic yellow dyes, all other, modified	04	325,000	Benzothiazole	15	15,000
Basic yellow dyes, fugitive	05	371,000	2-Benzothiazole, sodium salt	03	278,200
Benzal acetone	07	7,400	1H-Benzotriazole	03	281,000
Benzaldehyde glyceryl acetal	07	7,500	Benzotriazole, substituted	03	283,200
Benzaldehyde, tech.	03	624,500	2-Benzoxazolethiol	03	286,000
Benzalkonium Neparin	03	624,500	Benzyl chloride	15	16,000
Benzamide hydrochloride	03	248,700	Benzyl dimethylamine	06	535,000
Benzamide hydrochloride	03	256,000	Benzhexamine hydrochloride	06	718,000
Benzamide hydrochloride	03	259,000	Benzthiazide	06	308,000
Benzamide hydrochloride	03	260,000	Benztropine mesylate	07	9,000
7H-Benzamide lanthaceen-7-one (Benzanthrone)	03	261,000	Benzyl acetate	15	17,000
dimethyl-	01	2,000	Benzyl alcohol	03	289,000
Benzene (Benzol) 99-100%	02	5,500	Benzyl (alkylpyridinium)chloride	03	290,000
Benzene High purity (98-100%)	12	448,400	Benzylamine	12	453,230
Benzene-methanamonium-N-(3-aminopropyl)-N,N-dimethyl-N-cococetyl derivatives-N,N'-diethyl-N-tetradecylchloride	12	448,410	2-(Benzylamino)ethanol	07	11,000
Benzene Other	02	6,500	Chloride with benzylpolyoxyethylene, tallowamine)	07	12,000
Benzene phosphonic acid	15	9,250	Benzyl benzoate	15	71,115
Benzene phosphonic acid	03	264,000	Benzyl butyrate	13	175,012
Benzene sulfonic acid	03	264,200	Benzyl chloroformate	07	13,000
Benzene sulfonic acid, 2-formyl-, sodium salt	12	142,900	Benzyl-2-chloro-4-(trifluoromethyl)-5-thiazolecarboxylate	15	17,200
hydroxyisourea salt, polymer with formaldehyde and hydroxyisourea salt	12	137,700	Benzyl (cocoonut oil alkyl)bis(2-hydroxyethyl)ammonium chloride	12	449,000
Benzene sulfonic acid, mixed linear (C9-14)	03	266,000	Benzyl (cocoonut oil alkyl)dimethylammonium chloride	12	509,000
Benzene sulfonic acid, mixed linear (C9-14)	02	33,000	Benzyl (dichlorogenated tallow alkyl)methylammonium chloride	12	509,900
Benzene, toluene, xylene, mixtures	03	268,100	Benzyl dimethylamine	12	510,000
(Franellic anhydride)	03	273,100	Benzyl dimethyl silyl ammonium chloride	12	512,000
1,2,4-Benzene tricarboxylic acid, 1,2-dianhydride	06	704,000	Benzyl dimethyl tetradecylammonium chloride	12	512,800
Benzyl	03	273,500	Benzyl dodecyl dimethylammonium chloride	12	514,000
1,3-Benzoxadiazole	06	134,000	3-(Benzylethylamino)acetanilide	03	292,200
1,3-Benzoxadiazole	06	134,000	Benzyl formate	07	15,000
Benzoic acid	03	274,850	(5-Benzyl-3-furyl)methyl-2,2-dimethyl-3-(2-methylpropenyl)cyclopropane carboxylate (Resmethrin)	13	166,016
Benzoic acid, methyl ester	03	274,903	Benzylhexadecyl dimethylammonium chloride	12	519,000
Benzoic acid salts, all other	15	13,000			

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Benzyl (hydrogenated tallow alkyl) diamethyl ammonium chloride			Bis(N-amiidopropyl)-N,N-dimethyl-N-ethyl ammonium ethyl	12	467,500
2-Benzyl-2-hydroxy-5,9-dimethyl-6,7-benzomorphanhydroxotamide	12	516,000	Bis(p-aminocyclohexyl) methane	03	309,100
1-Benzyl-1-(2-hydroxyethyl)-2-nor(tall oil alkyl)-2-imidazoline	03	294,950	1,3-Bis(2-benzothiazolyl)mercaptomethyl urea	03	311,400
Benzyl isobutylate	12	483,000	4,4'-Bis(2-benzoxazolyl)stilbene	09	24,000
Benzyl isovalerate	07	15,400	Bis(2-bis(2-hydroxyethyl)amino ethyl) diisopropyl titanate	15	1063,100
Benzyl laurate	07	15,700	Bis-1,4-bromonacetoxy-2-butene	13	176,000
Benzyl laurate bis(hydrogenated tallow ammonium chloride	07	15,900	2,2-Bis(bromomethyl)-1,3-Propanediol	15	1071,000
1-(Benzoyloxy-2-methoxy-4-propenyl)benzene (Benzyl isoeugenyl ether)	12	516,300	Bis(2-bromophenyl) ether	13	176,000
p-(Benzoyloxy)phenol	07	16,000	1,1-Bis(carboxymethyl)-2-undecyl-2-imidazolium chloride, disodium salt	15	1142,000
Benzyl phenylacetate	03	297,500	1,1-Bis(carboxymethyl)-2-undecyl-2-imidazolium hydroxide, disodium salt	12	20,000
1-Benzyl-4-phenylisonipicotinitrile	03	17,000	Bis(p-chlorobenzoyl) peroxide	12	21,500
Benzyl picolinum chloride	12	288,200	Bis(2-chloroethyl) ether (Dichlorodithyl ether)	15	17,900
Benzyl (polyoxyethylene cococaine) ammonium chloride with benzyl (polyoxyethylene, tallowamine) ammonium	12	517,100	Bis(2-chloroethyl)-2-chloroethyl phosphonate	15	1300,000
Benzyl propionate	12	483,200	Bis(coconut oil alkyl) amine	15	1017,000
1-Benzylpyridinium chloride	07	48,000	Bis(coconut oil alkyl) dimethyl ammonium chloride	12	481,000
Benzyl (rosin amine) ammonium chloride, ethoxylated	12	518,000	Bis(cumylphenyl-oxoethylene titanate)	12	483,925
Benzyl salicylate	12	450,500	Bis(dibutylthioacetamoyl) disulfide	12	775,500
Benzyl (tallow alkyl) bis(2-hydroxyethyl) ammonium chloride	07	19,000	Bis(2,4-dichlorobenzoyl) peroxide	09	144,950
Benzyl triethyl ammonium chloride	12	483,500	Bis(diethylthioacetamoyl) disulfide	15	18,000
Benzyl trimethyl ammonium chloride	03	288,400	Bis(2,4-dichlorobenzoyl) peroxide	09	146,000
Benzyl trimethyl ammonium hydroxide	12	519,000	Bis(2,4-dimethylamino benzoyl) phenylacetone trile	03	322,000
Benzyl trimethyl ammonium hydroxide	03	301,000	Bis(2,4-dimethylbenzyl) peroxide	15	19,000
Beta carotene (provitamin A)	06	769,000	Bis(1,3-dimethylbutyl) phosphorodithioate ester amine salt	14	232,000
Betaine hydrochloride	06	614,000	N,N'-Bis(1,4-dimethylpentyl)-p-phenylenediamine	09	55,551
Betamethasone	06	649,000	Bis(dimethylthioacetamoyl) disulfide	09	147,000
Betamethasone dipropionate	06	649,500	Bis(dimethylthioacetamoyl) sulfide	03	149,000
Betamethasone sodium phosphate	06	650,000	1,5-Bis(2,4-dinitrophenoxy)-4,8-dinitroanthraquinone	03	325,250
Betane thasone valerate	06	651,000	Bis(diphenylsulfonophenyl) sulfide	03	325,250
Beta methyl ionone coevr	07	104,100	8-(1,2-Bis(ethoxyacetyl) ethyl) 10,0-dimethyl phosphorodithioate	13	215,000
Bis(mecob) chloride	06	34,500	Bis(2-ethoxyethyl) ether (Diethylene glycol diethyl ether)	15	1143,000
Biotin	06	784,000	Bis(2-ethylhexyl) hydrogen phosphate	15	1018,000
Biphenyl	03	307,000	Bis(2-ethylhexyl) terephthalate	11	16,550
4,4'-Biphenyldisulfonylazide	03	307,000	N,N'-Bis(1-ethyl-3-methylpentyl)-p-phenylenediamine	09	56,000
N,N-Bis(2,2-acetamidoglycine	14	3,000	Bis(N,N'-ethyl(stearic/arachidic)benzamide)	12	476,400
Bis(alkyl-aryl)alcohols, ethoxylated	12	788,800	Cyanoethyl ethyl ammonium ethosulfate	15	19,200
Bis(N-amiidopropyl, N,N-dimethyl, N-Benzyl ammonium chloride)	12	483,950	2,2-Bis(ferrocenyl) propane	12	476,400
			Bis-hexamethylenetetramine amine	15	260,000

Table 4.--Alphabetical Chemical Index

SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
	12	Bis(hydrogenated tallow alkyl)amine		432,000	Bis(triphenylsilyl)chromate	15	1216,000
	12	Bis(hydrogenated tallow alkyl)dimethylammonium chloride		431,000	Bis(ethylene diisocyanate (TODI))	03	217,400
	12	Bis(hydrogenated tallow alkyl)dimethylammoniummethylether		481,000	Blend of fatty and phosphate esters	12	111,800
	12	Bis-hydroxyethyl coco amine oxide, phosphated potassium salt		482,000	Blend of hydrocarbons and esters	12	318,610
	12	N,N-Bis(2-hydroxyethyl)coconut oil alkylamine oxide		321,095	Bornyl phenylamine	14	271,000
	12	N,N-Bis(2-hydroxyethyl, ethoxylated)methyl(9-octadecenyl) ammonium chloride		321,110	Boron fluoride-ethyl ether complex	15	1368,000
	12	N,N-Bis(2-hydroxyethyl, ethoxylated)methyloctadecylammonium chloride		454,000	Boron fluoride-phenol complex	06	251,000
	12	Bis(2-hydroxyethyl, ethoxylated)methyloctadecylammonium chloride		455,000	Bromochloroene (including bromochlorinated) hydrocarbons,	15	1230,000
	12	Bis(2-hydroxyethyl, hydroxylated) tallow-ethyl sulfate		455,500	N-Bromoacetamide	15	230,000
	12	Bis(2-hydroxyethyl)isocyanatopropylamine oxide		321,700	Bromoacetic acid	13	245,017
	12	N,N-Bis(2-hydroxyethyl)methyltallow alkyl ammonium chloride		485,540	Bromoacetic acid (Bromacil)	15	495,000
	14	N,N-Bis(2-hydroxyethyl)octadecanamide		489,000	p-Bromaniline	03	333,000
	12	N,N-Bis(2-hydroxyethyl)octadecylamine		322,000	Bromobenzaldehyde	03	332,100
	12	N,N-Bis(2-hydroxyethyl)octyl-methyl-p-toluene sulfonate		455,600	Bromobenzene, mono	03	336,000
	12	N,N-Bis(2-hydroxyethyl)tallow alkyl)amine		324,000	3-[3-(4-Bromo-1,1,4-trihydroxy-4-phenyl)-4-yl]-1,2,3,4-tetrahydro-	13	169,500
	12	N,N-Bis(2-hydroxyethyl)tallow alkyl)amine acetate		324,000	1-Bromobutane	15	1197,000
	15	N,N-Bis(2-hydroxyethyl)tallow alkyl)amine acetate		20,500	1-Bromobutane (n-Butyl bromide)	13	42,000
	15	N,N-Bis(2-hydroxyethyl)propionic acid		494,500	5-Bromo-3-sec-butyl-6-methyluracil (Bromacil)	15	496,000
	11	Bis(hydroxypropyl)azetate		66,600	Bromobutyric acid	15	1198,500
	12	Bis(2-hydroxypropyl)methyl(tallow alkyl)methosulfate		455,900	Bromochlorinated paraffin C18-C26	15	21,900
	13	4,6-Bis(isopropylamino)-2-methoxy-s-triazine (Prometon)		118,010	Bromochloro-5,5'-dimethyl hydantoin	15	1253,000
		2,4-Bis(isopropylamino)-6-(methylthio)-s-triazine (Prometryn)		41,500	Bromochloromethane	15	1253,000
		Bis(2-methoxyethyl)ether (Tetraethylene ether)		1145,000	2-Bromo-2-chloro-1,1,1-trifluoroethane	03	343,700
		Bis(2-methoxyethyl)ether (Diethylene glycol dimethyl ether)		1146,000	2-Bromo-4,6-dinitroaniline	03	344,000
	15	Bis(1,1,3-methyl-butyl-phenyl)ether		20,750	2-(2-Bromo-4,6-dinitrophenylazo)-5-diethylaminoacetanilide	03	344,803
	09	N,N-Bis(4-methylphenyl)-p-phenylenediamine		60,000	Bromoethane (ethyl bromide)	15	1202,000
	03	N,N-Bis(4-methylphenyl)sulfonylamine, potassium salt		327,500	1-Bromo-4-ethoxy-2-methylbenzene	03	344,900
	09	Bismuth subsulfate		134,000	1-Bromohexadecane	15	142,017
		Bis(2-octadecylamido)ethyl-N-(2-cyanoethyl)-N-ethyl bisphenol hindered		229,500	1-Bromo-4-hydroxyacetophenone	15	1205,000
	09	N,N-Bis(phenyl)glycine		88,100	1-Bromo-2-methyl-2-butene	03	354,000
	12	1,3-Bis(phenyl)dimethyl ammonium chloride)-2-propanol		212,013	α-Bromo-2-nitrotoluene (p-Nitrobenzyl bromide)	15	22,400
	12	Bis(tallow alkyl)amine		455,700	1-Bromo-octadecane	03	356,100
	12	Bis(tallow alkyl)dimethylammonium chloride		482,500	Bromopentane (n-Amyl bromide)	15	1206,000
	03	1,2-Bis(tribromophenoxy)ethane		330,218	Bromopentane base	03	358,500
	15	1,1-Bis(3,3,5-trimethylidicyclohexane		21,900	1-Bromopropane (n-Propyl bromide)	15	1207,000
					3-Bromopropane (isopropyl bromide)	12	150,000
					2-Bromopropyl-amine hydrobromide	07	127,460
					3-Bromopropyl-amine hydrobromide	03	359,000
					5-Bromopropylamine	03	359,500

Table 4.--Alphabetical Chemical Index

SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME
	15	Bromotrifluoromethane		1254.000	Butyl alcohol, ethoxylated and phosphorylated
	06	Bromphenylamine maleate		85.000	n-Butylamine, mono
	06	Butacarbital		447.000	sec-Butylamine, mono
	06	Butacarbital, sodium		448.000	tert-Butylamine, mono
	02	1,3-Butadiene		48.000	tert-Butylaminoethanol
	02	Butadiene styrene copolymer (Elastomers)		49.000	2-(tert-Butylamino)-4-ethylamino-6-(methylthio)-s-triazine
	06	Butabital		446.000	tert-butyldimethyl methacrylate
	06	Butamban		700.000	n-Butylamine
	02	n-Butane		44.000	n-Butylamine
	15	1,2-(and 1,3)-Butanediol		1072.000	p-tert-Butylbenzaldehyde
	15	1,4-Butanediol		1073.000	n-tert-Butylbenzenesulfonamide
	15	1,4-Butanediol diglycidyl ether		1317.400	n-Butyl benzoate
	12	Butanoic acid, ethoxylated		758.900	n-tert-Butyl-2-benzothiazolesulfenamide
	12	Butanol, ethoxylated and propoxylated		726.900	Butyl benzyl phthalate
	12	Butanol residue stream		26.910	n-Butyl 4,4-bis(tert-butylperoxy)valerate
	15	2-Butanone peroxide		1284.000	Butyl butyryl lactate
	02	1-Butene		45.000	Butyl carbitol, ethoxylated and propoxylated
	02	1-Butene and 2-butene, mixed		46.000	sec-Butyl chloroacetate
	02	2-Butene		47.000	tert-Butyl 4(or 5)-chloro-2-methylcyclohexanecarboxylate (Trimedlure)
	12	2-Butenedioic acid-(f)-diamine - 1-(2-aminoethyl)-2-butyl ethyl alkyl-2-imidazoline condensate		342.220	3-tert-Butyl-5-chloro-6-methyluracil
	15	2,3,4,5-t-Butenylene-tetrahydrofurfural		1074.000	2-tert-Butyl-p-cresol
	3	1,4-Butene diol		165.014	6-tert-Butyl-m-cresol
	15	1-Butoxy-2,3-epoxypropane (Butyl glycidyl ether)		1147.000	2-tert-Butyl cyclohexanol
	2	2-Butoxyethanol (ethylene glycol monobutyl ether)		1147.000	p-tert-Butylcyclohexanone
	2	2-(2-Butoxyethoxy)ethanol (Diethylene glycol monobutyl ether)		1148.000	tert-Butylcyclohexanone
	2	2-(2-Butoxyethoxy)ethoxy ethanol (Triethylene glycol monobutyl ether)		1149.000	4-tert-Butylcyclohexyl peroxycarbonate
	15	2-(2-(2-Butoxyethoxy)ethoxy)ethoxy ethanol (Tetraethylene glycol monobutyl ether)		1150.000	4-tert-Butyl-2',6'-dimethyl-3',5'-dinitroacetophenone (Musk ketone)
	15	2-(2-(2-(2-Butoxyethoxy)ethoxy)ethoxy)ethoxy ethanol (Pentaoxyethylene glycol monobutyl ether)		1151.000	Butylene glycol adipate
	13	2-(2-(2-(2-(2-Butoxyethoxy)ethoxy)ethoxy)ethoxy)ethoxy ethanol (Hexaoxyethylene glycol monobutyl ether)		172.000	Butylene glycol diborate
	15	2-(2-(2-(2-(2-(2-Butoxyethoxy)ethoxy)ethoxy)ethoxy)ethoxy)ethoxy ethanol (Heptaoxyethylene glycol monobutyl ether)		1098.000	1,3-butyene glycol diborate
	15	1-Butoxyethyl acetate		1099.000	1,3-butyene glycol diborate/hexylene glycol boric
	15	2-Butoxyethyl acetate		22.990	1-butyne
	03	p-Butoxyphenol		364.000	Butylene oxide, glycol, ethoxylated
	07	Butter acids		127.480	Butylene oxide, glycol, ethoxylated (boiling)
	15	n-Butyl acetate		127.485	Butyl ethers of tetra- and higher ethylene glycols (high boiling)
	15	n-Butyl acrylate		890.000	n-Butylethylamine
	15	n-Butyl acrylate/acrylonitrile		106.000	Butyl 2-ethylhexyl phthalate
	15	n-Butyl acrylate ethyl acrylate copolymer resins		893.000	Butyl ethyl magnesium
	05	n-Butyl alcohol (n-Propylcarbinol)		842.950	1-butyl-3-ethyl-2-thioures
	15	sec-Butyl alcohol (Methylcyclohexanol)		846.000	n-Butyl-N-ethyl-o-o-trifluoro-2,6-dinitro-p-toluidine (Genesin)
	15	tert-Butyl alcohol (Trimethylcarbinol)		847.000	
	13			43.000	

Table 4.---Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Butyl formal	15	1430 000	N-sec-Butyl-N-phenylphenylamine	14	155 000
tert-Butyl glycidyl ether	15	1317 470	Butyl phosphate, potassium salt	12	92 500
Butyl hydrogen phosphate	15	1021 000	Butyl phthalyl butyl glycolate	11	41 400
tert-Butyl hydroperoxide	15	1285 000	Butyl and propyl oleate, sulfated, sodium salt	12	237 300
tert-Butylhydroquinone	15	24 850	4-tert-Butylpropylacetochol	15	66 750
4,4'-Butyldenebis(6-tert-butyl-m-cresol)	09	88 000	Butyl stearoate	15	911 000
Butyl (isopropylene-isoprene) type	15	329 000	n-Butyl stearate	11	117 000
Butyl and isopropyl thalimides	15	27 495	p-tert-Butyltoluene	03	388 000
Butyl lactate	15	900 000	Butyl 2-[4-[[15-(trifluoromethyl)-2-pyridinyl]oxy]phenoxy]propanoate	13	43 950
n-Butyllithium	15	1372 000	5-tert-Butyl-1,2,3-trimethylbenzene	03	389 000
sec-Butyllithium	15	1373 000	1-tert-Butyl-3,4,5-trimethyl-2,6-dinitrobenzene	07	22 000
Butyl maleate	15	901 000	5-tibetene ¹	07	127 650
n-Butyl mercaptan (1-Butanethiol)	02	90 910	Butyl 2-butyl-2,4,6-trinitro-m-xylene (Muskr Mytol)	07	22 000
sec-Butyl mercaptan (2-Butanethiol)	02	90 915	Butyl vinyl ether	15	1305 000
Butyl methacrylate (2-Methyl-2-propanethiol)	02	90 800	5-tert-Butyl-m-xylene	03	390 000
Butyl methacrylate	15	902 000	6-tert-Butyl-2,4-xylene ¹	03	391 000
Butyl methacrylate-ethyl methacrylate copolymer resins	08	19 950	2-Butyne-1,4-diol	15	1075 000
2(and 3)-tert-Butyl-4-methoxyphenol (BHA)	15	25 000	Butynediol, ethoxylated	12	758 950
p-tert-Butyl- α -methylhydrocinnamaldehyde	07	21 900	Butyraldehyde	15	784 000
2-[(1-Butyl-2-methylindol-3-yl)carbonyl]benzoic acid	03	382 200	Butyraldehyde-aniline condensate	09	52 000
Butyl methyl pyrophosphate isopropoxy titanium salt	12	92 300	Butyraldehyde-butylamine condensate	09	52 000
octyl phosphate adduct, sodium salt	12	162 000	Butyric aldehyde	15	499 000
Butyl methacrylate-c acid, sodium salt	12	162 000	Butyrolactone	15	500 000
Butyl ethyl phthalate	11	23 000	Butyrolactone	15	104 500
Butyl oleate	11	90 000	n-Butyrolactone	15	436 000
Butyl oleate	15	909 000	Butyl chloride	15	531 000
Butyl oleate, sulfated, sodium salt	12	257 000	Cadinene	07	94 500
n-Butyl palmitate	11	96 200	Cadinene	15	10 000
tert-Butyl peroxide (Di-tert-butyl peroxide)	15	1286 000	Cadmium 2-ethylhexanoate	15	631 000
tert-butyl peroxyacetate	15	903 000	Cadmium naphthenate	15	822 000
tert-butyl peroxybenzoate	15	906 000	Cadmium naphthenate	15	822 000
tert-butyl peroxyisobutyrate	15	905 000	Caffeine, natural	06	537 000
tert-butyl peroxyisopropylcarbonate	15	907 000	Caffeine, synthetic	06	538 000
tert-butylperoxy maleic acid	15	908 000	Calcitonin	06	691 500
tert-butylperoxy maleic anhydride	15	908 000	Calcium acetate	15	591 000
tert-butylperoxydecanoate	15	910 000	Calcium t- α -alkylcarboxylate	15	668 000
tert-butylperoxyvalerate	15	26 500	Calcium ascorbate	06	898 000
tert-butylperoxy-3,5-trimethyl cyclohexane	03	383 000	Calcium citrate	15	688 000
o-sec-Butylphenol	03	385 000	Calcium 2-ethylhexanoate	15	688 000
o-tert-Butylphenol	03	386 000	Calcium 2-ethylhexanoate	15	688 000
p-tert-Butylphenol	03	387 000	Calcium linoleate	06	759 000
Butylphenols, mixed	03	386 000	Calcium linoleate	15	681 000
2-(p-tert-Butylphenoxy)cyclohexyl-2-propynyl sulfite	13	166 017	Calcium mercaptoacetate	15	170 000
Butyl-o-phenylphenol sulfonic acid, sodium salt	12	162 100	Calcium mercaptoacetate	15	693 000
			Calcium naphthenate	14	298 000

Table 4. --Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Calcium neodecanoate	15	703.000	(1-Carboxyheptadecyl)triethylammonium hydroxide, inner salt	12	1.000
Calcium oleate	15	718.500	5 (or 6) carboxy-4-hexyl-2-cyclohexene-1-octanoic acid, potassium/sodium salts	12	52.500
Calcium polyacrylate	06	591.600	5 (or 6) carboxy-4-hexyl-2-cyclohexane-1-octanoic acid, potassium/sodium salts	12	38.500
Calcium propionate	15	737.000	Carboxylic acid - alkanoamine condensates, all other	12	582.000
Calcium stearate	15	752.000	Carboxylic acid - amides, all other	12	586.000
Calcium tetrastearate	15	752.000	Carboxylic acid - diamine and polyamine condensates, all other	12	587.000
Calcium triacetate	06	131.000	Carboxylic acid - diamine and polyamine condensates, all other	12	374.000
Camphene	05	23.000	Carboxylic acid - diamine and polyamine condensates, all other	12	384.000
α-Campholenic aldehyde	07	94.600	Carboxylic acid esters, all other	12	721.000
Canrenoate, potassium	06	736.700	Carboxylic acids with amide, ester or ether linkage, other	12	51.000
Canrenoate, potassium	07	111.500	Carboxymethyl-3-cocamidopropyl dimethyl ammonium chloride, sodium salt	03	351.400
Capreomycin	06	253.500	(Carboxymethyl)3-(coconut oil amide)	12	3.980
Capric acid (Ratio = 2/1)	12	530.000	propyl dimethylammonium hydroxide, inner salt	12	4.000
Capric acid (Ratio = 1/1)	12	546.010	1-Carboxymethyl-2-heptadecyl-1-(2-hydroxyethyl)-2-imidazolium hydroxide, sodium derivative, sodium salt	12	22.000
Caproacetam (2-Oxohexamethylamine)	15	29.500	1-Carboxymethyl-1-(2-hydroxyethyl)-2-nonyl-2-imidazolium hydroxide, sodium derivative, sodium salt	12	22.600
Caprolactone	15	29.505	1-Carboxymethyl-1-(2-hydroxyethyl)-2-nonyl-2-imidazolium hydroxide, sodium derivative, sodium salt	12	24.000
3-[Caprylamidoethylene-(2-hydroxyethyl)amino]propionic acid	15	104.600	1-Carboxymethyl-1-(2-hydroxyethyl)-2-undecyl-2-imidazolium hydroxide, sodium derivative, sodium salt	12	25.000
Caprylampropionate	12	0.700	1-Carboxymethyl-1-(2-hydroxyethyl)-2-undecyl-2-imidazolium hydroxide, sodium derivative, sodium salt	12	21.300
Caprylic acid tetraethylene-pentamine condensate	12	9.800	Carvacrol-N-oxide inner salt	07	23.500
Caprylic acid tetraethylene-pentamine condensate	12	358.700	β-Carvophyllene	07	94.700
Caprylic amphopropionate	12	705.300	Carvophyllene oxide	07	95.000
Capryl	06	355.400	Castor oil acids (Ratio = 2/1)	12	531.000
Carbamoyl chloride	06	428.000	Castor oil acids-polyalkylene polyamine maleic anhydride condensate	12	583.500
Carbamicillin, disodium	06	135.000	Castor oil acids, sodium salt	12	53.000
Carbamicillin, indanyl, sodium	06	12.500	Castor oil, alkoxylated	12	502.000
Carbamicillin, sodium	06	12.300	Castor oil, fatty, dehydrated	15	
Carbadoxa	06	830.500			
1-(Carboethoxy)ethyl-3-(2-chloro-4-(trifluoromethyl)phenoxy)benzoate	03	398.000			
2-Carboethoxy-1-propan-2-yl dimethyl phosphate	13	216.000			
Carbon black feedstock	02	36.050			
Carbon disulfide	15	426.010			
Carbon tetrachloride	15	427.000			
Carboprost bromethamine	06	679.150			
1-Carboxyethyl-1-(2-ethoxycarboxyethyl)-2-cocamidazolinium, disodium salt	12	21.150			
1-Carboxyethyl-1-(2-hydroxyethyl)-2-heptyl-2-imidazolium hydroxide, sodium derivative, sodium salt	12	21.200			
1-Carboxyethyl-1-(2-hydroxyethyl)-2-nonyl-2-imidazolium hydroxide, sodium derivative, sodium salt	12	21.250			

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Castor oil, sulfated, sodium salt	12	305 000	Chlorinated paraffins, 65% or more chlorine	15	1220 000
Cationic cellulose ethers	14	406 000	Chloroacetic acid, mono	15	503 000
Cationic surfactants, all other	12	529 000	4-Chloroacetophenone	03	411 000
Cellulose acetate (Ankrane)	07	95 000	K-(Chloroacetyl)-N-(2,6-diethylphenyl)glycine, ethyl ester	13	43 025
Cedrol	07	96 000	1-(3-Chloroallyl)-5,7-triazolo-1-azoniasulfamate chloride	15	32 000
Cedyl acetate	07	97 000	o-Chloroaniline	03	414 000
Cedyl formate	06	39 300	m-Chloroaniline	03	413 000
Cefaclor	06	39 300	2-Chloroaniline	03	415 000
Cefamandole	06	40 000	2-Chloroanthraquinone	03	422 000
Cefazolin, sodium	06	40 100	p-Chlorobenzaldehyde	03	425 000
Cefonicid	06	40 200	Chloro-7-N-benzidylanthracen-7-one (Chlorobenzanthrone)	03	426 000
Cefotaxime	06	255 500	Chlorobenzene, mono	03	427 000
Cefazidime	06	255 500	p-Chlorobenzenesulfonic acid	03	430 000
Cellulose acetate	14	384 000	4-Chloro-2-benzothiazole	03	432 000
Cellulose acetate butyrate	08	20 590	5-Chlorobenzotriazole	03	433 000
Cellulose acetate hexhydrophthalate	15	29 900	4-Chloro-2,6-bis(2-ethylhexyloxy)phenol	09	124 200
Cellulose acetate phthalate	08	21 000	2-Chloro-4,6-bis(isopropylamino)-s-triazine (Simazine)	13	44 050
Cellulose acetate propionate	08	21 010	(Preazine)	13	44 100
Cellulose ethylidene acetate, all other	14	413 000	1-Chlorobutane (n-Butyl chloride)	15	1221 000
Cellulose plasticized	06	635 000	Chlorobutanol	06	257 000
Cellulose plastics, all other	08	21 040	2-Chloro-N,N-disopropylethylamine hydrochloride	03	447 010
Celtone	15	1430 250	2-Chloro-N,N-diallylacetamide (CDA)	13	448 780
Cephalexin	06	41 000	1-Chloro-2,5-dibutoxy-4-nitrobenzene	03	440 803
Cephalexin D	06	42 000	2-Chloro-2,5-dibutoxy-4-nitrobenzene	03	441 900
Cephaloridine	03	407 100	3-Chloro-2,5-dithoxy-4-nitrobenzene	03	441 000
Cephalosporin	06	43 200	Diazo-2-chloro-N,N-diethylaminobenzediazonium chloride (p-Butachlor)	14	330 000
Cephazolin, sodium	06	43 300	2-Chloro-2,6'-diethyl-N-(n-butylmethyl)acetamide (Alchlor)	15	333 000
Cephazolin	06	43 300	2-Chloro-2,6'-diethyl-N-methoxymethylacetamide (Alchlor)	15	1255 000
Ceraxylon polymer	06	43 600	Chloro-2-chloroacetophenone (P-22)	15	1256 000
Cetyl lactate	14	385 000	5-Chloro-2,4-dimethoxyacetanilide	03	448 000
Cetyltrimidium chloride	15	911 700	5-Chloro-2,4-dimethoxyaniline	03	450 000
Chelating agents, nitroloids and salts, all other	15	912 000	2-Chloro-6-(2-dimethylaminoethyl)pyridine	03	451 300
Chemically defined linear alconol, alkoxylated, all other	14	90 000	2-Chloro-10-(3-(dimethylamino)propyl)phenothiazine	03	451 600
Chemically defined linear alconol, alkoxylated, all other	14	90 000	2-Chloro-N,N-dimethylmethylethylamine (Dimethylamino ethyl chloride) hydrochloride	15	334 000
Chemical reagents and fine chemicals	12	734 000	2-Chloro-N,N-dimethylpropylamine hydrochloride	15	336 000
Chloramphenicol	06	44 000	1-Chloro-2,4-dimethylpropylamine hydrochloride	15	337 000
Chloramphenicol, monosuccinic acid ester	06	44 500	1-Chloro-2,4-dimethylpropylamine hydrochloride	15	337 000
Chlorhexidine gluconate	06	256 500	1-Chloro-2,4-dimethylpropylamine hydrochloride	15	337 000
Chlorinated (Not otherwise halogenated) hydrocarbons, all other	15	1252 000	1-Chloro-2,4-dimethylpropylamine hydrochloride	15	337 000
Chlorinated paraffins, 35-64% chlorine	15	1218 000	1-Chloro-2,4-dimethylpropylamine hydrochloride	15	337 000
Chlorinated paraffins, less than 35% chlorine	15	1218 000	1-Chloro-2,4-dimethylpropylamine hydrochloride	15	337 000

Table 4. --Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
2-Chloro-N-(2,6-dinitro-4-(trifluoromethyl)phenyl)-N-ethyl-2-nitrobenzamide	13	168, 135	1-(4-Chlorophenoxy)-2,3-dimethyl-1-(1,2,4-triazol-1-yl)-ethan-2-one	13	40, 009
2-Chloro-N-ethoxymethyl-N-(2-ethyl-6-methylphenyl)acetamide (Acetochlor)	03	457, 000	α-(2-Chlorophenyl)-α-(4-chlorophenyl)-5-oxo-1,2-dimethylpyrimidinethanone	13	40, 020
2-Chloro-N-(3-ethoxy-4-nitrophenyl)-4-(trifluoromethyl)benzene (Oxyfluorfen)	13	44, 190	4-Chloro-0-phenylenediamine	03	522, 300
2-Chloro-4-(ethylamino)-6-(isopropylamino)-s-triazine (Atrazine)	13	118, 044	α-(2-Chlorophenyl)-α-(4-fluorophenyl)-5-pyridinethanone	03	523, 000
2-[4-Chloro-6-(ethylamino)-s-triazin-2-ylamino]-2-methylpropanitrile (Cyanazine)	13	45, 000	β-(4-Chlorophenyl)methyl-α-(1,1-dimethylethyl)-1,2,4-triazole-1-ethanol	13	40, 019
2-Chloroethylphenyl sulfone	03	45, 100	2-(2-Chlorophenyl)methyl-4,4-dimethyl-3-isoxazolidinone	13	168, 994
2-(Chloroethyl)phosphonic acid	03	463, 500	3-Phenyl-2-thiothiazolidine-4-carboxamide (Carbophenathion)	13	152, 000
N-(2-Chloroethyl)-α,α-tetrafluoro-2,6-dinitro-N-propyl-p-toluidine (Fluochloralin)	13	231, 250	4-Chlorophthalic acid	03	528, 000
Chloroform	13	118, 054	1-Chloropinacolone	15	812, 320
Chlorohydroquinone	15	1224, 000	3-Chloro-1,2-propanediol (Glycerol α-chlorohydrin)	15	1076, 000
3-Chloro-2-hydroxypropyltrimethyl ammonium chloride	14	332, 000	Chloro-2-propanone (Chloroacetone)	15	813, 000
2-Chloro-N-isopropylacetamide (Propachlor)	15	335, 500	α-Chloropropene (Allyl chloride)	15	1229, 000
Chloro-N-(4-methyl-1,3,5-triazin-2-yl)aminocarbonylbenzenesulfonamide	13	426, 000	Chloropropyltrimethoxysilane	15	1280, 000
Chloromethyl-1,3-benzodioxole	13	118, 054	2-Chloropyridine	03	537, 000
Chloromethyl methyl ether	03	480, 500	Chlorosulfurized sperm oil	14	197, 000
4-Chloro-N-methyl-3-nitrobenzenesulfonamide	03	1307, 000	7-Chloro-1,2,3,4-tetrahydro-2-methyl-3-(2-methylphenyl)-4-oxo-6-quinolonesulfonamide	03	539, 500
2-(4-Chloro-2-methylphenoxycetic acid, iso-octyl ester, (Chl)ylamium salt, 1-trimethoxysilane	13	109, 010	Chlorothiamanthone	15	34, 600
2-Chloro-10-[3-(4-methyl-1-piperazinyl)propyl]phenothiazine	15	33, 880	Chlorothiazide	06	719, 000
3-Chloro-2-methyl-1-propene (Methyl vinyl chloride)	03	465, 600	m-Chlorotoluene	03	542, 000
2-[[Chloromethyl]thio]benzothiazole	03	428, 000	p-Chlorotoluene (Benzyl chloride)	03	545, 000
1-Chloro-2-nitrobenzene (Chloro-o-nitrobenzene)	03	495, 000	3-Chloro-p-toluidine (H ₈ =11)	03	547, 000
4-Chloro-3-nitrobenzenesulfonamide	03	500, 000	2-Chloro-6-(trichloromethyl)pyridine	13	168, 991
4-Chloro-4-nitrobenzenesulfonamide	03	501, 000	Chlorotrifluoroethylene (Trifluorovinyl chloride)	15	1258, 000
2-Chloro-5-nitrobenzoic acid	03	507, 000	2-Chloro-N-[[[4-(trifluoromethoxy)phenyl]amino]carbonyl]benzamide	13	133, 200
2-Chloro-4-nitrobenzoic acid, potassium salt	03	508, 030	3-(2-Chloro-4-trifluoromethylphenoxycetic acid, iso-octyl ester, (Chl)ylamium salt, 1-trimethoxysilane	13	133, 200
4-Chloro-3-nitrobenzotrifluoride	03	508, 100	4-Chloro-2,6-trifluoro-3-nitrotoluene	03	556, 050
2-Chloro-4-nitrotoluene	03	512, 000	4-Chloro-2,6-trifluoro-3-nitrotoluene	03	556, 000
5-Chloro-2-pentanone	15	811, 000	6-Chloro-2,6-trifluoro-3-nitrotoluene	03	559, 000
2-Chlorophenothiazine	03	519, 000	Chlorotrimethylsilane	15	1381, 000
			4-Chloro-3,5-xyleneol	03	565, 000
			Chlorophenamine carbamate	06	477, 000
			Chlorophenamine maleate	06	89, 000
			Chloroprazine hydrochloride	06	484, 000
			Chloropropane	06	687, 000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Chlortetracycline (animal feed grade)	06	64,000	Cobalt linoleate	15	682,000
Chlortetracycline (medicinal grade)	06	31,000	Cobalt manganese acetate	15	593,010
Cholecalciferol (vitamin D ₃)	06	811,000	Cobalt manganese tellate	15	172,010
Cholelectics and hydrocholeries, all other	06	604,000	Cobalt naphthenate	14	301,000
Cholesterol esterase	14	110,000	Cobalt neodecanate	15	433,010
Cholesterol oxidase	14	122,000	Cobalt-potassium 2-ethylhexanoate	15	737,000
Choline	15	242,000	Cobalt propionate	15	753,000
Choline bicarbonate	06	607,000	Cobalt tellate	15	172,000
Choline bitartrate	06	606,000	K-Coccalhyl-1,3-propylenediamine acetate	13	245,011
Choline chloride (animal feed grade)	06	608,000	K-Coccalhyl trimethylenediamine acetate	13	245,020
Choline chloride (medicinal grade)	06	611,000	Coccalamidophosphorylacetate	12	9,250
Choline dihydrogen citrate	06	611,000	Coccalamidopropyl betaine	12	9,500
Choline magnesium salicylate	06	385,300	Coccalamidopropyl dimethyl amine	12	328,260
Chromium acetate	15	592,000	Coccalamidopropyl dimethyl ammonio-2-hydroxypropane sulfonate	12	385,280
Chromium acetylacetonate complex	15	1371,100	Coccalamidopropyl-N,N-dimethyl-N-sodium acetate, ammonium salt	15	344,500
Chromium 2-ethylhexanoate	15	622,500	(3-Coccalamidopropyl)(2-hydroxy-3-sulfopropyl)dimethyl hydroxide, inner salt	12	9,720
Chromium naphthenate	06	619,000	(3-Coccalamidopropyl)-(2-hydroxy-3-sulfopropyl)-dimethyl ammonium hydroxide, inner salt	12	9,650
Cimetidine hydrochloride	06	619,600	3-Coccalamidopropyl-2-hydroxy-3-sulfopropylidimethyl ammonium hydroxide, inner salt	12	587,900
Cinnole [sucralptol]	07	23,700	Coccalphocarbonylacetate	12	9,260
Cinnamaldehyde	07	24,000	Coccalphocarbonylpropionate	12	9,265
Cinnamyl acetate	07	25,000	Coccalphosphonate	12	9,280
Cinnamyl alcohol	07	26,000	Coccalmethyl ethyl ammonium ethyl sulfite	12	482,750
Cinnamyl butyrate	07	27,100	Coccalnitrile	15	437,000
Cinnamyl cinnamate	07	27,200	Coconut acids, dimethylpropylamine condensate, carbonylated	12	359,950
Cinnamyl nitrate	07	28,000	Coconut oil acids (Ratio = 1/1)	12	569,000
Cinnamyl propionate	07	28,000	Coconut oil acids (Ratio = 2/1)	12	532,000
Citric acid	15	505,000	Coconut oil acids (Ratio = 1/1)	12	546,000
Citric acid 1/1 acetate	07	127,700	Coconut oil acids (Ratio = 2/1)	12	554,000
Citric acid salts, all other	15	505,000	Coconut oil acids, diethanolamine salt	12	554,000
Citric acid, sodium salts (50% in sodium phosphates (20%))	15	627,000	Coconut oil acids, diethanolamine propylamine condensate (amine/acid ratio = 1/1)	12	586,480
Citronellal acid	12	53,500	Coconut oil acids-N,N-dimethyltriethylethylamine	12	360,000
Citronellal acetate	07	127,950	Coconut oil acids-ethanolamine condensate, ethoxylated	12	576,000
Citronellal butyrate	07	128,000	Coconut oil acids, ethanolamine salt	12	29,200
Citronellal ethyl ether	07	131,700			
Citronellal isobutyrate	07	130,000			
Citronellal propionate	07	131,000			
Citronellal propionate	07	131,500			
Clindamycin	06	445,000			
Clorazepate dipotassium	06	498,000			
Clonazepam, benzathine	06	20,001			
Clonazepam, sodium	06	3,000			
Cloxacillin, sodium	06	59,000			
Cobalt acetate	15	1371,500			
Cobalt acetylacetonate complex	15	569,000			
Cobalt 2-ethylhexanoate	15	633,000			
Cobalt 2-ethylhexanoate	15	633,000			

Table 4.—Alphabetical Chemical Index

SECT. NO.	ITEM NO.	CHEMICAL NAME	CHEMICAL NAME	SECT. NO.	ITEM NO.
		Coconut oil acids—ethanolamine salt, sulfated, potassium salt	Cortisone acetate	06	653.000
	12	248.000	Coumarin	07	29.000
		Coconut oil acids, potassium salt	Coumarone-indane plasticizers	11	1.100
	12	54.000	Cumaronone-indane resins	08	22.000
		Coconut oil acids, sodium salt	Creosote oil (Dead oil): creosote content in solution		
	12	198.000	Creosote oil (Dead oil): creosote content in solution (100 percent basis)	01	21.000
		Coconut oil acids, trisethanolamine salt	Creosote oil (Dead oil): creosote in coal tar solution		
	12	193.000	Creosote oil (Dead oil): creosote in coal tar solution (100 percent basis)	01	20.000
		M-(Coconut oil acyl)paracresol sodium salt	Creosote oil (Dead oil): distillate as such (100 percent creosote basis)		
	12	80.000	M-Cresol	01	19.000
		Coconut oil alcohol, ethoxylated	Percent creosote tar acid oil	01	21.020
	12	785.000	P-Cresol	03	569.000
		M-(Coconut oil alkyl)- β -alanine, partial sodium salt	o-Cresol, from coal tar	03	572.000
	12	10.000	o-Cresol, from petroleum	03	575.000
		M-(Coconut oil alkyl)- β -alanine, sodium salt	o-Cresol, from petroleum	03	574.000
	12	10.130	o-Cresol, from petroleum	03	571.000
		Coconut oil alkylamine	o-Cresol, from petroleum	03	577.000
	12	418.000	o-Cresol, from petroleum	03	578.000
		Coconut oil alkylamine, ethoxylated	o-Cresol, from petroleum	03	579.000
	12	324.000	o-Cresol, from petroleum	03	580.000
		Coconut oil alkylamine, ethoxylated, acetate	o-Cresol, from petroleum	03	581.000
	12	327.000	o-Cresol, from petroleum	03	582.000
		M-(Coconut oil alkyl)amino butyric acid, sodium salt	o-Cresol, from petroleum	03	583.000
	12	483.000	o-Cresol, from petroleum	03	584.000
		Coconut oil alkylbis(2-hydroxyethyl, ethoxylated) β -methylammonium chloride	o-Cresol, from petroleum	03	585.000
	12	456.000	o-Cresol, from petroleum	03	586.000
		M-(Coconut oil alkyl)sulfocinnamic and disodium salt	o-Cresol, from petroleum	03	587.000
	12	176.950	o-Cresol, from petroleum	03	588.000
		M-(Coconut oil alkyl)trimethylenediamine	o-Cresol, from petroleum	03	589.000
	12	407.000	o-Cresol, from petroleum	03	590.000
		Coconut oil amide	o-Cresol, from petroleum	03	591.000
	12	659.200	o-Cresol, from petroleum	03	592.000
		Coconut oil, ethoxylated	o-Cresol, from petroleum	03	593.000
	12	456.000	o-Cresol, from petroleum	03	594.000
		Coconut oil, fatty acid polyoxyethylene	o-Cresol, from petroleum	03	595.000
	12	456.000	o-Cresol, from petroleum	03	596.000
		Coconut oil, stearic acid, sodium salt	o-Cresol, from petroleum	03	597.000
	12	533.000	o-Cresol, from petroleum	03	598.000
		Coconut oil, stearic acid, sodium salt (Ratio = 2/1)	o-Cresol, from petroleum	03	599.000
	12	327.600	o-Cresol, from petroleum	03	600.000
		Cocoyl amidopropyl dimethylamine oxide	o-Cresol, from petroleum	03	601.000
	06	429.000	o-Cresol, from petroleum	03	602.000
		Codeine	o-Cresol, from petroleum	03	603.000
	12	298.000	o-Cresol, from petroleum	03	604.000
		Cod oil, sulfated, sodium salt	o-Cresol, from petroleum	03	605.000
	12	298.000	o-Cresol, from petroleum	03	606.000
		Coolestipol hydrochloride	o-Cresol, from petroleum	03	607.000
	06	614.500	o-Cresol, from petroleum	03	608.000
		Complex linear polyesters and polymeric plasticizers, all other	o-Cresol, from petroleum	03	609.000
	11	132.000	o-Cresol, from petroleum	03	610.000
		Copolyurethane urea	o-Cresol, from petroleum	03	611.000
	14	386.000	o-Cresol, from petroleum	03	612.000
		Copper acetate	o-Cresol, from petroleum	03	613.000
	15	629.050	o-Cresol, from petroleum	03	614.000
		Copper 2-ethylhexanoate	o-Cresol, from petroleum	03	615.000
	15	634.000	o-Cresol, from petroleum	03	616.000
		Copper gluconate	o-Cresol, from petroleum	03	617.000
	06	762.000	o-Cresol, from petroleum	03	618.000
		Copper naphthenate	o-Cresol, from petroleum	03	619.000
	14	302.000	o-Cresol, from petroleum	03	620.000
		Copper oleate	o-Cresol, from petroleum	03	621.000
	15	718.000	o-Cresol, from petroleum	03	622.000
		Copper [2,2',2''',1',1'',1''',5''H,3''H-Phthalocyanine]pentakis(methylene)pentakis[1H-Isobutyl-1,3(2H)-donato]]	o-Cresol, from petroleum	03	623.000
	03	566.603	o-Cresol, from petroleum	03	624.000
		Corn oil acids, potassium salt	o-Cresol, from petroleum	03	625.000
	02	695.000	o-Cresol, from petroleum	03	626.000
		Corticosteroid, all other	o-Cresol, from petroleum	03	627.000
	06	692.000	o-Cresol, from petroleum	03	628.000
		Cysticofibrin	o-Cresol, from petroleum	03	629.000
	06	692.000	o-Cresol, from petroleum	03	630.000
		Cyanacetic acid	o-Cresol, from petroleum	03	631.000
	14	386.000	o-Cresol, from petroleum	03	632.000
		Cyanoacetic acid, ammonium salt	o-Cresol, from petroleum	03	633.000
	15	629.050	o-Cresol, from petroleum	03	634.000
		Cyanoacetic acid, sodium salt	o-Cresol, from petroleum	03	635.000
	15	634.000	o-Cresol, from petroleum	03	636.000
		Cyanoethyl alcohol	o-Cresol, from petroleum	03	637.000
	06	762.000	o-Cresol, from petroleum	03	638.000
		Cyanoethyl formate	o-Cresol, from petroleum	03	639.000
	14	302.000	o-Cresol, from petroleum	03	640.000
		2-[p-(Cyanacetamidophenyl)-6-methyl-7-benzothiazole]sulfonic acid	o-Cresol, from petroleum	03	641.000
	15	718.000	o-Cresol, from petroleum	03	642.000
		Cyanocetic acid	o-Cresol, from petroleum	03	643.000
	03	566.603	o-Cresol, from petroleum	03	644.000
		Cyanocetyl morpholine	o-Cresol, from petroleum	03	645.000
	02	695.000	o-Cresol, from petroleum	03	646.000
		Cyanocobalamin (animal feed grade)	o-Cresol, from petroleum	03	647.000
	06	692.000	o-Cresol, from petroleum	03	648.000
		Cyanocobalamin (pharmaceutical)	o-Cresol, from petroleum	03	649.000
	06	692.000	o-Cresol, from petroleum	03	650.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	651.000
	06	692.000	o-Cresol, from petroleum	03	652.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	653.000
	06	692.000	o-Cresol, from petroleum	03	654.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	655.000
	06	692.000	o-Cresol, from petroleum	03	656.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	657.000
	06	692.000	o-Cresol, from petroleum	03	658.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	659.000
	06	692.000	o-Cresol, from petroleum	03	660.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	661.000
	06	692.000	o-Cresol, from petroleum	03	662.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	663.000
	06	692.000	o-Cresol, from petroleum	03	664.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	665.000
	06	692.000	o-Cresol, from petroleum	03	666.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	667.000
	06	692.000	o-Cresol, from petroleum	03	668.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	669.000
	06	692.000	o-Cresol, from petroleum	03	670.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	671.000
	06	692.000	o-Cresol, from petroleum	03	672.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	673.000
	06	692.000	o-Cresol, from petroleum	03	674.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	675.000
	06	692.000	o-Cresol, from petroleum	03	676.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	677.000
	06	692.000	o-Cresol, from petroleum	03	678.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	679.000
	06	692.000	o-Cresol, from petroleum	03	680.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	681.000
	06	692.000	o-Cresol, from petroleum	03	682.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	683.000
	06	692.000	o-Cresol, from petroleum	03	684.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	685.000
	06	692.000	o-Cresol, from petroleum	03	686.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	687.000
	06	692.000	o-Cresol, from petroleum	03	688.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	689.000
	06	692.000	o-Cresol, from petroleum	03	690.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	691.000
	06	692.000	o-Cresol, from petroleum	03	692.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	693.000
	06	692.000	o-Cresol, from petroleum	03	694.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	695.000
	06	692.000	o-Cresol, from petroleum	03	696.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	697.000
	06	692.000	o-Cresol, from petroleum	03	698.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	699.000
	06	692.000	o-Cresol, from petroleum	03	700.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	701.000
	06	692.000	o-Cresol, from petroleum	03	702.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	703.000
	06	692.000	o-Cresol, from petroleum	03	704.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	705.000
	06	692.000	o-Cresol, from petroleum	03	706.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	707.000
	06	692.000	o-Cresol, from petroleum	03	708.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	709.000
	06	692.000	o-Cresol, from petroleum	03	710.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	711.000
	06	692.000	o-Cresol, from petroleum	03	712.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	713.000
	06	692.000	o-Cresol, from petroleum	03	714.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	715.000
	06	692.000	o-Cresol, from petroleum	03	716.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	717.000
	06	692.000	o-Cresol, from petroleum	03	718.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	719.000
	06	692.000	o-Cresol, from petroleum	03	720.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	721.000
	06	692.000	o-Cresol, from petroleum	03	722.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	723.000
	06	692.000	o-Cresol, from petroleum	03	724.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	725.000
	06	692.000	o-Cresol, from petroleum	03	726.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	727.000
	06	692.000	o-Cresol, from petroleum	03	728.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	729.000
	06	692.000	o-Cresol, from petroleum	03	730.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	731.000
	06	692.000	o-Cresol, from petroleum	03	732.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	733.000
	06	692.000	o-Cresol, from petroleum	03	734.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	735.000
	06	692.000	o-Cresol, from petroleum	03	736.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	737.000
	06	692.000	o-Cresol, from petroleum	03	738.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	739.000
	06	692.000	o-Cresol, from petroleum	03	740.000
		Cyanocobalamin, crystalline	o-Cresol, from petroleum	03	741.000
	06	692.000	o-Cresol, from petroleum	03	742.000
		C			

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
1-(2-Cyanoethyl)ethyl urea	15	349.000	N-(Cyclohexylthio)phthalimide	09	124.250
Cyanacrylate	05	35.500	Cyclol chloroacetate	15	41.800
N-Cyano-N-(phenyl)-2,2-dimethylcyclopropanecarboxylate	13	166.050	Cyclooctadiene	03	597.800
N-Cyano-N-methyl-N-2(4-methyl-5-imidazolyl)-methylthioethylisothiourea	03	584.213	Cyclopentane	02	11.000
Cyano-3-phenoxycyclopropane	13	166.089	Cyclopropane	03	609.000
2,2-dimethylcyclopropane carboxylate	05	35.500	α-Cyclopropyl-α-(p-methoxyphenyl)-5-pyrimidine methanol	15	42.000
Cyanuric acid	15	218.000	Cy (acrymidol)	13	168.140
Cycloacillin	15	218.000	Cylohex	02	4.010
Cyclic chemicals, all other	15	218.000	Cylohex	03	602.000
Cyclic amides, all other	13	40.000	Cyromethrin	13	165.029
Cyclic herbicides, all other	13	118.000	Cyproheptadine hydrochloride	06	91.000
Cyclic insecticides, all other	13	166.000	Cytarabine	06	278.000
Cyclic intermediates, all other	03	1554.000	Deanol	06	692.500
Cyclic plasticizers, all other	11	58.000	Decabromodiphenyl ether (DBDP)	15	44.000
Cyclized polyisoprene (Cyclorubber)	06	79.000	Decahydro-β-naphthyl acetate	07	29.700
Cyclizane hydrochloride	07	97.120	trans-Decalindene	07	132.000
Cyclohexamine hydrochloride	07	97.120	trans-Decalindene-1,4-dione	15	1337.000
Cyclohexanone	03	585.700	n-Decane	15	850.500
Cyclohexanone-1,4-dione, dioxime	03	586.000	1-Decanol	15	850.500
Cyclohexane	03	588.000	Decanoyl chloride	15	507.000
1,2-Cyclohexanedicarboxylic acid anhydride	03	588.000	Decanoyl peroxide	15	1291.000
1,3-Cyclohexanedione	03	588.212	Decanoyl acetate	07	132.500
Cyclohexanesulfamic acid, calcium salt (Calcium cyclamate)	07	82.000	Decyl acetate	12	727.000
Cyclohexanesulfamic acid, sodium salt (Sodium cyclamate)	07	82.000	Decyl alcohol, ethoxylated and phosphated	12	727.010
Cyclohexanol	03	590.000	Decyl alcohol, ethoxylated and propoxylated	12	76.210
Cyclohexanone	03	591.000	Decyl alcohol, potassium salt	12	270.001
Cyclohexanone oxime	03	592.000	Decyl alcohol, propoxylated and sulfated, sodium salt	12	736.000
Cyclohexane	03	594.000	n-Decyl mercaptan	12	36.000
3-Cyclohexene-1-carboxaldehyde	03	592.100	Decyl and octyl alcohols, ethoxylated	12	728.000
4-Cyclohexene-1,2-dicarboxylic anhydride	03	594.100	Decyl and octyl phosphate	12	218.000
Cyclohexene oxide	03	594.000	Decyl oleate	12	45.000
6-(1-Cyclohexenyl)ethylamine	03	585.000	Decyl poly(ethyleneoxy)ethyl chloride	15	736.500
Cyclohexamide	07	97.130	Decyl sulfate, sodium sodium salt	15	654.000
Cyclohexyl acetate	03	595.000	Decyl sulfate, sodium sodium salt	06	654.500
Cyclohexyl-2-benzothiazolesulfenamide	09	26.000	Decyl sulfonate	06	655.000
Cyclohexyl butyrate	07	97.140	Decyl sulfonate, sodium sodium salt	06	788.000
2-Cyclohexylcyclohexanone	07	97.200	Decyl sulfonate, sodium sodium salt	06	637.000
3-Cyclohexyl-6-(dimethylamino)-1-methyl-1,3,5-triazine 2,4-(1H,3H)-dione	13	118.019	Dexamethasone	06	519.000
1,4-Cyclohexylenediamine ethanol	15	47.215	Dexamethasone acetate	06	519.000
Cyclohexyl ethyl acetate	07	97.250	Dexamethasone sodium phosphate	06	517.000
Cyclohexyl methyl acetate	07	97.250	Dextran	06	637.000
N-Cyclohexyl-N-phenyl-P-phenylmethanamine	09	58.000	Dextran sulfate	06	637.000
			Dextrothiorphan hydrobromide	06	430.000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Dextrothiokine, sodium	06	614.700	2-4-Dibromo-6-nitro-m-cresyl methyl ether	07	29.750
Diacenaphtho[1,2-b:1',2'-l]fluoranthene (Decacycene)	03	605.600	2,3-Dibromophenol	03	66.800
Diacetoxystyrylaminoethanilide	03	608.200	3,5-Dibromo-3'-trifluoromethylsalicylamide	15	1296.700
Diallyl diacetate	15	968.970	(Fluorophane)	03	663.100
Dialkylidithiocarbamic acid derivative	09	127.950	Dibucaine	06	702.000
Di(CS ₂ -CG alkyl)naphthalenesulfonic acid	12	162.500	Dibucaine hydrochloride	06	703.000
Diallyl isophthalate	08	4.030	P-Dibutylbenzene (DBB)	03	665.100
Diallyl maleate	15	293.500	Di(C-2-butylethoxyethyl) adipate	11	59.200
Di-amine derivatives of dimer acids	15	294.500	Dibutoxyethyl adipate	11	29.200
Diamines and polyamines, all other	12	611.000	Dibutoxyethyl phthalate	11	59.200
1,5-Diaminocyclohexane	03	616.000	2,5-Dibutoxy-4-morpholinobenzenediazonium sulfate salt	11	111.900
1,3-Diaminocyclohexane	03	618.100	(DBB Sulfate)	03	666.100
1,5-Diamino-4,8-dihydroxyanthraquinone	03	626.000	2,5-Dibutoxy-4-morpholinonitrobenzene	03	666.200
2,6-Diaminopyridine	03	634.000	Di-n-butylamine	15	262.000
3,4-Diaminopyridine	03	634.050	2-Dibutylaminoethanol	15	350.000
4,4'-Diamino-2,2'-stilbenedisulfonic acid	03	635.000	Dibutylaminoethanol	15	350.500
2,5-Dianilinoethersulfonic acid	03	640.000	Dibutyl butylphosphonate	15	1022.000
Diamylenediamines, mixed	09	59.000	2,6-Di-tert-butyl-p-cresol (BHT), food grade	15	52.000
Diamylenediamines, other	06	543.000	2,6-Di-tert-butyl-p-cresol (BHT), technical grade	15	52.000
Diatrizoate, sodium	06	564.000	2,5-Di-tert-butyl-dipropylhydroquinone	09	88.400
1,4-Diazabicyclo(2,2,0)octane	15	47.000	Di-tert-butyl dipropoxyphthalate	15	53.200
4-Diazo-2,5-diaxymorpholinobenzene	14	336.000	Di-tert-butyl disulfide	02	92.000
4-Diazo-2,5-dimethoxyphenolmorpholine	03	642.894	Dibutylidithiocarbamic acid, nickel salt	09	128.100
Diazodinitrophenol	15	48.000	Dibutylidithiocarbamic acid, sodium salt	09	128.000
2-Diazo-1-naphthol-5-sulfonic acid, sodium salt	03	642.922	Dibutylidithiocarbamic acid, zinc salt	09	130.000
N-(4-Diazo phenyl) aniline 1/2 sulfate	03	643.500	Dibutyl fumarate	15	267.800
Diazoxide	15	39.000	Dibutyl hydrogen phosphite	15	1015.000
Dibenzylbenzyl peroxyl-2,5-dimethylhexane	03	659.000	Dibutyl malate	15	153.000
Dibenzylazodicarbonylate	09	400.000	Dibutyl malate	15	163.000
Dibenzylidithiocarbamic acid, sodium salt	09	9.000	Dibutylmaphthalenesulfonic acid	12	916.000
Dibenzylidithiocarbamic acid, zinc salt	09	10.000	2,6-Di-tert-butyl-4-nonylphenol	03	667.500
1,3-Dibenzylglycol	03	654.300	Di(sec-butyl)peroxydicarbonate	15	119.000
M,8-Dibenzylhydroxylamine	14	476.000	2,4-Di-tert-butylphenol	03	667.000
m-Dibromobenzene	03	658.000	2,6-Di-sec-butylphenol	03	860.040
p-Dibromobenzene	03	659.000	2,6-Di-tert-butylphenol	03	860.050
1,4-Dibromo-2,2-dichloroethyl dimethyl phosphate	13	217.000	2,6-Di-tert-butyl-4-sec-butylphenol	03	180.000
(1,2-Dibromo-2,4-dicyanobutane	13	195.012	Dibutyl phthalate (including dibutyl phthalate)	11	25.000
(1,2-Dibromoethyl)benzene	03	659.300	Dibutyl pyrophosphate	15	1023.000
Dibromohexadecane	15	1212.995	Dibutyl sebacate	11	112.000
3,5-Dibromo-4-hydroxybenzotriazole (Bromoxymil)	13	118.031	1,3-Dibutyl-3-thiourea	15	351.000
Dibromomethane (methylene bromide)	15	1213.000	Dibutyltin bis(butylmaleate)	15	1401.200
2,6-Dibromo-4-nitroaniline	03	660.100	Dibutyltin bis(isooctylmercaptoacetate)	15	1401.100
			Dibutyltin bis(mercaptotaurate)	15	1402.000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Diisobutyl di-2-methylhexanoate	15	635.000	2,4-dichlorophenoxyacetic acid, esters and salts, all other	13	99.000
Diisobutyl dilaurate	15	677.500	2,4-dichlorophenoxyacetic acid, ethanolamine and isopropanolamine salts	13	92.000
Diisobutyl oxide	15	1404.000	2,4-dichlorophenoxyacetic acid, isooctyl ester	13	95.000
Di-N-(1,2-Dicarboxylethyl)-N-octadecylsulfosuccinamic acid, tetrasodium salt	12	177.000	2,4-dichlorophenoxypropionic acid, isooctyl ester	13	96.000
Diacetohol borate, di-o-tolylguanidine salt	09	577.000	2-(2,4-dichlorophenoxy)propionic acid, isooctyl ester	13	53.000
2,2-dichloroacetyl chloride	13	501.500	2-(2,4-dichlorophenoxy)propionic acid, isooctyl ester (Bluron)	13	165.013
Diethyl croceate	13	200.000	phosphorodithioate	13	165.013
3,9-dichloroaniline	03	670.000	3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea (Linuron)	13	54.000
3,6-dichloro-2-anisic acid (Dicamba)	13	507.000	1,2-dichloropropane (Propylene dichloride)	15	1235.000
o-Dichlorobenzene	03	676.000	1,3-dichloropropane	15	238.000
m-Dichlorobenzene	03	676.000	2,3-dichloropropane	15	1246.000
p-Dichlorobenzene	03	679.000	3,4-dichloropropanamide	15	201.000
2,6-dichlorobenzonitrile	03	682.000	2,5-dichloropropanamide (Propanil) (Dalapon)	13	201.000
2,4-dichlorobenzonitrile	03	683.200	2,5-dichloropropanoic acid, [50:50]	13	706.000
3,4-dichlorobenzotrifluoride	03	683.150	Dichlorotetrafluoroethane	15	1263.000
3,5-dichlorobenzoyl chloride	03	684.050	p,a-dichlorotoluene	03	708.000
Dichlorobenzyl chloride	03	684.100	Dichloro-s-triazine-2,4,6(1H,3H,5H)trione	15	55.000
2,4-Dichlorobenzylidimethyl(mixed alkyl)ammonium chloride	12	519.900	(Dichloroisocyanuric acids and salts)	15	56.000
(3,4-Dichlorobenzyl)decylammonium chloride	12	520.000	4,4'-Dichloro-3-(trifluoromethyl)carbanilide	15	738.000
2,2-Dichloro-6-(o-chloroanilino)-s-triazine	13	3.000	Dichlorophenamide	06	130.000
Dichlorodifluoromethane (F12)	15	1308.000	Dichlorophenylamine	06	131.000
1,3-Dichloro-1,1-difluoroethyl methyl ether	13	4.000	Dichlorophosphorothioic acid	14	132.000
1,3-Dichloro-5,5-dimethylhydantoin (Chloronab)	13	4.000	Dichlorophosphorothioic acid, ammonium salt	14	132.000
Dichlorodimethylsilane	15	54.000	Dicyanamide resins	08	4.050
Dichlorodiphenylsilane	03	690.000	Dicyanamide formaldehyde ammonium chloride polymer	14	477.000
4,4'-Dichlorodiphenyl sulfone	03	690.100	1,1-bicyclohexane	15	56.950
3,3'-Dichloro-4,4'-(2-hydroxy-3-anilido-1-naphthazo) biphényl	03	691.250	Dicyclohexylamine	03	712.100
2,6-Dichloro-3-methylamine	03	694.050	Dicyclohexylamine, nitrate salt	03	712.100
2,6-Dichloro-3-methyl-5-oxo-2-pyrazolin-1-yl	03	694.050	Dicyclohexylamine, nitrate salt	15	27.000
Dichloromethylphenylsilane	03	695.000	Dicyclohexylphthalate	15	27.000
Dichloromethylsilane	03	696.000	Dicyclohexylphthalimide (Ludax Cycloplastadene)	03	714.000
Dichloromethylvinylsilane	15	1383.000	Dicyclopentadienylnitron	15	57.850
2,6-Dichloro-4-nitroaniline	03	697.000	Dicyclopentadienyliron	15	57.850
1,2-Dichloro-4-nitrobenzene	03	698.000	Diacyldimethylammonium chloride	12	483.500
2,4-Dichloro-5-nitrotrifluoromethylbenzene	03	699.900	2,5-bis-(1,1-dimethylpropyl)hydroquinone	09	89.000
2,4-Dichlorophenoxyacetic acid	03	700.000	Diodecylbenzenesulfonic acid	12	136.000
2,4-Dichlorophenoxyacetic acid (2,4-D) (Bluron)	13	82.500	Dianisotrol	06	672.000
2,4-Dichlorophenoxyacetic acid, sec-butyl ester	13	91.000	Diesel fuel additives, cyclic, all other	14	151.000
2,4-Dichlorophenoxyacetic acid, dimethylamine salt	13	91.000	Diesel fuel additives, cyclic, all other	15	380.000
			Diethanolamine citrate	15	622.300
			Diethanolamine condensate, all other	12	555.000

Table 4. --Alphabetical Chemical Index

CHEMICAL NAME	:SECT: NO.:	ITEM NO.	CHEMICAL NAME	:SECT: NO.:	ITEM NO.
Diethanolamine condensates (Amino/acid = 2/1), all other	12	545,000	Diethylene glycol dimethacrylate	15	1103,000
o-6-Diethoxyacetophenone	03	716,200	Diethylene glycol diacetate	12	604,000
P-Diethoxybenzene	03	718,000	Diethylene glycol divinyl ether	15	1153,350
2,5-Diethoxy-4-morpholinobenzene	14	338,000	Diethylene glycol esters, all other	12	615,000
2,5-Diethoxy-4-morpholinobenzene disodium sulfate	14	339,000	Diethylene glycol monoester of tall oil acids	12	605,800
Diethyl acetyl morpholylethyltriethoxysilane	05	1385,000	Diethylene glycol monostearate	12	607,000
Diethylaluminum chloride	15	1326,000	Diethylene glycol monostearate	12	610,000
Diethylaluminum ethoxide	15	1326,200	Diethylene glycol phtalate	11	27,500
Diethylaluminum iodide	15	1335,200	Diethylene glycol sebacate	12	611,000
Diethylamine	15	277,000	Diethylene glycol sesquisebacate	12	614,000
P-(Diethylamino)benzaldehyde	03	721,000	Diethylene glycol succinate	11	125,500
P-Diethylaminobenzene disodium chlorozide (p-Diazo-N,N-diethylamine zinc chloride)	14	340,000	Diethylene glycol terephthalate	12	614,200
2-Diethylaminoethanol	15	287,950	Diethylenetriamine, ethoxylated and propoxylated	15	269,800
2-(2-Diethylamino)ethanol (N,N-Diethylethanolamine)	15	325,000	Diethylenetriamine, propoxylated	12	327,700
2-Diethylaminoethyl acrylate	15	337,000	Diethylenetriamine, triethylphosphate, urea polymer,	12	327,710
Diethylaminoethyl acrylate, dimethyl sulfate, quaternary salt	15	357,100	Diacetate	14	478,000
2-Diethylaminoethyl methacrylate	15	358,000	Diethylaminoethylpentanoic acid	14	33,000
2-(4-Diethylamino-2-hydroxybenzyl)benzoic acid	03	722,503	Diethylaminoethylpentanoic acid, monosodium salt	14	34,000
N-(Diethylamino)phenol (N,N-Diethyl-3-aminophenol)	03	724,000	(Diethylenetriamino)pentanoic acid, pentasodium salt	14	35,000
2,6-Diethylazulene	03	727,000	N,N-Diethyl-3-ethoxyaniline, sodium salt	14	36,000
Diethylbenzene	03	729,200	0,0-Diethyl S-(2-ethylthio)ethyl phosphorodithioate (CSulfuron)	03	730,050
Diethylcarbamazine citrate	06	118,000	0,0-Diethyl 0-(2-ethylthio)ethyl phosphorothioate	13	218,000
N-Diethylcarbamoyl chloride	15	359,000	0,0-Diethyl S-[(ethylthio)ethyl] phosphorodithioate (Phorate)	13	219,000
Diethyl carbonate (ethyl carbonate)	15	922,000	Di(2-ethylhexyl) adipate	13	221,000
0,0-Diethyl 0-(2-diethylamino-6-methyl-4-pyridinyl) N-phosphorothioate	03	730,000	Di(2-ethylhexyl) azelate	11	60,000
Diethyl 2,6-dimethylphenylurea	13	166,034	Di(2-ethylhexyl) chlorendate	11	67,500
Diethylidithiocarbamic acid, cadmium salt and	15	57,400	Di(2-ethyl-1-hexyl) maleate	15	57,500
Diethylidithiocarbamic acid, selenium salt	15	922,000	Di(2-ethyl-1-hexyl) peroxycarbonate	15	989,000
Diethylidithiocarbamic acid, sodium salt	09	132,000	Di(2-ethylhexyl) phosphorodithioic acid	15	989,000
Diethylidithiocarbamic acid, sodium salt	09	135,000	Di(2-ethylhexyl) phosphorodithioic acid	14	233,000
Diethylidithiocarbamic acid, tellurium salt	09	136,000	Di(2-ethylhexyl) phtalate	11	34,000
N,N-Diethylidocarbamide	09	137,000	Diethyl hydrogen phosphite	11	1062,000
N,N-Diethylidocarbamide, zinc salt	09	137,000	Diethyl hydroxylamine	15	360,000
Diethylene glycol adipate	15	235,000	Diethyl isobutylidene malonate	07	132,850
Diethylene glycol bisulfate	15	100,800	Diethyl isophthalate	11	27,900
Diethylene glycol borate	15	100,800	0,0-Diethyl 0-(2-isopropyl-4-methyl-6-pyridinyl) phosphorothioate (Plazimin)	13	155,000
Diethylene glycol chloroformate	15	1102,000	N,N-Diethyl-N-methyl-2-[(1-oxo-2-propenyl)oxy]acetanhydramidum sulfate	15	930,000
Diethylene glycol dibenzoate	11	1,300	Hexamethylenesulfate	15	457,090

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CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
0,0-Diethyl 0-[4-(methylsulfinyl)phenyl]phosphorothioate	13	165, 011	Dihydrodicyclopentadienyl acetate (Cycloacet)	07	97, 400
0,0-Diethyl 0-[p-trophenyl]phosphorothioate (Parathion)	12	156, 000	Dihydrodicyclopentadienyl propionate (Cycloprop)	07	97, 420
Diethyl oxalate (Ethyl oxalate)	15	1027, 000	Dihydro pentaethyl andaneone	03	134, 200
Diethyl phosphorochloridithionate	11	28, 000	Dihydrophenylglycine diane salt	07	761, 400
Diethyl phosphorochloridithionite	06	54, 000	Dihydrophenylglycine sodium methyl dane salt	03	761, 450
Diethyl sebacate	07	133, 000	1,2-Dihydro-3,6-pyridazineone (Maleic hydrazide) (MH)	13	168, 300
Diethyl succinate	07	134, 000	Dihydrosterepomycin	07	97, 430
Diethyl sulfide (Ethyl sulfide)	02	92, 810	Dihydroterpineol	07	97, 435
1,5-Diethyl-2-thio-4,6-pyrimidinedione	15	57, 750	Dihydroterpinyl acetate	07	166, 367
1,3-Diethyl-2-thiourea	13	361, 000	1,2-Dihydro-2,4,7-tetramethylquinoline	03	761, 700
N,N-Diethyltoluamide (DEET)	03	627, 700	1,2-Dihydro-2,4,4-trimethylquinoline	15	58, 000
3,5-Diethyltoluene 2,5-diamine, monohydrochloride	14	342, 000	Dihydroxyaluminum aminoacetate	06	620, 000
N,N-Diethyl- <i>tert</i> -butylamine	03	739, 500	1,4-Dihydroxyanthraquinone	03	768, 200
N,N-Diethyl-p-toluidine	03	739, 500	2,4-Dihydroxyanthraquinone	03	769, 100
0,0-Diethyl 0-3,5,6-trichloro-2-pyridyl phosphorothioate	13	156, 100	2,4-Dihydroxybenzaldehyde	15	1059, 500
3,9-Diethyl-6-tridecyl sulfate, sodium salt	12	242, 000	2,5-Dihydroxybenzoic acid, methyl ester	15	60, 000
Diethylzinc	15	1908, 000	Di(4-hydroxyphenyl)acetammoniumlactate	03	771, 000
Difluoral	06	555, 500	1,5-Dihydroxy-3,5-dimethyl-1,2-peroxy-cyclopentane	15	60, 000
1,1-Difluoroethane	05	1264, 000	1,8-Dihydroxy-4,5-dinitroanthraquinone	03	770, 000
Diglycol	06	378, 300	N,N-di(hydroxyethyl)- <i>n</i> -carboxymethyl talow ammonium quat inner salt	12	10, 330
Di-n-butylacrylate	11	60, 600	N,N-di(β -hydroxyethyl)- <i>m</i> -chloroaniline	12	771, 300
Di-n-butyl fumarate	07	134, 020	N,N-dihydroxyethylglycine dipotassium salt	14	39, 000
Di-n-butyl glycolate	07	134, 070	Dihydroxyethylglycine dipotassium salt	12	10, 310
d-Dihydrocarveol	07	136, 500	Dihydroxyethylglycine dipotassium salt tallowate	12	1277, 000
Dihydrocarvone	07	136, 500	Diiodomethyl-p-tolyl sulphone	15	63, 000
6,11-Dihydrodibenz[<i>b</i> , <i>e</i>]oxepin-11-one	03	744, 200	Diisocanyl ketone	15	816, 300
2,3-Dihydro-2-dimethyl-7-benzofuranol	03	744, 100	Diisobutyl adipate	11	61, 000
2,3-Dihydro-2-dimethyl-7-benzofuranol (dibutylamino) thio methyl carbamate	13	148, 300	Diisobutylaluminum chloride	15	1388, 000
2,3-Dihydro-2-dimethyl-7-benzofuranol methylcarbamate	13	148, 400	Diisobutylaluminum hydride	15	1323, 000
2-(2,3-Dihydro-1,3-dioxo-1H-inden-2-yl)-(quinolinyl)-6-methylbenzothiazole-7-sulfonic acid	03	752, 600	Diisobutylamine	02	94, 000
1,2-Dihydro-6-ethoxy-2,2,4-trimethylquinoline (thoxyquin)	09	68, 000	Di-isobutylene (DI-isobutene)	12	707, 000
Dihydro-150-isazone	07	137, 300	Di-isobutylene	14	256, 000
1,3-Dihydro-4-(or 5)-methyl-2H-benzimidazole-2-thione	09	41, 450	Diisobutyl polyisulfide	14	256, 000
2,3-Dihydro-2-[6-methyl-7-sulfo-2-benzothiazolyl]-2-quinolinyl-1,3-dioxo-1H-indene-5-carboxylic acid	03	756, 500	Diisocetyl adipate	11	62, 000
Dihydrocrysene	15	1137, 500	Diisocetyl phthalate	11	30, 050
Dihydro myrcenol	07	134, 100	Diisononyl phthalate	11	52, 500
			Diiso-octyl adipate	11	23, 100
			Diiso-octyl azelate	11	69, 000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Diisooctyl phthalate	11	35,000	Dimethylamine sulfate	15	289,000
Di-isopropane (2,3-dimethylbutane)	02	64,000	p-(Dimethylamino)benzaldehyde	03	795,250
Diisopropyl adipate	11	63,200	p-Dimethylaminobenzenediazoniium chloride (p-Diazo-N,N-dimethylaniline zinc chloride)	15	346,000
Diisopropylamine	15	286,000	m-(Dimethylamino)benzoic acid	03	796,500
2-Diisopropylaminoethanol (N,N- Diisopropylaminoethanol)	15	408,000	2-(4-(Dimethylamino)benzoyl)benzoic acid	03	796,500
Diisopropylamine	15	362,000	2-Dimethylaminoethanethiohydrochloride	15	366,000
Diisopropylbenzene	03	778,000	Dimethylaminoethyl acrylate (Dimethylaminoamine)	15	367,000
Diisopropylbenzene hydroperoxide	03	778,000	Diethylaminoethylacrylate, methyl chloride, quaternary salt	15	367,900
Diisopropylketone (2,4-dimethyl-3-pentanone)	15	64,000	2-[[2-(Dimethylamino)ethyl] (p-methoxybenzyl)amino]pyridine	03	800,200
Diisopropylnaphthalenesulfonic acid, sodium salt	12	166,000	Dimethylaminoethyl methacrylate	15	368,000
Diisopropyl peroxycarbonate (isopropyl percarbonate)	15	1293,600	Diethylaminoethyl methacrylate, dimethyl sulfate, quaternary salt	15	368,200
N,N-Diisopropyl phosphorodithioic ester of N-(c-marcaptoethyl)benzenesulfonamide (bensulidol)	14	181,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,000
Diisopropyl sebacate	13	58,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Diisopropyltitanate bis(ethyl-3-oxobutanoate)	11	114,100	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Diketene	15	1059,450	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Dilauryl-3,3'-thiodipropionate	15	940,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Dimannylate	06	80,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Dimeracetal C-36 Aliphatic dibasic acid	15	509,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
M-(Dimeracetal)trimethylendiamine	12	419,300	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Dimer acid esters and polyesters	12	407,700	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Dimer acid esters with polyethylene glycol hydrogen phthalate and castor oil	14	273,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
2,5-Dimercapto-1,3,4-thiadiazole	15	66,900	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Dimethandane maleate	09	27,800	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
1,2-Dimethoxyaniline, ethoxylated	06	94,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
p-Dimethoxybenzene (Dimethyl ether of hydroquinone)	03	784,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Dimethoxyethane (ethylene glycol dimethyl ether)	15	155,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Di-(2-methoxyethyl) phthalate	11	31,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
1,1-Dimethoxy octane	07	134,250	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
3-(Dimethoxyphosphinoyl)-N,N-dimethyl-cis-crotonamide	13	222,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
1,2-Dimethoxy-4-propenylbenzene (4-propenylacetole)	07	30,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
4,4-Dimethoxyacetamide	03	794,400	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
N,N-Dimethylacetamide	15	236,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
0-Dimethylacetamide	15	222,500	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
S-Dimethylacetate phosphoradithioate (acephate)	12	393,825	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
N,N-Dimethyl-N-alkylamine phosphate	15	288,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Dimethylamine	15	364,750	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Dimethylamine epichlorohydrin copolymer	14	417,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500
Dimethylamine epichlorohydrin ethylenediamine copolymer	14	417,000	Diethylaminoethyl methacrylate, methyl chloride, quaternary salt	15	369,500

Table 4. --Alphabetical Chemical Index

CHEMICAL NAME	SECT: NO.	ITEM NO.	CHEMICAL NAME	SECT: NO.	ITEM NO.
Dimethyl cyclohexane methanol	07	97, 436	K,K-Dimethyl(mixed alkyl)amine oxide	12	328, 100
K,N-Dimethylcyclohexylamine	03	813, 000	2,5-Dimethyl-4(2)-morpholinylmethylphenol, hydrochloride	03	813, 750
Dimethyl diallyl ammonium chloride polymers	14	418, 000	2,6-Dimethyl-naphthalene	07	819, 750
Dimethyl dicitrate(18)ammonium chloride (mixed straight and branched chains)	12	485, 780	0,0-Dimethyl 0-(p-nitrophenyl)phosphorothioate (Methyl)	13	158, 000
2,5-Dimethyl-2,5-dichloro-1-hexene	15	1295, 000	K,N-Dimethyl-p-nitrosocolline	03	820, 000
2,5-Dimethyl-2,5-dichlorovinyl phosphate (DDVP)	15	1296, 000	K,N-Dimethyl-9-octadecylamine	12	438, 200
Dimethyl didecylammonium chloride	13	223, 000	K,N-Dimethyl-9-octadecylamine	12	438, 000
Dimethyl didecylammonium methyl sulfate	12	485, 000	3,7-Dimethyl-trans-2,6-octadecenal (Citral a & b)	07	134, 850
K,N-Dimethyl-2,8-diphenylamine (Diphenamid)	13	59, 000	3,7-Dimethyl-cis-2,6-octadecanal (Citral a & b)	07	134, 900
K,N'-Dimethyl-N,N'-diphenylurea	15	67, 800	3,7-Dimethyl-trans-2,6-octadecan-1-ol (Geranol)	07	138, 000
Dimethyl dithiocarbamic acid, bismuth salt	09	138, 000	3,7-Dimethyl-1,6-octadecan-9-ol (Linalol)	07	138, 000
Dimethyl dithiocarbamic acid, copper salt	09	140, 000	3,7-Dimethyl-cis-2,6-octadecan-1-ol (Linalyl acetate)	07	136, 000
Dimethyl dithiocarbamic acid, lead salt	09	141, 000	3,7-Dimethyl-cis-2,6-octadecan-1-ol (Linalyl acetate)	07	135, 100
Dimethyl dithiocarbamic acid, potassium salt	09	174, 000	3,7-Dimethyl-1,6-octadecan-3-ol acetate (Linalyl acetate)	07	137, 000
Dimethyl dithiocarbamic acid, selenium salt	09	141, 000	3,7-Dimethyl-1,6-octadecan-3-yl isobutyrate (Linalyl isobutyrate)	07	139, 000
Dimethyl dithiocarbamic acid, sodium salt	09	175, 000	3,7-Dimethyl-2,6-octadecan-1-yl propionate (Linalyl propionate)	07	31, 000
Dimethyl dithiocarbamic acid, sodium salt and sodium polysulfide	09	142, 000	3,7-Dimethyl-2,6-octadecan-3-yl propionate (Linalyl propionate)	07	140, 000
Dimethyl dithiocarbamic acid, zinc salt	09	143, 000	Dimethyl octanal	07	140, 100
K,N-Dimethyldecylamine	12	327, 810	3,7-Dimethyl-3-octanol (Tetrahydrogeraniol)	07	140, 450
K,N-Dimethyldodecylamine	12	327, 810	3,7-Dimethyl-3-octanol (Tetrahydrogeraniol)	07	140, 500
Dimethyl dodecylamine ether sulfates	12	456, 500	Dimethyl octanoyl acetate	07	140, 600
K,N-Dimethyl-1,3,4-thiadiazol-2-yl-N,N'-dimethylurea (debuthuron)	13	212, 015	3,7-Dimethyl-3-octanol (Tetrahydrogeraniol)	07	142, 000
S-[(1,1-Dimethylethylthio)methyl] 0,0-dithiyl phosphorodithioate (Turbufos)	13	212, 015	3,7-Dimethyl-3-octanol (Tetrahydrogeraniol)	07	142, 000
K,N-Dimethylformamide	13	223, 500	Dimethyl octanoyl acetate	07	142, 000
K,N-Dimethylglycine	14	5, 000	3,7-Dimethyl-6-octen-1-ol (Citronellal)	07	142, 000
K,N-Dimethylglycine hydrochloride	14	5, 000	3,7-Dimethyl-6-octen-1-ol (Citronellal)	07	142, 000
2,6-Dimethyl-5-hepten-1-ol	07	135, 500	3,7-Dimethyl-6-octen-1-ol (Citronellal)	07	142, 000
K,N-Dimethylhexadecylamine	12	435, 000	K,N-Dimethyl-oleyl amine oxide	14	479, 000
K,N-Dimethylhexadecylamine oxide	12	435, 000	Dimethyl oleylammonium ethanoate	12	328, 400
Dimethyl hexamedol	07	134, 600	4,4-Dimethyl oxazoline	15	3, 660
2,5-Dimethyl-3-hexyne-2,5-diol	07	134, 600	4,4-Dimethyl oxazoline	15	3, 660
5,5-Dimethylhydantoin	03	816, 000	0,0-Dimethyl S-[(4-oxo-1,2,3-benzotiazin-3(3H))-yl] methyl phosphorodithioate (Azinphos-methyl)	13	159, 000
1,1-Dimethylhydrazine	12	373, 000	o,o-Dimethylphenethyl acetate	07	33, 000
K,N-Dimethyl(hydrogenated tallow alkyl)amine	12	436, 000	o,o-Dimethylphenethyl alcohol	07	33, 000
Dimethyl hydrogen phosphate	14	26, 500	Dimethyl phenylphosphorodithioate	13	225, 000
Dimethyl isophthalate	15	943, 000	0,S-Dimethyl phosphoramidothioate	13	229, 012
Dimethyl methylphosphonate	15	1029, 000	Dimethyl phosphorodithioate	11	1030, 000
0,0-Dimethyl 0-(4-methylthio)-m-tolylphosphorothioate (Fenithion)	13	437, 000	Dimethyl phthalate	15	32, 000
K,N-Dimethyl(mixed alkyl)amine	12	157, 000	1,1-Dimethylpiperidinium chloride	13	168, 350

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
N,N-Dimethyl-1,3-propanediamine polymer with epichlorohydrin, sulfate			2,4-dinitrotoluene	03	844,000
2,5-dimethyl-1,3-propanediol (Neopentyl glycol)	14	160,000	2,4 and 2,6-Dinitrotoluene	03	845,000
N-methylpropionic acid	15	1080,000	3,5-Dinitro-o-toluic acid	03	846,200
N-methyl-2-propenyl)-3,5-dichlorobenzamide (Propanamide)	15	510,000	Dinonylhydroxybenzenesulfonic acid	03	846,700
Dimethyl pseudo ionone	13	118,023	Dinonylphenol	12	743,000
Dimethyl sebacate	07	97,440	Dinonylphenol, ethoxylated	11	76,300
N,N-Dimethyl(iso)heptan oil alkyl)amine	12	439,900	Dinonyl phthalate	11	33,000
Dimethyl succinate	07	162,700	Dinonyl undecyl phthalate	11	373,500
N,N-Dimethyl(tall oil alkyl)amine	02	92,820	N,N-Diosone cromethamine	06	679,300
N,N-Dimethyl(tallow alkyl)amine	12	439,400	N,N-Dioctyl adipate,N,N-diisopropyl thuram disulfide	09	150,200
N,N-DMP-ethyl-2,5-tetrachloroterephthalate (DCEPA)	12	439,500	N,N-Dioctyl adipate,N,N-dimethyl ammonium chloride	11	83,300
N,N-DMP-ethyl-2,5-tetrachloroterephthalate (DCEPA)	13	62,000	Dioctyl maleate	12	487,150
N-(5-1,1-Dimethyl)-1,3-aminobenzosol-2-yl)-N,N-dimethylurea (Tebuthauron)	12	440,000	Dioctyl phthalate	15	36,000
N,N-Dimethyl-o-toluidine	13	119,061	Dioctyl phthalates, all other	11	37,000
N,N-Dimethyl-p-toluidine	03	828,000	Dioleoyl hydrogen phosphite	15	1031,000
N-[2,4-dimethyl-5-(trifluoromethyl)sulfonylamino]phenyl acetamide, 1,1-dithiolamine salt	13	168,375	Diosane (1,4-diethylene oxide)	15	72,000
Dinitrobenzene	13	118,040	1,3-Diethylthiourea (Dioxathion)	13	162,000
Dinitrobenzoyl chloride	03	837,000	Dioleone-2-acetate	15	173,000
Dinitrobenzoyl amine (DNBP)	13	63,000	Di-para-benzoquinone dioxime	07	843,850
Dinitrobutylphenol, triethanolamine salt	13	64,000	Di-para-xylene	15	874,068
4,4-Dinitrocyanamide-4,6-dimethyl-2-pyridinol	12	65,000	Di-K,M'-pentamethylenethuram tetrasulfide	09	425,000
2,6-Dinitro-N,N-dipropyl cumidine	13	118,939	Dipentylamine	15	290,000
2,6-Dinitro-N,N,N-dipropylsulfanilamide	13	118,032	2,4-Di-tart-pentylphenol	03	847,000
2,4-Dinitrophenol, tech.	03	839,300	Dipicryldecamedioic acid	15	1286,200
Dinitrophenol, tech.	03	840,000	Diphenylamine	06	115,001
Dinitrophenoxybenzol	03	840,500	Diphenylamine citrate	06	115,002
3,5-Dinitrosalicylic acid (mixture)	03	840,500	1,5-Diphenoxyanthraquinone	06	95,000
3,5-Dinitrosalicylic acid, methyl ester	03	842,200	Diphenoxylate	03	846,500
P-Dinitrosobenzene	03	842,200	Diphenoxylate	06	620,300
Dinitrosopentamethylenetetramine	09	502,600	2-Diphenylacetate-1,3-indandione and sodium salt	13	171,010
4,4'-Dinitrostilbene-2,2'-disulfonic acid	03	843,000	Diphenylalkane (Mixture)	03	852,500
			Diphenylamine	03	853,000
			Diphenylamine-acetone condensate	09	52,700
			Diphenylamine-styrenated sulfate	09	53,000
			Diphenylamine-styrenated sulfite	14	350,000
			Diphenyl-4,4'-diphenylmethylenedicarbamate	09	70,300
			Diphenylidissulfide	03	852,500
			Diphenylmercuric dodeceny succinate	03	855,250
			Diphenylmethane	13	7,500
			Diphenylmethane-4,4'-diisocyanate	03	856,100
			Diphenyl octyl phosphate (HDI)	03	1020,000
				11	12,000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
N,N'-Diphenyl-p-phenylenediamine	09	62,000	Direct Blue 267	04	570,267
Diphenylamide	03	855,400	Direct Blue 269	04	570,269
Diphenylsulfone	02	858,313	Direct Blue 271	04	570,271
1,3-Di-4-piperidylpropane	02	858,313	Direct Blue 281	04	570,281
1,3-Di-4-piperidylpropane, diethanolamine salt	12	295,910	Direct Blue 283	04	570,283
Dipolyetherdicarboxylic acid, diethanolamine salt	11	4,000	Direct Blue 286	04	570,286
Dipropyl adipate	11	63,350	Direct blue dyes, all other	04	571,000
Dipropylamine	15	300,000	Direct Brown 44	04	571,320
Dipropylene glycol	15	1156,000	Direct Brown 229	04	606,230
Dipropylene glycol monomethyl ether	15	1156,500	Direct Brown 230	04	606,231
Dipropylene glycol salicylate	15	274,000	Direct Brown 232	04	606,232
Dipropylenetriamine	15	148,500	Direct Brown 238	04	606,238
Di-n-propylisocinchonemionate	15	1296,300	Direct brown dyes, all other	04	607,000
Di-n-propyl peroxodisulfonate	14	234,000	Direct Green 1	04	573,000
Di-n-propyl peroxodisulfonate, sodium salt	12	328,435	Direct Green 92	04	586,092
Dipicolaldehyde	04	608,000	Direct green dyes, all other	04	587,000
Dipicolonyldiethylamine	04	612,000	Direct Orange 6	04	461,000
Direct Black 4	04	613,000	Direct Orange 15	04	462,000
Direct Black 19	04	623,000	Direct Orange 26	04	463,000
Direct Black 22	04	623,000	Direct Orange 26	04	464,000
Direct Black 80	04	623,175	Direct Orange 34	04	464,000
Direct Black 165	04	623,175	Direct Orange 39	04	466,000
Direct Black 170	04	623,000	Direct Orange 72	04	470,000
Direct Black dyes, all other	04	534,000	Direct Orange 80	04	475,000
Direct Blue 1	04	535,000	Direct Orange 102	04	479,000
Direct Blue 2	04	537,000	Direct Orange 102	04	479,000
Direct Blue 8	04	538,000	Direct Orange 118	04	479,118
Direct Blue 14	04	538,000	Direct Orange 118	04	480,000
Direct Blue 15	04	539,000	Direct Orange 105	04	483,000
Direct Blue 22	04	540,000	Direct orange dyes, all other	04	483,009
Direct Blue 25	04	540,000	Direct Red 9	04	488,000
Direct Blue 67	04	540,000	Direct Red 9	04	490,000
Direct Blue 75	04	545,000	Direct Red 16	04	491,000
Direct Blue 76	04	547,000	Direct Red 23	04	492,000
Direct Blue 79	04	548,000	Direct Red 24	04	492,000
Direct Blue 80	04	549,079	Direct Red 26	04	492,000
Direct Blue 86	04	550,000	Direct Red 28	04	492,000
Direct Blue 91	04	552,000	Direct Red 39	04	492,000
Direct Blue 98	04	552,000	Direct Red 42	04	492,000
Direct Blue 108	04	553,108	Direct Red 42	04	492,000
Direct Blue 160, 120:1, 120:2, and 120:3	04	553,108	Direct Red 49	04	492,000
Direct Blue 169	04	558,000	Direct Red 80	04	503,000
Direct Blue 189	04	564,000	Direct Red 80	04	504,000
Direct Blue 191	04	565,000	Direct Red 81	04	505,000
Direct Blue 199	04	566,000	Direct Red 83	04	506,000
Direct Blue 218	04	567,000	Direct Red 149	04	517,000
Direct Blue 261	04	568,000	Direct Red 153	04	519,336
	04	569,261	Direct Red 236	04	521,236
	04	569,261	Direct Red 238	04	521,238

Table 4.--Alphabetical Chemical Index

SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
		Direct Red 239	04	521.239	Disperse Blue 73		
		Direct Red 243	04	521.253	Disperse Blue 77		729.000
		Direct Red 254	04	521.254	Disperse Blue 79		730.000
		Direct red dyes, all other	04	522.000	Disperse Blue 81		732.000
		Direct Violet 14	04	525.000	Disperse Blue 86		732.086
		Direct Violet 66	04	526.000	Disperse Blue 95		734.000
		Direct Violet 99	04	531.000	Disperse Blue 102		735.000
		Direct Yellow 4	04	421.000	Disperse Blue 118		739.000
		Direct Yellow 5	04	422.000	Disperse Blue 142		739.122
		Direct Yellow 6	04	423.000	Disperse Blue 165		742.148
		Direct Yellow 11	04	427.000	Disperse Blue 183		743.165
		Direct Yellow 28	04	433.000	Disperse Blue 200		743.200
		Direct Yellow 38	04	439.000	Disperse Blue 281		743.281
		Direct Yellow 50	04	438.000	Disperse Blue 284		743.284
		Direct Yellow 84	04	437.000	Disperse Blue 291		743.291
		Direct Yellow 105	04	445.000	Disperse Blue 337		743.337
		Direct Yellow 106	04	446.000	Disperse Blue 338		743.338
		Direct Yellow 107	04	447.000	Disperse Brown dyes, all other		744.000
		Direct Yellow 118	04	450.000	Disperse Brown 2		746.000
		Direct Yellow 119	04	451.000	Disperse Brown 10		746.000
		Direct Yellow 137	04	453.000	Disperse Brown 18		747.018
		Direct Yellow 138	04	454.132	Disperse Brown 22		747.022
		Direct Yellow 139	04	454.133	Disperse Brown dyes, all other		748.000
		Direct Yellow 147	04	454.147	Disperse Green 9		745.009
		Direct Yellow 148	04	454.148	Disperse Green 9		745.999
		Direct Yellow 150	04	454.150	Disperse Green 5		653.000
		Direct Yellow 152	04	454.152	Disperse Orange 17		654.000
		Direct yellow dyes, all other	04	455.000	Disperse Orange 25 and 25:1		654.000
		Disobenzylidene-1,2-propanediolamine	14	161.000	Disperse Orange 29		656.000
		Disodiumphosphate	13	179.000	Disperse Orange 30		659.000
		Disopyranide phosphate	06	378.500	Disperse Orange 37		660.000
		Disperse Black 1	04	751.000	Disperse Orange 41		661.000
		Disperse Black 3	04	752.000	Disperse Orange 44 and 44:1		662.000
		Disperse Black 33	04	753.000	Disperse Orange 72		667.073
		Disperse Blue 3	04	717.000	Disperse Orange 73		668.079
		Disperse Blue 7	04	718.026	Disperse Orange 88		668.088
		Disperse Blue 27	04	719.000	Disperse Orange 89		668.094
		Disperse Blue 56	04	722.000	Disperse Orange 94		668.129
		Disperse Blue 60	04	725.000	Disperse Orange 129		668.136
		Disperse Blue 62	04	726.000	Disperse Orange 136		668.138
		Disperse Blue 64	04	727.000	Disperse Orange 145		669.145
		Disperse Blue 72	04	728.072	Disperse Orange dyes, all other		669.000
					Disperse Red 1		670.000

Table 4.---Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Disperse Red 5	04	672.000	Disperse Red 345	04	703.345
Disperse Red 9	04	674.000	Disperse red dyes, all other	04	704.000
Disperse Red 13	04	676.000	Disperse Violet 1	04	705.000
Disperse Red 15	04	677.000	Disperse Violet 27	04	709.000
Disperse Red 17	04	678.000	Disperse Violet 28	04	710.000
Disperse Red 22	04	679.022	Disperse Violet 32	04	710.036
Disperse Red 30	04	682.000	Disperse Violet 40	04	710.040
Disperse Red 35	04	683.000	Disperse Violet 60	04	713.060
Disperse Red 55	04	684.000	Disperse Violet 64	04	713.064
Disperse Red 60	04	686.000	Disperse Violet 91	04	713.091
Disperse Red 65	04	687.000	Disperse violet dyes, all other	04	714.000
Disperse Red 73	04	688.000	Disperse Yellow 3	04	648.000
Disperse Red 82	04	689.000	Disperse Yellow 23	04	651.000
Disperse Red 86	04	690.000	Disperse Yellow 34	04	651.000
Disperse Red 88	04	691.000	Disperse Yellow 38	04	651.000
Disperse Red 90	04	691.000	Disperse Yellow 44	04	656.000
Disperse Red 91	04	692.000	Disperse Yellow 54	04	658.000
Disperse Red 117	04	692.091	Disperse Yellow 58	04	659.000
Disperse Red 128	04	694.000	Disperse Yellow 64	04	659.064
Disperse Red 133	04	694.128	Disperse Yellow 67	04	640.000
Disperse Red 135	04	695.000	Disperse Yellow 77	04	642.000
Disperse Red 136	04	695.135	Disperse Yellow 86	04	644.000
Disperse Red 137	04	696.000	Disperse Yellow 88	04	646.000
Disperse Red 153	04	699.153	Disperse Yellow 99	04	650.000
Disperse Red 159	04	700.159	Disperse Yellow 106	04	650.106
Disperse Red 177	04	700.157	Disperse Yellow 126	04	651.000
Disperse Red 177 and 167.1	04	701.000	Disperse Yellow 126	04	651.126
Disperse Red 179	04	702.000	Disperse Yellow 198	04	651.198
Disperse Red 195	04	703.195	Disperse Yellow 200	04	651.200
Disperse Red 207	04	703.207	Disperse Yellow 210	04	651.210
Disperse Red 263	04	703.263	Disperse Yellow 219	04	651.219
Disperse Red 273	04	703.273	Disperse yellow dyes, all other	04	652.000
Disperse Red 274	04	703.274	Disperse yellow dyes, all other	04	652.000
Disperse Red 276	04	703.276	Distannane, hexakis(2-methyl-2-phenylpropyl)	15	949.000
Disperse Red 307	04	703.307	Dithiobis[2-methyl-2-phenylpropane]	12	385.500
Disperse Red 309	04	703.309	Dithiobis[2-methyl-2-phenylpropane]	12	487.500
Disperse Red 311	04	703.311	Di-tertiary monylsulfide	14	257.000
Disperse Red 313	04	703.313	2',2''-Dithiobis(benzamide)	09	29.000
Disperse Red 316	04	703.316	2',2''-Dithiobis(benzothiazole)	09	29.000
Disperse Red 319	04	703.319	Dithiobis(stearyl propionate)	15	950.000
Disperse Red 325	04	703.325	2,5-Dichloro-1,4-dioxane	15	376.000
Disperse Red 333	04	703.333	Dithiocarbamic acid derivatives, acyclic, other	09	144.000
Disperse Red 335	04	703.335	4,4'-Dithiodimorpholine	15	376.000
Disperse Red 340	04	703.340	Dithiodipropionic acid	12	513.000
Disperse Red 341	04	703.341	Dithiodipropionic acid	12	63.400
Disperse Red 341	04	703.341	Ditridecyl maleate	11	951.000
Disperse Red 341	04	703.341	Di-tridecyl phthalate	11	39.000

Table 4. -- Alphabetical Chemical Index

CHEMICAL NAME	SECT: NO.	ITEM NO.	CHEMICAL NAME	SECT: NO.	ITEM NO.
Di(tidecyl)-3,3'-thiodipropionate	15	952.000	K-Dodecyl-3-iminopropionic acid, monosodium salt	12	10.550
1,5-dihydrodianaphthalene	03	855.800	N-Dodecyl mercaptan, ethoxylated	12	759.000
Divinylbenzene	03	866.000	Dodecylmethylbenzyl chloride	09	171.000
Docosanyl docosanoate	15	969.050	4-(Dodecylthio)-2-hydroxybenzophenone	03	871.000
N-Docosyl and eicosyltrimethylenediamine	12	408.300	Dodecylxyloxy(ethyleneoxy)acetic acid, sodium salt	12	40.000
Docosate, calcium	06	591.700	Dodecylpentadecyl methacrylate	15	952.700
Docosate, potassium	06	591.740	P-Dodecylphenol	03	873.000
n-Dodecane	06	591.740	Dodecylphenol, ethoxylated	12	744.000
Dodecanedioic acid	15	138.000	Dodecylphenol, ethylenediamine, and phosphated	12	744.000
Dodecane nitrile	07	143.930	Dodecylphenol, ethylenediamine, formaldehyde polymer,	12	79.000
Dodecene	02	78.000	Dodecylphenyl- α -naphthylamine	14	227.000
Dodecyl-acetic succinimide	14	247.000	Dodecylphenyl- α -naphthylamine, dioctyl diphenylamine co-	14	277.000
Dodecyl succinic acid, benzotriazole salt	14	276.000	polymer	14	278.000
Dodecylsuccinic anhydride	15	515.000	1-Dodecylpyridinium chloride	15	74.460
Dodecylsuccinic 1,2-hydroxystearate	15	969.070	Dodecyl succinic lactate	12	526.000
Dodecyl alcohol, ethoxylated alcohol	15	872.000	Dodecyl succinate, ammonium salt	15	952.800
Dodecyl alcohol, ethoxylated and phosphated	12	759.000	Dodecyl sulfate, diethanolamine salt	12	221.000
Dodecyl alcohol, ethoxylated and sulfated, ammonium salt	12	270.000	Dodecyl sulfate, diethanolamine salt	12	223.000
Dodecyl alcohol, ethoxylated and sulfated, sodium salt	12	271.000	Dodecyl sulfate, N,N-diethylcyclohexylamine salt	12	224.000
Dodecylamine	12	420.000	Dodecyl sulfate, isopropylamine salt	12	225.000
Dodecylamine, other	12	866.200	Dodecyl sulfate, potassium salt	12	227.000
Dodecylbenzene	03	870.000	Dodecyl sulfate, sodium salt	12	228.000
Dodecylbenzene, straight-chain	03	869.000	Dodecyl sulfate, triethanolamine salt	12	199.100
Dodecylbenzenesulfonates, all other	12	128.000	Dodecyl sulfate, sodium salt	12	199.000
Dodecylbenzenesulfonic acid	12	114.000	Dodecyl sulfacetate	12	274.000
Dodecylbenzenesulfonic acid, (mixed alky)lamine salt	12	122.000	Dodecyl sulfacetate, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, ammonium salt	12	117.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, calcium salt	12	117.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, diethanolamine salt	12	118.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, isopropanolamine salt	12	120.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, isopropanolamine salt	12	121.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, isopropylamine salt	12	121.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, monoethanolamine salt	12	121.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, monoethanolamine salt	12	122.500	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, oleyl amine, ethoxylated, salt	12	122.700	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, potassium salt	12	125.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, sodium salt	12	125.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylbenzenesulfonic acid, triethanolamine salt	12	127.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylphenylloxaldisulfonic acid	12	205.990	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylphenylloxaldisulfonic acid, disodium salt	12	206.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
Dodecylpyridinium chloride	13	188.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
N-Dodecyl-3-iminodipropionic acid	13	195.011	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
N-Dodecyl-3-iminodipropionic acid, disodium salt	12	10.500	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
N-Dodecyl-3-iminodipropionic acid, disodium salt	12	11.000	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
K-Dodecyl-3-iminodipropionic acid, monosodium salt	12	11.020	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000
M-Dodecyl-3-iminodipropionic acid, monosodium salt	12	11.020	Dodecyl sulfacetate, tetradecyl alcohol, ethoxylated and	12	274.000

Table A.—Alphabetical Chemical Index

CHEMICAL NAME	ITEM NO.	SECT. NO.	CHEMICAL NAME	ITEM NO.	SECT. NO.
Drug and Cosmetic Red 17	04	607,000	Ethanolamine condensates, all other	12	568,000
Drug and Cosmetic Red 21	04	808,000	Ethanolamine condensates, amine/acid ratio = 1/1, all other	12	566,000
Drug and Cosmetic Red 22	04	809,000	Ethanolamine-N,N-dimethylene phosphonic acid	12	111,850
Drug and Cosmetic Red 27	04	810,000	Ethanolaldiglycine, disodium salt	14	43,000
Drug and Cosmetic Red 28	04	811,000	2-Ethanolpiperidine	03	873,500
Drug and Cosmetic Red 30	04	812,000	5-Ethanoxy-3-trichloromethyl-1,2,4-thiadiazole	03	873,700
Drug and Cosmetic Red 33	04	813,000	Ethchlorvynol	06	468,000
Drug and Cosmetic Red 34	04	815,000	2,2-(1,2-Ethenediyldibis[[4-chloro-5-(phenylamino)-1,3,4-thiazin-2-yl]amino]nonsulfonic acid, disodium salt	03	896,370
Drug and Cosmetic Red 35	04	816,000	Ethers and thioethers, all other	12	775,000
Drug and Cosmetic Yellow 6	04	820,000	Ethisterone	03	873,800
Drug and Cosmetic Yellow 8	04	821,000	Ethoxalate	06	172,000
Drug and Cosmetic Yellow 10	04	822,008	Ethoxamide	06	490,000
Drug and Cosmetic Yellow 11	04	823,000	Ethoxycarbonyl-5(4-methylimidazolyl)-2-ethoxy-2-allyl-1-ethylene glycol monoethyl ether	07	831,000
Drug and Cosmetic Yellow 12	04	824,000	2-(2-Ethoxyethoxy)ethanol (Diethylene glycol monoethyl ether)	15	76,500
Eicosane	02	79,000	2-12-(2-Ethoxyethoxy)ethoxyethanol (Triethylene glycol monoethyl ether)	15	1159,000
Enalapril maleate	06	360,100	2-12-(2-Ethoxyethoxy)ethoxyethanol (Triethylene glycol monoethyl ether)	15	1161,000
Enflurane	06	436,500	2-(2-Ethoxyethoxy)ethyl acetate	15	1105,000
Epichlorohydrin	12	74,500	2-Ethoxyethyl acetate	15	358,000
Epichlorohydrin bisphenol A-ethoxylated	12	744,500	Ethoxylated acetic acid, sodium salt	12	616,000
Epoxide ethers, acetals, all other	10	1,000	Ethoxylated anhydrosorbitol mono-salt	12	617,000
Epoxidized esters, all other	11	80,000	Ethoxylated anhydrosorbitol monopalmitate	12	618,000
Epoxidized linseed oils	11	75,400	Ethoxylated anhydrosorbitol monooleate	12	619,000
Epoxidized pentaerythritol tetraphthalate	11	75,800	Ethoxylated anhydrosorbitol monooleate of tall oil acids	12	621,000
Epoxidized soya oils	11	76,000	Ethoxylated anhydrosorbitol trisoleate	12	622,000
Epoxy resins unmodified	08	6,000	Ethoxylated anhydrosorbitol trisoleate with oil	12	707,820
Ergocalciferol (vitamin D ₂)	06	813,000	Fatty acithoxylated diethylene glycol stearate	12	623,000
Erythronol	06	46,000	Ethoxylated glycerol mono- and diesters of hydrogenated tallow acids	12	707,900
[Erythyl alkyl]amine	12	238,000	Ethoxylated glycerol and propylene glycol esters of coco fatty acids	12	708,800
Erythromycin	06	46,000	Ethoxylated hydantoin glycol dicocotate	12	709,780
Erythromycin estolate	06	46,500	Ethoxylated hydrogenated tallow amine, methyl ammonium chloride	14	162,000
Erythromycin stearate	06	46,700	Ethoxylated methylglucoside	12	458,100
Esters of sulfated oleic acid, all other	12	263,000	Ethoxylated 1,2-propanediol mono-stearate	12	711,000
Ester tin mercaptosates	15	1404,500			
Estradiol cyclopentane	06	679,000			
Esterogens, all other	06	579,000			
Esterogens, esterified	06	676,000			
Estrone	06	679,001			
Ethacrynic acid	06	739,001			
Ethanaminium, 2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methyl-, salt with sillicic acid	12	456,700			
Ethane	02	39,000			
1,2-Ethanedithiulfonic acid	15	518,500			
1,2-Ethanedithiol	15	1325,000			

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Ethoxylated and propoxylated glycerol mono- and diesters of tallow acids	12	708.700	2-(N-Ethylamino)propionitrile	03	886.000
Ethoxylated, quaternized(C12-18 alkyl) oxypropyl trimethylene diamine	12	458.200	2-(N-Ethylamino)propane-1-sulfonic acid	07	897.000
Ethoxylated and quaternized hydrogenated tallow alkyl amine	12	336.010	2-Ethylanthraquinone	03	891.000
Ethoxylated, quaternized reaction product of ethylenediamine and bis(2-ethylhexyl)amine	12	459.250	5-Ethyl-1-aza-3,7-dioxabicyclo[3.3.0]octane	15	76.900
Ethoxylated sorbitol hexaester, all other	12	657.000	Ethylbenzene	03	892.000
Ethoxylated sorbitol hexaester of tall oil acids	12	627.000	Ethyl benzoate	07	35.900
Ethoxylated sorbitol hexaoleate	12	628.000	Ethyl benzoyl chloride	03	894.000
Ethoxylated sorbitol lanolin ester	12	629.000	Ethylbenzyl dimethyl(mixed alkyl)ammonium chloride	07	527.000
Ethoxylated sorbitol mono-oleate	12	630.000	N-Ethyl-N,N'-bis(propoxyethylene)tallow ammonium ethyl ether	12	458.850
Ethoxylated sorbitol tetraoleate	12	631.500	Ethyl butyrate	07	144.300
Ethoxylated sorbitol tetrasaureate	12	632.000	Ethyl caprylate	07	144.300
Ethoxylated sorbitol tetrasaureate of lauric and oleic acids	12	632.000	Ethyl cellulose	08	21.030
Ethoxylated sorbitol tetraester of tall oil acids	12	635.000	Ethyl chloride (Chloroethane)	15	1223.000
Ethoxylated sorbitol tetraoleate	12	636.400	Ethyl chloroformate	15	958.000
Ethoxylated sorbitol tetrasaureate	12	636.500	Ethyl chloroformate	15	959.600
Ethoxylated tallow amine, potassium propionate derivative	12	465.958	Ethyl chrysanthemate	15	77.150
1-Ethoxy-3-methylbenzene	03	877.700	Ethyl crotonate	07	38.000
2-Ethoxy-3-methyl-N-phenylaniline	03	877.900	Ethyl cyanacetate	15	387.000
2-Ethoxy-1-naphthol	07	35.000	Ethyl cyanacetate	15	387.000
2-Ethoxy-1-naphthoic chloride	03	879.000	2-(N-Ethyl-N, β -cyanoethyl)-4-acetaminonitrosol	13	895.100
3-Ethoxypropionitrile	15	440.000	5-Ethyl cyclohexylethylthiocarbamate	03	69.100
Ethyl acetate (100% basis)	15	954.001	Ethyl 4,4'-dichlorobenzilate (Chlorobenzilate)	13	135.700
Ethyl acrylate	15	956.000	N-Ethyl-N-(2,3-dihydroxypropyl)-m-toluidine	03	896.150
Ethyl acrylate	08	19.962	8-Ethyl diisobutylthiocarbamate (Butylate)	13	209.500
Ethyl alcohol, synthetic only	15	1360.000	Ethyldimethyl(mixed alkyl)ammonium ethyl sulfate	12	499.000
Ethylaluminum dichloride	15	1361.000	5-Ethyl 5'-dipropyl phosphorodithiolate	13	243.010
Ethylaluminum sesquichloride	15	1361.000	Ethylene-3-propylthiocarbamate (EPIC)	03	246.000
Ethylamine, mono	15	278.000	Ethylene-acrylic acid resins (EAA)	03	266.000
3-(Ethylamino)acetanilide (Ethylmonoethanolamine)	03	880.200	Ethylene bis(dithiocarbamic acid)disodium salt (Naban)	08	31.900
2-(Ethylamino)-4-(isopropylamino)-6-(nethylthio)-8-octylamin (Ametryne)	13	69.000	Ethylene bis(dithiocarbamic acid),manganese salt (Manab)	13	183.000
N-Ethylaniline, refined	03	882.500	Ethylene bis(dithiocarbamic acid), manganese salt with zinc ions	13	184.500
2-(N-Ethylamino)ethanol	03	884.000	Ethylene 5-nitriodimethylene phosphonic acid, potassium salt	13	45.000
			N,N'-Ethylenebis-oleamide (Oleic acid-ethylene diamine condensate (Amine/acid ratio = 1/2))	14	240.000
			Ethylene carbonate	15	241.000
			Ethylendiamine, alkoxyated	15	261.000
			Ethylendiamine, alkoxyated	15	280.000
			Ethylendiamine dihydriodide	12	328.450
				06	583.000

Table 4.-Alphabetical Chemical Index

CHEMICAL NAME		SECT. NO.	ITEM NO.	CHEMICAL NAME		SECT. NO.	ITEM NO.
	Ethylenediamine dihydrochloride	15	387,990		Ethyl heptanoate	07	145,000
	Ethylene dibromide	14	182,000		Ethylhexadecylmethylethylammonium bromide	12	493,000
	Ethylene dichloride	15	1233,000		Ethylhexylamine hydrochloride	12	461,000
	(Ethylenedinitrilo)tetraacetic acid	14	47,000		5-Ethyl-hexamyl-1H-azepine-carbothioate (Mollinate)	13	70,000
	(Ethylenedinitrilo)tetraacetic acid, calcium disodium salt	14	49,000		2-Ethylhexanal (α-ethylcaproaldehyde)	15	789,000
	(Ethylenedinitrilo)tetraacetic acid, diammonium salt	14	50,000		2-Ethyl-1,3-hexanediol	15	1082,000
	(Ethylenedinitrilo)tetraacetic acid, disodium copper salt, dihydrate	14	54,000		Ethyl hexanoate	07	146,000
	(Ethylenedinitrilo)tetraacetic acid, disodium zinc salt, dihydrate	14	53,000		2-Ethylhexanoic acid (α-Ethylcaproic acid)	15	519,000
	(Ethylenedinitrilo)tetraacetic acid, manganese salt	14	56,000		2-Ethylhexanoic acid, potassium salt	12	697,300
	(Ethylenedinitrilo)tetraacetic acid, monosodium iron salt	14	58,000		2-Ethyl-1-hexanoic acid salts, all other	15	834,000
	(Ethylenedinitrilo)tetraacetic acid, tetraammonium salt	14	60,000		2-Ethylhexanoic acid ethoxylated nonylphenol	12	80,090
	(Ethylenedinitrilo)tetraacetic acid, tetrapotassium salt	14	61,000		2-Ethylhexanol and ethoxylated nonylphenol	12	80,100
	(Ethylenedinitrilo)tetraacetic acid, tetrasodium salt	14	62,000		2-Ethylhexanol, ethoxylated and phosphated	12	80,050
	(Ethylenedinitrilo)tetraacetic acid, trisodium salt	14	63,000		2-Ethyl hexanol, phosphated, potassium salt	12	80,210
	1,1-Ethylenediurea	15	1081,000		2-Ethyl-1-hexyl acetate	15	963,000
	Ethylene glycol adipate	11	63,450		2-Ethylhexylacrylate-methyl methacrylate copolymer resins	08	19,970
	Ethylene glycol diacetate	15	106,000		(2-Ethylhexyl)amine, mono-	15	281,000
	Ethylene glycol dimethacrylate	15	1107,000		(2-Ethylhexyl)amine, mono-	15	281,000
	Ethylene glycol dimethacrylate	15	1108,000		M-(2-Ethylhexyl)bicyclo(2.2.1)-5-heptene 2,3-dicarboximide	13	173,000
	Ethylene glycol diacetate	12	638,000		2-Ethylhexyl chloroformate	15	953,600
	Ethylene glycol diester, all other	15	1161,700		2-Ethylhexyl p-dimethylaminobenzoate	15	953,600
	Ethylene glycol dihydroxyacetate	12	142,000		2-Ethylhexyl epoxystallates	15	77,000
	Ethylene glycol monoisobutyl ether	15	1162,000		2-Ethylhexyl hydrogen phosphate	15	1317,500
	Ethylene glycol monoacetate	12	639,000		2-Ethyl-1-hexyl methacrylate	15	1032,000
	Ethylene glycol phosphate	12	640,000		2-Ethyl-1-hexyl oleate	15	964,000
	Ethylene oxide	15	1109,700		2-Ethylhexyl oleate	11	90,600
	Ethylene-propylene (EP) type copolymer Resins	10	10,000		2-Ethylhexyl palmitate	11	96,900
	Ethyl-α,β-epoxy-p-methylhydrocinchonamate	08	31,700		2-Ethylhexyl phosphate, potassium salt	12	96,800
	Ethyl ether, U.S.P.	07	37,000		2-Ethylhexyl phosphate, sodium salt	12	96,900
	Ethyl ethers of tetra and higher ethylene glycols (high boiling)	15	1315,000		2-Ethylhexyl polyphosphate, sodium salt	12	99,000
	Ethyl ether, tech.	15	1319,000		2-Ethylhexyl stearate	07	37,400
	Ethyl formate	15	1161,400		2-Ethylhexyl stearate	11	119,000
	Ethyl glycol monochloroacetate	15	134,000		M-(Ethylenhexyl)trimethylethylenediamine	12	408,500
	1-Ethyl-2-(8-heptadecenyl)-1-(2-hydroxyethyl)-2-imidazolium ethyl sulfate	11	107,500		P-(Ethylenhexyl)triimino benzene diazotium chloride	12	382,000
		12	460,000		5-(N-Ethyl-N-hydroxyethylamino)-2-pentanone	14	321,000

Table A.--Alphabetical Chemical Index

CHEMICAL NAME		SECT. NO.	ITEM NO.	CHEMICAL NAME		SECT. NO.	ITEM NO.
(N-Ethyl-N-(2-hydroxyethyl)-3-methyldehydrogen sulfate)				2-(Ethylthio)-4,6-bis(isopropylamino)s-triazine	13	118-016	
p-Phenylenediamine		14	353,000	Ethylthioethanol	02	11	
N-Ethyl-N-hydroxyethyl-1,4-pentanediamine		15	392,100	N-Ethyl-3-toluidine sulfonamide	11	5,000	
N-Ethyl-N-hydroxyethyl-p-phenylenediamine sulfate		14	354,000	N-Ethyl-3-toluidine	03	968,000	
Ethyl hydroxymethyl oleyl oxazoline		15	79,700	3-(N-Ethyl-m-toluidinopropionitrile	07	150,250	
2-Ethyl-2-(hydroxymethyl)-1,3-propanediol		15	1083,000	Ethyl trimethyl cyclopentyl buterol	13	231,016	
(Trimethylolpropane)		15	1110,000	Ethyl valerate	07	150,300	
2-(2-Hydroxypropyl)-1,3-propanediol trimethacrylate		15	80,000	Ethyl vinyl ether	15	1316,000	
2-Ethyl-N-(6-methoxyethyl)-1-(2-hydroxyethyl)-2-imidazolium ethyl sulfate		12	460,000	Ethyl xanthogen disulfide	13	203,000	
1-Ethyl-2-isobutadecyl-1-(2-hydroxyethyl)-2-imidazolium ethyl sulfate		07	146,500	Etidronate, disodium	06	837,001	
Ethyl isovalerate		07	147,000	Extensol, polystyrene beads	08	44,010	
Ethyl laurate		07	147,500	External Drug and Cosmetic Vehicle 7	04	827,000	
N-Ethylmaleimide		03	896,600	External Drug and Cosmetic Vehicle 7	04	827,000	
Ethyl mercaptan (Ethaneethiol)		02	93,000	Fats and oils, chemically modified, all other	12	537,900	
2-(Ethylmercapto)ethanol		15	1327,000	Fatty acid alkanolamide	15	1434,000	
2-(Ethylmercapto)ethane sulfonamide(ethyl)toluene-2,5-		14	355,000	Fatty acid amide mixtures	15	1434,000	
1-Ethyl-3-methylxanthin		03	897,030	Fatty acid esters, not included with plasticizers	15	981,000	
N-Ethyl-2-methylalanine		03	897,000	Surface-active agents, all other	15	280,000	
6-Ethyl-2-methylalanine		03	897,000	Fatty acid polyamine condensate	14	1434,300	
Ethyl-2-methyl butyrate		07	147,700	Fatty acid residues	15	521,000	
1-Ethyl-2-methylindole		03	897,050	Fatty acids, hydrogenated	05	522,000	
Ethyl-2 methyl pentanoate		07	147,760	Fatty acids, hydrogenated	05	522,000	
N-(3-(1-Ethyl-1-methylpropyl)-5-isoxazolyl)-2,6-dimethoxybenzamide (Flexider)		13	118,062	Fenoprofen	15	754,000	
0-Ethoxybenzamide (Flexider)		13	165,012	Ferrocene polymer with 2-propanone, in chlorinated wax	15	81,600	
Phosphorodithiophenyl S-propyl		13	165,012	Fish oil fatty acid amide	15	243,000	
7-Ethyl-2-methyl-4-undecyl sulfate, sodium salt		12	24,000	Flavonate hydrochloride	06	745,500	
2-Ethylhexanol, phosphated, potassium salt		12	24,000	Fluocanide acetate	06	378,001	
4-Ethylmorpholine		15	81,000	Flotation agents, all other	14	147,000	
Ethyl myristate		07	148,000	Fluoracetone (CFC, FM, FFKM), type	06	656,000	
9-Ethyl-3-nitrocarbazole		03	899,000	Fluorescent Brightener 290	10	81,000	
0-Ethyl 0-(p-nitrophenyl)phenylphosphonothioate (EPN)		13	163,000	Fluorescent Brightener 22	04	758,000	
2-Ethyl-2-nitro-1,3-propanediol		15	392,250	Fluorescent Brightener 24	04	758,000	
Ethyl octanoate		07	149,000	Fluorescent Brightener 28	04	761,000	
Ethyl phenylacetate		07	150,000	Fluorescent Brightener 46	04	765,000	
Ethyl phenylacetate		03	907,800	Fluorescent Brightener 49	04	766,000	
N-Ethyl-N-phenylbenzylamine		13	163,200	Fluorescent Brightener 52	04	767,000	
0-Ethyl-S-phenylsilylphosphonodithioate		13	163,200	Fluorescent Brightener 61	04	771,000	
Ethyl (polyoxyethylene, cococaine) ethylsulfate		12	458,830	Fluorescent Brightener 102	04	778,000	
Ethyl propionate		07	150,200	Fluorescent Brightener 128	04	778,000	
N-(1-Ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzamine		13	118,030	Fluorescent Brightener 134	04	780,000	
Ethyl salicylate		07	39,000	Fluorescent Brightener 191	04	780,191	
Ethyl salicylate (non alkyl)morpholinium ethyl sulfate		12	463,000	Fluorescent Brightener 200	04	780,200	
Ethyl sulfate (non alkyl)morpholinium ethyl sulfate		15	966,000	Fluorescent brighteners, all other	04	781,000	
N-Ethyl-N-(3'-sulfobenzyl)aniline		03	908,103				

Table 4.—Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
1,4,5,6,7-Hexachloro-5-norbornene-2,3-dicarboxylic anhydride (Chlorendic anhydride)	03	925-100	Hexylalcohol, ethoxylated and phosphated	12	80-500
Hexadecane	15	1342-000	Hexylalcohol, phosphated, k salt solubilized	12	80-550
Hexadecanetriole a	15	141-750	n-Hexylamine	15	284-000
1-Hexadecanethiol	15	141-750	Hexyl carboxate	07	195-710
Hexadecanone	15	873-000	Hexyl carbonyl amide	15	57-560
Hexadecanolide (Cetyl alcohol)	07	97-550	Hexyl carbonyl amide carboxylic acid mono-	15	1238-100
Hexadecyl acetate	15	529-000	Hexyl chloride	15	1238-100
Hexadecyl succinic anhydride	12	730-000	α -Hexylcinnamaldehyde	07	41-000
Hexadecyl alcohol, ethoxylated	12	421-000	2-Hexyl-2-cyclopenten-1-one	07	97-600
Hexadecylamine	09	171-100	2-Hexyl-1-decanol	15	875-000
tert-Hexadecyl mercaptan	09	171-100	n-Hexyl n-decyl adipate	11	63-600
N-Hexadecylmorpholine	12	347-000	Hexyl n-decyl phthalate	11	94-000
Hexadecyl stearate	11	121-310	1-Hexyl-1,2-dichlorododecane	15	1368-500
Hexadecyl sulfate, sodium salt	12	495-000	Hexylisononyl amide carboxylic acid, triethanol-	15	1368-500
Hexadecyl sulfonate, sodium salt	12	495-000	Hexyl mercaptan	09	171-150
Hexamethoxypropylene monomer	15	1267-000	N-Hexyl methylbutyrate	09	171-150
Hexamethylolurea	07	97-570	Hexyl nitrate	07	155-715
3-(Hexahydro-4,7-methanoindan-5-yl)-1,1-dimethylurea (Norea)	13	72-000	2-(2-(Hexyloxy)ethoxy)ethanol	15	1164-000
Hexahydro-1,3,5-triethyl-s-triazine	13	40-012	Hexyloxypropyl amine	15	1164-000
Hexahydro-1,3,5-tri(2-hydroxyethyl)-s-triazine	13	40-022	Hexyl phosphate	12	328-600
Hexamethyldisilazane	15	1387-500	Hexyl polyphosphate, potassium salt	12	99-900
Hexamethylenediamine adipate (Nylon salt)	15	397-000	Hexyl sulfate	07	40-900
Hexamethylenediamine diisobutyrate (Nylon salt)	15	397-000	Hexyl sulfite, potassium salt	07	40-900
Hexamethylenediamine monomer	15	397-000	Hexyl sulfonate	12	231-000
Potassium salt	14	68-000	Homomethyl salicylate	15	89-000
Hexamethylenediamine	03	927-870	Hydroalazine hydrochloride	06	357-000
Hexamethylenetetramine, tech.	02	65-000	Hydratropaldehyde	07	42-000
Hexane	15	88-000	Hydroalazine hydrochloride	06	357-000
1,6-Hexanediamine (Hexamethylenediamine)	15	283-000	Hydratropaldehyde dimethyl acetal	07	43-000
1,6-Hexanediol	15	1095-000	1,2-Hydrazinedicarboxylic acid, bis(1-methylethyl) ester	09	165-000
1,6-Hexanediol diacrylate	15	117-000	Hydrandatin	14	205-000
Hexanoic acid (Caproic acid)	15	530-000	Hydrocarbon carboxylic acid derivatives (specify)	15	205-000
Hexanoic acid, potassium salt	15	530-000	Hydrocarbon carboxylic acid derivatives (specify)	15	205-000
2-Hexenal	07	155-300	Hydrocarbon carboxylic acid derivatives (specify)	15	205-000
Hexenes, mixed	02	67-020	Hydrocarbon phosphoric acid, barium salt	14	206-000
2-Hexenol	07	155-400	Hydrocarbon phosphoryl derivatives	14	207-000
cis-3-Hexen-1-yl acetate	07	155-650	Hydrocarbons, C ₆ and other	15	1349-000
cis-3-Hexenyl benzoate	07	155-652	Hydrocarbons, C ₆ , all other	02	52-000
cis-3-Hexenyl butyrate	07	155-652	Hydrocarbons, C ₆ , all other	02	59-000
cis-3-Hexenyl methyl carbonate	07	155-654	Hydrocarbons, C ₆ , all other	02	59-000
cis-3-Hexenyl sebacate	07	155-656	Hydrocarbons, C ₆ , all other	02	59-000
cis-3-Hexenyl sulfate	07	155-656	Hydrocarbons, C ₆ , all other	02	59-000
Hexoxyacetaldehyde dimethyl acetal	07	155-700	Hydrocarbons, C ₆ and above, all other, including mixtures	02	77-000
Hexyl acetate	15	984-000	Hydrocarbons, C ₆ fraction	02	89-000
Hexyl acrylate	15	985-000	Hydrocarbons, C ₆ -C ₇ mixtures	02	51-200
n-Hexyl alcohol	15	857-000	Hydrocarbons, C ₆ mixtures	02	43-000
N-Hexyl alcohol, ethoxylated	12	729-900	Hydrocarbons, C ₆ mixtures	02	49-600

Table A.--Alphabetical Chemical Index

CHEMICAL NAME	SECT:		CHEMICAL NAME	SECT:	
	NO.	ITEM NO.		NO.	ITEM NO.
Hydrocarbons, C ₅ mixtures	02	58,500	Hydroxyethane-1-diphosphonic acid	14	69,000
Hydrocarbons, C ₅ -C ₆ mixtures	02	67,030	4-Hydroxy-3-ethoxybenzaldehyde (Ethylvanillin)	07	44,100
Hydrocarbons, C ₅ -C ₇ mixtures	02	67,040	Hydroxyethyl acrylate	15	119,000
Hydrocarbons, C ₅ -C ₈ mixtures	02	89,010	2,2'-[4-(2-Hydroxyethylamino)-3-nitrophenyl]imino-diethanol	03	955,700
Hydrochlorothiazide	06	72,000	3-[4-(2-Hydroxyethyl)amino]propanitrile	13	409,000
Hydrofluoric acid	06	43,500	Hydroxyethyl-2-oxoethylacrylamide	03	958,000
Hydrogen peroxide	06	43,500	(2-Hydroxyethyl)dimethyl(2-stearamidopropyl)ammonium phosphate	12	472,000
Hydrocortisone acetate	06	660,000	(2-Hydroxyethyl)dimethyl(3-stearamidopropyl)ammonium nitrate	12	474,000
Hydrocortisone	07	44,000	N-(2-Hydroxyethyl)-1,2-diphenylethylenediamine	12	351,000
Hydrogenated (tallow acids) aminosthylethanolamine condensate (amine/acid ratio=1/2)	12	575,300	(4-Hydroxyethyl)ethylenedinitrilo triacetic acid, iron salt	14	72,000
Hydrogenated castor oil, ethoxylated	12	670,000	(4-Hydroxyethyl)ethylenedinitrilo triacetic acid, sodium salt	14	73,000
Hydrogenated tallow acids, (Ratio = 2/1)	12	558,000	(4-Hydroxyethyl)ethylenedinitrilo triacetic acid, potassium salt	14	74,000
Hydrogenated tallow acids, aminoethylthiolamide, (Hydrogenated tallow alkyl)amine	12	575,280	(4-Hydroxyethyl)ethylenedinitrilo triacetic acid, sodium salt	14	74,000
Hydrogenated tallow alkylamine	12	422,000	(4-Hydroxyethyl)ethylenedinitrilo triacetic acid, triisodium salt	14	74,000
Hydrogenated tallow alkylamine acetate	12	324,000	N-(β-Hydroxyethyl)-N-ethyl-α-toluidine	03	958,302
Hydrogenated tallow alkylamine, ethoxylated	12	329,000	1-(2-Hydroxyethyl)-2-heptyl-3-carboxyethyl-imidazoline, sodium salt	12	26,500
Hydrogenated tallow alkyltrimethylammonium chloride	12	498,000	1-Hydroxyethyl-1-(2-hydroxy-3-sodiumsulfonatopropyl)-2-capryl-2-imidazolinium hydroxide	12	26,600
Hydrogenated tallow fatty acid aminoethylthanolamine condensate products	14	488,000	1-Hydroxyethyl-1-(2-hydroxy-3-sodiumsulfonatopropyl)-2-capryl-2-imidazolinium hydroxide	12	26,600
Hydrogenated tallow glycerides diethyleneetriamine condensate	15	1359,000	1-Hydroxyethyl-1-(2-hydroxy-3-sodiumsulfonatopropyl)-2-nor-coconut oil alkyl-2-imidazolinium hydroxide	12	26,700
Hydrogenated tallow glycerides diethyleneetriamine condensate	12	587,945	1-Hydroxyethyl-1-(2-hydroxy-3-sodiumsulfonatopropyl)-2-nor-coconut oil-2-ethyl acid imidazolinium hydroxide	12	26,800
Hydrogenase mixtures	14	113,000	1-Hydroxyethyl-1-(2-hydroxy-3-sodiumsulfonatopropyl)-2-nor-coconut oil alkyl-2-imidazolinium hydroxide	12	26,800
Hydroquinone (Hydroquinol)	14	37,000	1-Hydroxyethyl-1-(2-hydroxy-3-sodiumsulfonatopropyl)-2-nor-coconut oil alkyl-2-imidazolinium hydroxide	12	26,800
Hydroquinone, di(β-hydroxyethyl) ether	15	91,250	Hydroxyethylenediphenylphosphonic acid	14	531,000
Hydroquinone, tech.	03	934,000	Hydroxyethylenediphenylphosphonic acid, potassium salt	15	75,000
p-Hydroxybenzenesulfonic acid	03	944,000	Hydroxyethyl methacrylate	14	76,000
p-Hydroxybenzoic acid, benzyl ester	15	91,900	P-[(2-Hydroxyethyl)dimethylamino]benzenediazonium chloride (p-Diaso-N-hydroxyethyl-N-methylamine)-zinc chloride	15	119,200
p-Hydroxybenzoic acid, butyl ester	15	92,000	(2-Hydroxyethyl)-2-nor(1-2-imidazolinium) imidazoline	14	359,000
p-Hydroxybenzoic acid, methyl ester	15	93,000	(2-Hydroxyethyl)-2-nor(1-2-imidazolinium) imidazoline	12	348,000
p-Hydroxybenzoic acid, methyl ester	15	95,000	Imidazoline	12	349,000
4-Hydroxy-2H-1,2-benzothiazine-3-carboxylic acid, methyl ester, 1,1-dioxide	03	947,000	1-(2-Hydroxyethyl)-2-nor(soya oil alkyl)-2-imidazolinium	12	351,600
4-Hydroxybenzylbenzene	03	948,000	1-(2-Hydroxyethyl)-2-nor(tall oil alkyl)-2-imidazolinium	12	350,000
Hydroxychloroquine sulfate	06	175,000	2-Hydroxyethyl N-octyl sulfide	13	233,010
2-Hydroxychloroquine	03	952,650	3-Hydroxyethyl piperazine	07	96,000
Hydroxyctonellal methyl anthranilate	07	44,050	3-Hydroxy-2-ethyl-4-pyrone (thymalitol)	15	97,900
Hydroxyctonellol	07	156,500	1-(2-Hydroxyethyl)-1-tetradecyl-2-nor-coconut oil fatty carboxylic acid	12	26,900
Hydroxy-5,7-dimethyl-6,7-benzomorphan	07	353,350	1-(2-Hydroxyethyl)-2-nor(1-2-imidazolinium) imidazoline	12	26,900
Hydroxy-3,7-dimethyl octanal dimethyl acetal (Hydroxyctonellal, dimethyl acetal)	07	136,000			

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	ITEM NO.	SECT. NO.	CHEMICAL NAME	ITEM NO.	SECT. NO.
1-(2-Hydroxyethyl)-2-(tall oil allyl)imidazoline, fatty acid salt	12	351.7000	Hydroxypropyl acrylate	15	1120.0000
N-(2-Hydroxyethyl)-N,N',N''-tris(2-hydroxypropyl)-ethylenediamine	12	330.0000	Hydroxypropylammonium acetate	12	464.120
Hydroxyethyl-2-undecyl-2,3-imidazoline	12	464.0000	Hydroxypropyl guar gum	14	421.0000
4-Hydroxyethanamide	03	965.0000	N-2-Hydroxypropyl methacrylate	15	1121.0000
4-(4-Hydroxy-3-methoxybenzylidene) Vanillin	07	44.8000	ammonium ethyl sulfate	12	474.190
2-(N-allylacetone meso isomer)-2-methylpropanol	07	44.8000	4-Hydroxy-5-sulfolinesulfonic acid	07	501.0000
4-Hydroxy-2-methyl-2H-1,2-benzothiazine-3-carboxylic acid, methyl ester, 1,1-dioxide	03	969.0500	4-Hydroxyundecanoic acid, 7'-lactone (7-Undecalactone)	06	101.0000
2-Hydroxyethylene-17 α -ethynylundecyl-17 β -ol-4-en-3-one	03	969.0110	Hydroxyamine	06	66.0000
N-(4-Hydroxymethyl)ethanol	13	245.0112	Hydroxyamine B	06	52.0000
N-(4-Hydroxymethyl)formamide	15	244.9500	Hydroxyamine phosphate	06	62.0000
Hydroxymethyl-5,5-hydantoin	15	99.5000	Duoprofen	06	401.5000
4-Hydroxy-N-methylacetamide	03	968.0000	Imidazole from tall oil fatty acids and diethylenetriamine	14	164.0000
Hydroxymethyl(methyl)thioacetamide	03	968.0000	Imidodiacetic acid	15	403.0000
4-Hydroxy-4-methyl-1-phenyl-3-pyrazolidone	03	970.5020	Imipramine	06	52.1000
2-(Hydroxymethyl)-2-methyl-1,3-propanediol	14	360.0000	Impramine hydrochloride	15	103.0000
2-(Hydroxymethyl)-2-nitro-1,3-propanediol (Tris-(Hydroxymethyl)nitromethane)	15	1086.0000	1,2,3-Indantrione monohydrate (Minhydrin)	06	577.0000
4-Hydroxy-4-methyl-2-pentanone (Pivalone alcohol)	15	823.0000	3-Indolebutyric acid	13	168.0000
4-(4-Hydroxy-4-methyl pentyl)-3-cyclohexene-10-carboxaldehyde (Cyral)	15	823.0000	Indomethacin	06	402.0000
3-Hydroxy-2-methyl-4-oxopropanone (Maltol)	07	97.8300	Insulin	06	694.0000
3-Hydroxy-N-(3-N-morpholino-7-propyl)-2-naphthamide	03	972.5000	Intermediate light oil, coke-oven operators	06	694.0000
3-Hydroxy-1,3-naphthalenedisulfonic acid, disodium salt	03	992.0000	Iodinated (Not otherwise halogenated) hydrocarbons, all 8-carbon	06	586.0000
3-Hydroxy-2-naphthoic acid (R.O.N.)	03	992.1520	Iodochloroxyquin	15	1277.3000
3-Hydroxy-2-naphthoic acid, ethanamide	03	992.3020	Iodoethane (ethyl iodide), non-medical	06	176.0000
3-Hydroxy-2-naphthoic acid, methyl ester	03	990.3000	Iodomethane (Methyl iodide)	06	262.0000
3-Hydroxy-2-naphthoic acid, sodium salt	03	994.8020	1-Iodoperfluorohexane	15	1280.0000
2-Hydroxy-2-naphthol	03	994.8020	3-Iodo-2-propynyl butylcarbamate	13	245.0113
2-Hydroxy-1,4-naphthoquinone	03	994.9020	Ionene (α - and β -)	07	102.0000
1-(2-Hydroxy-1-naphthylazo)-6-nitro-2-hydroxynaphthalene-4-sulfonic acid	03	997.1000	Ionic acid	06	103.0000
4-Hydroxynaphthalene-7-lactone (7-Nonalactone)	07	99.0000	Ionalacate, meglumine	06	570.0000
a-B-P-Hydroxyphenylglycine methyl ester K	15	100.2000	Iron acetylacetonate complex	15	1871.7500
P-Hydroxyphenyl-3-methylbutyric acid	03	1001.2220	Iron t- α -alkylcarboxylate	15	670.0000
Hydroxyprostaglandin carboxate	06	677.8000	Iron 2-ethylhexanoate	15	636.0000
2-Hydroxy-312-Propenylol)-1-Propanesulfonic acid, sodium salt	15	666.0115	Iron naphthenate	03	1012.7000
			Isatoic anhydride	15	532.0000
			Isobutyric acid	15	666.9100

Table 4. --Alphabetical Chemical Index

CHEMICAL NAME		SECT. NO.	ITEM NO.	CHEMICAL NAME		SECT. NO.	ITEM NO.
Isomyl alcohol, ethoxylated	12	730.100	12	Isododecylpyriminopropionic acid, monosodium salt	12	13.900	
Isosmylene	02	54.200	02	M-Isodecylpropyl trimethylene diamine	12	330.350	
Isomyl furate	07	104.800	07	Isodecyl telargonate	11	85.000	
Isomyl phenylacetate	07	45.300	07	Isodecyl stearate	11	121.395	
Isosorbic acid (Erythorbic acid)	15	533.000	15	Isodurane	06	439.001	
Isosorbic acid, sodium salt (Sodium erythorbate)	15	667.000	15	Isoeplianes (Cobol)	02	87.000	
Isobornyl acetate	07	105.000	07	Isohexadecanyl succinic anhydride	15	87.900	
Isobornyl methyl ether	07	195.200	07	Isohexane	02	66.000	
Isobornyl propionate	07	195.300	07	Isohexanyl tetrahydrobenzaldehyde (Myrac aldehyde)	07	47.200	
Isobutane (2-Methylpropane)	02	50.000	02	Isonenthone	07	106.000	
Isobutanol, ethoxylated and sulfated, ammonium salt	12	275.200	12	Isonoic acid, mono- and triethanolamine salt	12	564.150	
Isobutyl acetate	15	892.000	15	Isonoic acid, sodium salt	12	57.570	
Isobutyl acetate	07	854.000	07	Isonicotinamide	12	1027.503	
Isobutyl alcohol	15	849.000	15	Isonicotinitrile	03	1027.900	
Isobutyl alcohol (Isopropylcarbinol)	15	809.000	03	Isononanyl chloride	15	536.730	
Isobutylbenzene	03	1016.750	03	Isononanyl peroxide	15	1349.850	
Isobutyl benzoate	07	45.600	07	Isononyl acetate	07	158.800	
Isobutyl butyrate	07	158.005	07	Isononyl alcohol	15	858.000	
Isobutyl chloroformate	15	988.000	15	Isononyl alcohol	15	536.800	
Isobutylene (2-Methylpropene)	02	51.000	02	Iso-octadecenoic acid	15	537.000	
Isobutyl isobutyrate	15	989.000	15	Iso-octadecenylsuccinic anhydride	15	858.800	
Isobutyl methacrylate	15	989.500	15	Iso-octadecyl alcohol	15	672.600	
Isobutyl methacrylate	05	249.000	05	Isooctanoic acid, calcium salt	15	1033.000	
Isobutyl pthalate	12	46.000	12	Iso-octyl hydroxan phosphate	15	991.000	
Isobutylquinoline	07	46.000	07	Iso-octyl mercaptopyrophosphate	15	992.000	
Isobutyl salicylate	07	47.000	07	Iso-octyl oleate	11	92.600	
Isobutyl stearate	11	121.390	11	Iso-octyl phenol, ethoxylated	12	745.000	
Isobutyl trimethoxysilane	15	1387.600	15	Iso-octylphenol, ethoxylated and sulfonated, sodium salt	12	207.100	
Isobutyraldehyde	15	796.000	15	Iso-pentane (2-Methylbutane)	15	798.000	
Isobutyric acid	15	534.000	15	Iso-pentanoic acid	02	53.000	
Isobutyric anhydride	15	534.000	15	Iso-pentanoic acid (Isomyl acetate)	07	47.760	
Isocamphyl cyclohexanols	05	195.350	05	Iso-pentyl benzoate	07	159.000	
Isocamphyl stearate	15	971.800	15	Iso-pentyl butyrate	07	159.500	
Isocyanic acid, p-chlorophenyl ester	03	1017.050	03	Iso-pentyl caprylate	07	161.500	
Isocyanic acid, cyclohexyl ester	03	1017.060	03	Iso-pentyl caprylate	07	159.550	
Isocyanic acid derivatives, all other	03	1026.000	03	Iso-pentyl formate	07	161.000	
Isocyanic acid	15	990.000	15	Iso-pentyl isovalerate	07	161.500	
Isodecyl acrylate	12	760.910	12	Iso-pentyl isovalerate	07	161.500	
Isodecyl alcohol, isopropylate	12	330.103	12	Iso-pentyl propionate	07	161.000	
Isodecyl alcohol, isopropylate	12	330.103	12	Iso-pentyl propionate	07	161.500	
Isodecyl methacrylate	15	936.700	15	Iso-pentyl salicylate	07	161.500	
Isodecyl neopentanoate	07	158.030	07	Iso-phthalonitrile	03	1034.000	
Isodecyl oxypropylamine	12	330.100	12	Iso-phthalonitrile - (Hexamene-1,9-dicarboxylic acid)	03	1034.000	
Isodecyl oxypropylamine, ethoxylated	12	330.103	12	Iso-phthaloyl chloride	03	1034.100	
Isodecyl oxypropylamine	12	330.100	12				
3-(3-Isodecyl)propylaminopropyl amine	12	330.105	12				

Table 4. --Alphabetical Chemical Index

CHEMICAL NAME	SECT: NO.	ITEM NO.	CHEMICAL NAME	SECT: NO.	ITEM NO.
Isoprene (2-Methyl-1,3-butadiene)	02	51,000	Isobutyric acid, phenyl ester	03	1043,102
Isopropamide iodide	06	291,000	Isobutyryloxypropylamine	12	330,300
Isopropylamine condensates, all other	12	574,000	N-Isobutyryloxypropyl trimethylene diamine	12	330,320
Isopropylaluminum	15	3362,000	Isovalerone (Diisobutyl ketone)	15	824,000
Isopropoxy-tris(2-ethylendiamino)ethyl titanate	12	330,270	2-Isovaleryl-1,3-indandione	13	169,900
Isopropyl acetate	15	993,000	Isovalic acid	06	402,300
Isopropyl alcohol	15	865,000	Isovalonic acid (Methylenesuccinic acid)	15	539,000
Isopropylamine, mono	15	287,000	Izmeretin	06	133,001
2-Isopropylaminoethanol	15	411,000	Kanamycin	06	437,000
3-Isopropyl-1H-2,1,3-benzothiadiazin-4(3H)-one 2,2'-diol	13	71,000	Ketamine hydrochloride	06	417,000
Isosorbide dibisphenyl	03	1035,118	Ketamine tetrafunctional	15	414,000
Isopropyl borate	15	993,200	Ketones, all other	15	839,000
Isopropyl chloroformate	15	994,000	Lactic acid, edible, 100%	15	541,000
Isopropyl N-(3-chlorophenyl)carbamate (CIPC)	13	74,000	Lactic acid salts, all other	15	675,000
2-Isopropylcyclohexanol	07	106,200	Lactones, all other	15	104,750
Isopropyl ether	15	1319,000	Lactonitrile	15	445,000
Isopropyl ethylthiocarbamate	15	412,000	Lanolin acetate	15	104,760
4,4'-Isopropylidenebis(2,6-dibromophenol)	03	1036,000	Lanolin acid	15	104,765
5,5'-Isopropylidenebis(2-hydroxy-m-xylene-4,4'-diol)	03	1037,000	Lanolin acid, isopropyl ester	15	104,770
4,4'-Isopropylidenediphenol (Bisphenol A)	03	1038,000	Lanolin alcohol, propoxylated	12	736,700
4,4'-Isopropylidenediphenol, ethoxylated	03	1039,000	Lanolin, ethoxylated	12	671,000
4,4'-Isopropylidenediphenol, propoxylated	03	1040,000	Lard oil acids	12	533,650
Isopropyl lanolate	15	971,900	Lard oil and tall oil acids	12	293,000
Isopropyl linoleate	15	972,000	Lard, sulfated, sodium salt	12	293,000
Isopropyl mercaptan (2-Propanethiol)	02	96,030	Lasalocid	06	66,500
Isopropyl-11-methoxy-3,7,11-trimethyldecane-2,4-dienoate	13	231,014	Latex type polyvinylidene chloride resins	09	160,000
Isopropyl-1-methoxy-3,7,11-trimethyldecane-2,4-dienoate	13	231,015	Lauraldehyde N-dimethylpropylamine oxide	12	387,000
Isopropyl-1-methoxy-3,7,11-trimethyldecane-2,4-dienoate (aldehyde)	13	231,015	(3-Lauramidopropyl)trimethylammonium methyl sulfate	12	475,000
Isopropyl myristate	07	49,000	Lauric acid	12	570,000
Isopropyl myristate	11	88,000	Lauric acid (Ratio = 1/1)	12	547,000
Isopropylnaphthalenesulfonic acid	12	170,000	Lauric acid ester of glycerol and ethoxylated	12	534,000
Isopropyl oleate, sulfated, sodium salt	12	260,000	Lauric acid ethoxylated	12	711,500
Isopropyl palmitate	11	98,000	Lauric acid salts, all other	12	678,500
o-Isopropylphenol	03	1041,000	Lauric acid sodium salt	12	573,000
Isopropyl phenol, isopropyl ether	03	1041,053	Lauric acid sodium salt (Ratio = 1/1)	12	178,000
Isopropyl phenyl isocyanate	13	75,000	Lauric acid myristic acid (Ratio = 1/1)	12	547,200
N-Isopropyl-N'-phenyl-p-phenylenediamine (IPC)	09	63,000	Lauric acid myristic acids (Ratio = 2/1)	12	571,000
Isopuleulyl acetate	07	106,220	Lauric and myristic acids (Ratio = 1/1)	12	535,000
Isosteatic acid, aminoethylethanolamide, acetate salt	12	575,340	Lauric and myristic acids (Ratio = 2/1)	12	584,400
Isosteatic acid, isopropyl titanium salt	12	25,500	Lauronitrile (Dodecyl nitrile)	15	446,000
Isosteatic acid, triethanolamine salt	12	29,500	Lauronyl chloride	15	543,000
Isosteatic amphoterionate	12	13,100	N-Lauronyl imanothioacetic acid	12	40,900
Isostearyl alcohol, ethoxylated	12	730,200	N-(2-Isouropoxyethyl)carbamoyl-1-methylpyridinium chloride	12	476,000
Isostearyl neopentanoate	15	935,000			

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT: ITEM NO.	CHEMICAL NAME	SECT: ITEM NO.
Lauroyl peroxide	15 1351.000	Leuco Sulfur Red 14	04 1070.014
N-lauroyl sarcosine	12 43.900	Leuco Sulfur Yellow	04 1059.000
N-lauroyl sarcosine, ammonium salt	12 43.910	Leuco Sulfur Yellow 17	04 1064.017
N-lauroyl sarcosine, sodium salt	12 44.000	Leuco Sulfur Yellow 21	04 1064.022
lauryl acrylate	15 995.270	Leuco Sulfur Brown 95	04 1104.095
lauryl alcohol, ethoxylated	12 730.500	Levedopa	06 835.000
laurylamidopropyl betaine	12 13.400	Levetihyroxime, sodium	06 894.500
laurylampholycolate	15 1239.000	Lidocaine	06 706.000
lauryl lactates	15 997.000	Lidocaine hydrochloride	06 706.100
Lauryl methacrylate		Light-oil distillates, all other	01 9.000
Lauryl methacrylate-stearyl methacrylate copolymer		Ligninsulfonic acid propoxylated, sodium salt	12 157.800
Resins	08 19.980	Lignin, ethoxylated	12 357.010
Lauryl sulfate, sodium salt	12 231.700	Lignin, sodium salt	12 318.000
Lead acetate	15 595.000	Ligninsulfonic acid, aluminum salt	12 152.000
Lead t-alkylcarboxylate	15 670.500	Ligninsulfonic acid, ammonium salt	12 153.000
Lead-cobalt neodecanoate	15 706.000	Ligninsulfonic acid, calcium salt	12 154.000
Lead dimethylammonate	15 637.000	Ligninsulfonic acid, chromium salt	12 155.000
Lead manganese tellate	15 684.000	Ligninsulfonic acid, iron salt	12 156.000
Lead naphthenate	15 306.000	Ligninsulfonic acid, magnesium salt	12 157.000
Lead neodecanoate	15 707.000	Ligninsulfonic acid, potassium salt	12 158.000
Lead salts of menhaden fish oil, C-14 to C-22(lead fishate)	15 680.500	Ligninsulfonic acid, sodium salt	12 159.000
Lead stearate	15 756.000	Ligninsulfonic acid, zinc salt	07 50.100
Lead tellurate	15 757.000	Limonene	07 50.200
Lead tetracetate	15 596.000	l-limonene	07 49.500
Leuco quinizarin (1,4,9,10-anthracetrone)	15 176.000	linanyl anthranilate	06 51.000
Leuco Sulfur Black 1	04 1107.000	Lincomycin (medical grade)	06 51.000
Leuco Sulfur Black 2	04 1110.000	Lincomycin (animal feed grade)	06 51.000
Leuco Sulfur Black 18	04 1115.018	Linear alcohols, all other	06 67.500
Leuco Sulfur Blue 7	04 1075.000	Linear alcohols, C ₁₂ -C ₁₈	12 26.000
Leuco Sulfur Blue 13	04 1081.000	Linear saturated polyester	12 387.000
Leuco Sulfur Brown 1	04 1089.000	Linoleic acid (Ratio = 1/1)	12 535.000
Leuco Sulfur Brown 3	04 1091.000	Linoleic acid dimers, alkoxylated	12 711.200
Leuco Sulfur Brown 30	04 1093.000	Linseed oil, oxygenated	15 1329.400
Leuco Sulfur Brown 31	04 1099.031	Lipase	14 114.000
Leuco Sulfur Brown 37	04 1101.032	Lithium heparin	06 627.000
Leuco Sulfur Brown 52	04 1104.936	Lithium naphthenate	14 307.000
Leuco Sulfur Brown 96	04 1101.032	Lithium stearate	15 198.000
Leuco Sulfur Green 2	04 1084.000	Lithium stearate, all other	14 293.000
Leuco Sulfur Green 3	04 1085.000	Lubricating oil and grease additives, cyclic, all other	14 294.000
Leuco Sulfur Green 16	04 1087.000	Lubricating oil and grease additives, cyclic, all other	14 294.000
Leuco Sulfur Green 34	04 1087.034	3,5-toluidine	03 1048.503
Leuco Sulfur Green 35	04 1087.035	Mafenide	06 202.900
Leuco Sulfur Green 36	04 1087.036	Mafenide acetate	06 203.000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Magnesium acetate	15	598 000	p-Mentha-6,8-dien-2-yl acetate (Carvone, Carvol)	07	107 000
Magnesium gluconate	06	764 000	1-p-Mentha-6,8-dien-2-yl acetate (Carvyl acetate)	07	107 100
Magnesium stearate	15	759 000	Menthallylidene diacetate	15	1000 000
Magnesium stearate tall oil	12	318 470	p-Menthane	15	105 000
Maleic acid	15	318 475	p-Menth-8-en-3-ol (Isopulegol)	07	108 300
Maleic anhydride	15	545 000	p-Menth-1-en-3-one (Fiproleone)	07	108 400
Maleic anhydride, polypropylene glycol copolymer	15	104 800	p-Menth-4-(6)-en-3-one (Pulegone)	07	108 600
Maleic esters and copolymers	12	711 700	1-p-Menthen-6-yl-1-propanone	07	110 000
Malic acid	15	593 000	d-Menthyl acetate	07	110 100
Malic acid, polypropylene glycol copolymer	15	1324 000	Menthyl acetate	07	111 000
Malonaldehyde bis(dimethyl) acetal	03	1048 930	1-Menthyl acetate	07	111 100
Maltol	14	97 000	Menthyl butyrate	07	111 130
d-Maltose	14	459 000	8-p-Menthyl hydroperoxide	15	106 000
d-Mandelic acid	03	1048 940	Mepredilene hydrochloride	06	404 000
Mandelic acid	15	599 000	Mepivacaine	06	662 500
Manganese acetylacetonate complex	15	1371 800	Meprednisone	06	662 600
Manganese t- α -alkylcarboxylate	15	571 000	Meprednisone acetate	06	594 000
Manganese 2-ethylhexanoate	02	765 000	Meprobenzoic acid (Thioglycolic acid)	15	549 000
Manganese gluconate	14	309 000	Mercaptoacetic acid (Thioglycolic acid) salts, all other	15	698 000
Manganese napthenate	06	837 000	2-Mercaptobenzothiazole	09	30 000
Manganese tellurate	15	709 000	2-Mercaptobenzothiazole, copper salt	09	30 300
Mannitol	15	1087 000	2-Mercaptobenzothiazole, derivative	09	30 500
Maprotiline hydrochloride	06	529 000	2-Mercaptobenzothiazole, sodium salt	13	40 084
Meclozine hydrochloride	06	81 000	2-Mercaptobenzothiazole, zinc chloride	13	40 011
Meclofenamate, sodium	06	402 500	2-Mercaptobenzothiazole, zinc salt	09	32 000
Meclofenamic acid	06	837 000	2-Mercaptobenzothiazole, zinc salt	15	1353 000
Medicinal chemicals, all other	06	680 000	N-(Mercaptomethyl)phthalimide S-(0,0-dimethylphosphorothioate)	13	165 024
Mecoryprogesterone acetate	06	662 000	3-Mercapto-1,2-propanediol (Thioglycerol)	15	1088 000
Mefenamic acid	06	403 000	3-Mercaptopropionic acid	15	550 000
Mefenamic acid	06	680 500	Mercaptopropionic acid, dibutyltin salt	15	693 000
Megestrol acetate	03	1050 000	Mercaptopyrrolimethoxysulfane	05	279 000
Melamine	14	483 000	Mercaptopyrrolimethoxysulfane	15	551 000
Melamine formaldehyde methanol polymer	08	8 000	Mercaptopyrrolimethoxysulfane, zinc salt	09	41 475
Melamine formaldehyde triethanolamine mixed fatty	14	484 000	Mercaptosuccinic acid (Thiomalic acid)	15	24 000
alcohol polymer	14	490 000	Mercaptosuccinic acid, zinc salt	15	788 500
Melamine formaldehyde polymer	14	691 000	Mercaptothiazole, zinc salt	13	24 000
Melamine isocyanurate	06	480 000	Mercaptothiazole, zinc salt	15	247 000
Melamine sodium bisulfite (anhydrous)	06	826 000	Methacrolein (methacrylaldehyde)	15	1459 600
Mendalone sodium bisulfite (tetrahydrate)	06	826 100	Methacrylamide	15	1459 600
Menth-1,3-diene (a-Terpinene)	07	107 600	Methacrylate based cationic polyacetylates	15	1582 000
p-Mentha-1,4-diene (a-Terpinene)	07	107 600	Methacrylic acid	15	465 000
p-Mentha-1,8-diene (Limonene)	07	107 600	a-Methacryloxypropyltrimethoxysulfane	05	465 000
p-Mentha-1,8-diene (Limonene)	07	50 000	Methadone hydrochloride	06	519 800
di-p-Mentha-1,8-dien-2-ol (Carveol)	07	106 800	Methamphetamine	06	520 000
p-Mentha-6,8-dien-2-ol (Carveol)	07	106 800	Methamphetamine hydrochloride	06	520 000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Methane	02	37,000	3-(2-Methoxyphenoxy)propanol	15	1174,000
Methanesulfonic acid, disodium salt (MSHA)	13	204,000	3-[2-(3-Methoxypropoxy)propoxy]propanol	15	117,000
Methanesulfonic acid, monosodium salt (MSHA)	13	205,900	3-Methoxypropylamine	15	817,000
Methanesulfonic acid	15	553,000	Methoxychlorazide	06	724,000
Methanesulfonyl chloride	15	554,000	N-Methylacetamide	15	248,000
Methanol, synthetic only	15	861,000	Methyl acetate	15	1002,000
Methanamine hippurate	06	240,000	Methyl acetoacetate	15	1003,000
Methicillin sodium	06	241,000	4-Methylacetophenone	15	555,000
Methionine	06	46,000	2-Methyl-5-acetylpyridine	03	1066,950
Methionine (animal feed grade)	14	13,000	Methyl acetylacrylate	11	111,010
Methionine, hydroxy analogue, calcium salt	14	15,000	Methyl acrylamide	15	128,000
Methoxyacetanilide	06	479,000	Methylal (dimethoxymethane)	15	730,700
Methoxazbanol	03	1057,250	Methylamine, mono	15	1363,000
p-Methoxyacetanilide	06	479,000	Methyl alcohol, alkoxylated	15	290,000
p-Methoxybenzyl alcohol (Anisyl alcohol)	07	52,100	Methylaluminum sesquichloride	15	419,000
2-[(Methoxycarbonylamino)-(2-nitro-5-N-propylthio)]	03	1057,400	Methylamine, mono	15	1363,000
o-Methylaminoethylammoniummethanesulfonic acid	07	52,102	2-Methylaminoethanol (N-Methyl ethanolamine)	15	419,000
2-Methoxyethanol (Ethylene glycol, monomethyl ether)	15	1165,000	2-Methylaminophenol sulfate (Metol)	15	362,000
monomethyl ether)	15	1169,000	2-(N-Methylamino)ethanol	03	1070,000
2-(2-Methoxyethoxy)ethanol (Diethylene glycol	15	1170,000	3-Methylamino propionitrile	03	1071,000
monomethyl ether)	15	1170,000	Methyl anthracilate	07	56,000
glycol monomethyl ether)	15	1170,000	2-Methylanthraquinone	03	1075,000
Triethylene glycol dimethyl ether)	15	1171,000	Methylaziridine	15	110,000
2-Methoxyethyl acetate	15	1124,000	Methyl benzoate	07	57,100
2-Methoxyethyl carmate	15	99,000	3-Methylbenzofluquinoline	03	1076,000
2-Methoxyethyl palmitate	11	99,000	2-Methylbenzothiazole	07	58,000
2-Methoxyethyl piperidine	03	1057,503	α-Methylbenzyl acetate (Styralyl acetate)	07	58,000
N-Methoxymethylmorpholine	03	1059,600	N-Methylbenzylamine	03	1079,050
2-Methoxynaphthalene	07	53,000	2-Methylbenzyl chloride	03	1079,050
N-Methoxy-1-naphthol	14	361,000	Methyl benzyl ether	03	1083,000
N-(4-Methoxy-3-nitrophenyl)acetamide	06	335,000	N-Methylbis(coconut oil alkyl)amine	12	441,000
4-Methoxyphenylacetamide	06	335,000	N-Methylbis(hydrogenated tallow alkyl)amine	12	442,000
(2-Methoxyphenyl)lactic acid	15	1093,000	Methyl, bis-(2-hydroxyethyl) hydrogenated tallow alkylammonium chloride	12	465,120
M[1-(1-(2-Methoxyphenylamino)carbonyl)-2-	03	1063,000	Methyl, bis-(2-hydroxyethyl) isodecylpropylammonium chloride	12	465,135
carbonyl]-2-oxopropylazobenzamide]	03	1063,023	Methyl, bis-(2-hydroxyethyl) triethylammonium chloride	12	465,140
1-P-Methoxyphenyl penten-1-one-3 (α-Methyl-	07	53,400	Methyl, bis-(2-hydroxyethyl) tetraethylammonium chloride	12	462,100
anisalacetone)	15	1172,000	N-Methylbis(1-octyl-decylamine)	13	240,000
Methoxyethylene glycol	07	54,000	Methyl bromide (Bromomethane)	15	841,000
Methoxy-2-propanol	15	1173,000	3-Methyl-1-butanol	07	162,012
2-Methoxy-4-propenylphenol (Isosugenol)	07	54,000	Methyl-1-(butylcarbamoyl)-2-benzimidazolcarbamate (Benonyl)	15	24,900
2-Methoxypropionitrile	15	448,200	Methyl-t-butyl ether	14	184,000

Table 4.--Alphabetical Chemical Index

SECT. NO.	ITEM NO.	CHEMICAL NAME	CHEMICAL NAME	SECT. NO.	ITEM NO.
		2-Methylbutyl isovalerate	2,2'-Methylenebis[6-tert-butyl-p-cresol]	09	90,000
		Methyl butyl phosphate ethylenedioxy titanium salt/n,n'	2-Methylenebis[6-tert-butyl-4-ethylphenol]	09	91,000
		dimethyl amino ethyl methacrylate salt	2-Methylenebis[4-chlorophenol] (dichlorophene)	13	40,025
		Methyl butyrate	4,4'-Methylenebis(2,6-di-tert-butylphenol)	03	1088,100
		Methyl butyryl acetate	4,4'-Methylenebis[N,N-dimethylamine]	03	1087,000
		Methyl N-(α -carboxydihydrobenzyl)- β -aminocrotonate, sodium salt	4,4'-Methylenebis[N,N-dimethylamine] (Methane base)	03	1089,000
		Methyl cellulose	Methylene-bis(dimethyl)hydantoin and derivatives	14	166,000
		Methyl chloroacetate	2,2'-Methylenebis(4-methyl-6-nonyl-p-cresol)	03	1089,100
		Methyl chloroformate	4,4'-Methylene-bis-orthoethylamine	03	1089,200
		2-(2-Methyl-4-chlorophenoxy)propionic acid,	2,2'-Methylenebis(4,6-trichlorophenol)	13	195,010
		dichloroamine salt			
		2-(2-Methyl-4-chlorophenoxy)propionic acid, iso-octyl	Methylene-bridged polyalkyl phenols	15	114,000
		1-Methyl-4-(3-chloropropyl)piperazine	Methylene chloride (Dichloromethane)	14	208,000
		1-Methyl-4-(3-chloropropyl)piperazine hydrochloride	4,4'-Methylenedianiline	15	1234,000
		α -Methylcinnamaldehyde	1,2-Methylenedioxy-4-propylene benzene (isoSaffrole)	03	1091,000
		Methyl cinnamate	5,5'-Methylenedisalicylic acid	07	60,600
		6-Methylcoumarin	Methyl esters of coconut oil	03	1092,000
		Methyl crotonate	Methyl esters of lard	15	974,500
		Methyl cyanacetate	Methyl esters (Methyl ether)	15	975,000
		Methyl cyclohexanamine	Methyl ethyl ketone	15	1321,000
		1-(2-Methylcyclohexyl)-3-phenylurea (Siduron)	Methyl ethyl sulfide	15	826,500
		Methylcyclopentadiene	Methyl formate	02	93,800
		Methylcyclopentadienylmanganese tricarboxyl	Methyl formal	15	1010,000
		2-Methyl decanal	Methyl glucoside diolate	15	1450,000
		Phenoxyphenylcyclopropanecarboxylate	Methylglucoside laurate	12	712,950
		Methyl 5-(2,4-dichlorophenoxy)-2-nitrobenzoate	Methylglucoside sequestrate	12	713,300
		Methyl 3-(2,2-dichlorovinyl)-2-dimethylcyclopropane	1-Methyl-1-(8-naphthyl)acetyl (g-octadecyl)amido ethyl	12	713,900
		N-Methylcyclohexylamine	5-Methyl-2-hexanone (Methyl isoamyl ketone)	15	827,000
		Methyl dicyclopentylamine	Methyl hexyl ether	07	162,480
		Methyl diethylamine	p-Methylhydratropaldehyde	07	60,800
		Methyl diisopropanolamine	Methyl hydroquinone	03	1094,000
		Methyl diisobutylamine	Methyl 12-hydroxysearate	15	976,000
		5-Methyl-1,7-dihydroxy-1,3,4-triazaindolizine	4,4'-Methylidene-bis-(p-sulfonyl)-3-methylpyrazolone	14	367,000
		Methyl N,N'-dinehyl-N-[(methylcarbamoyloxy)-1-thioamide]	(2,4-Methyl-5-imidazolyl)methylthioethylamine	03	1094,853
		Methyl 2-[[[4,6-dimethyl-2-pyrimidinyl	d, d-thiochloride	03	166,000
		amino]carboxyl]amino]isofuronecarboxylate	4,4'-Methylenebis[2,6-dimethyl-1,3-dithiolane hydrochloride	15	424,000
		4-Methyl-2,6-dinitrophenol (4,6-Dinitro-o-cresol)	Methylenedioxy-1,3-dithiolane	03	1094,880
		N-Methyldioctadecylamine	Methylenedioxy- α - and β -	07	114,100
		Methyl diololol ethoxy ammonium methyl sulfate	7-Methylionone	07	114,100
		N-Methyldithiocarbamic acid, potassium salt	6-Methyl- α -ionone	07	112,000
		N-Methyldithiocarbamic acid, sodium salt (Metham)	Methyl isobutyl ketone	15	828,000
		Methylidene	Methyl isobutyl ketone aminonitrile	15	448,000
		Methylidene	Methyl isobutylate	07	162,500

Table 4. --Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Methyl isocyanate	15	424, 500	2-Methyl-1-pentanol	15	863, 000
1-Methyl-isohexyl-hexahydro benzaldehyde	07	61, 100	4-Methyl-2-pentanol (1-Methylisobutylcarbinol)	15	864, 000
Methyl iso-octadecanoate	15	977, 500	4-Methyl-3-pentanol (Mesityl oxide)	15	829, 000
Methyl isothiocyanate and 1,3-dichloropropene	13	243, 012	M-(1-Methylpentyl)-N-phenyl- <i>p</i> -phenylenediamine	09	84, 200
Methyl isovalerate	07	162, 520	Methyl pentanol	07	162, 660
2-Methylisocyantrile (acetone cyanohydrin)	15	449, 000	Methylphenadate hydrochloride	06	545, 700
Methylisostearate	15	1377, 600	Methyl phenylacetate	07	83, 000
Methylmagnesium bromide	15	1377, 600	2-Methyl-4-phenylacetone	03	115, 500
Methylmagnesium chloride	15	1377, 600	2-Methyl-4-phenylacetic acid	03	115, 500
Methyl mecapran (Methanethiol)	02	94, 000	3-Methyl-4-phenylisonicotinitrile	03	115, 700
Methyl methacrylate-butadiene styrene (MBS) resins	08	44, 041	1-Methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]-4(H)-	07	63, 200
Methyl methacrylate, monomer	15	1011, 000	Pyridone (Fluridone)	13	118, 063
Methyl-methanamine with borane (1:1)	15	1368, 600	4-Methylphthalic acid	03	1120, 502
Methyl-N-methylantranilata	07	62, 000	4-Methylphthalic anhydride	03	1120, 513
Methyl-2-methyl butyrate	07	162, 550	3-(2-Methylpiperidino)propyl-3,4-dichlorobenzoate	15	40, 036
5-Methyl (methylcarbamoyl)oxythioacetimidate	13	213, 400	(1-Propionyl)	15	1012, 800
4-Methyl-N-(4-methylphenyl)sulfonylbenzenesulfonamide	03	1096, 200	N-Methyl-N-polyoxyacetate	15	476, 920
2-Methyl-N-(methythio)propionaldehyde 0-	13	213, 500	N-Methyl-N-polyoxyethylene-N,N-bis(hydrogenated tallow	12	476, 925
4-Methylazobenzene	15	117, 000	amidoethyl)ammonium	12	476, 925
Methylazophthalene	01	12, 500	N-Methyl-N-polyoxyethylene-N,N-bis(tallow amidoethyl)	06	663, 000
Methylazophthalene	12	173, 000	2-Methyl-2-propanamine with borane(1:1)	15	1368, 700
N-Methylazobenzene sulfonic acid, sodium salt	03	102, 000	Methylsulfonamide	15	830, 000
3-Methyl-2-nitroaniline	03	104, 000	1-Methyl-2-pyridone monomer	15	120, 000
3-Methyl-2-nitroanisole	05	425, 000	Methyl zincolate	07	10, 000
2-Methyl-2-nitro-1,3-propanediol	15	123, 000	Methyl stearate	15	978, 000
3-Methyl-2-nitro-1-propanol	15	162, 750	1-Methyl-2-(2-stearoyloxyethyl)carbamoylpyridinium	12	477, 000
3-Methyl-2-nitro-1-propanol	07	162, 600	chloride	12	477, 000
Methyl nonen-3-oxate	07	162, 605	α -Methylstyrene	03	1125, 000
Methyl nonylphthalenesulfonic acid, sodium salt	12	174, 000	ar-Methylstyrene (Vinyltoluene)	03	1125, 100
2-Methyl-5-norbornene-2,3-dicarboxylic anhydride	03	108, 000	p-Methyl styrene polymers	08	45, 300
1-methyl-1-tallow(12-tallow)	12	876, 800	α -Methyl styrene polymers	08	45, 000
Methyl-octyl aldehyde	07	163, 000	Methyl sulfate (Dimethyl sulfate)	15	102, 000
Methyl oleate	11	94, 000	Methyl sulfoside (methyl sulfoside)	15	1355, 000
Methyl oleate, sulfated, sodium salt	12	261, 000	N-Methyl-K-(tall oil acyl)taurine, sodium salt	12	186, 000
N-Methyl-N-oleyltaurine, sodium salt	12	184, 000	Methyl-1-tallowamidoethyl-2-tallowimidazolium-methyl	12	498, 700
Methylol methyl hexyl ketone	07	162, 700	sulfate	12	498, 700
4-(13-Methyl-5-oxo-1-(4-sulfolin-1-yl)benzenesulfonic acid	03	1111, 000	Methylaldehydeethylenetriamine condensate,	12	465, 200
ylidenebenzothiazine-3-methyl-1-(4-sulfolin-1-yl)-2-	14	368, 000	polythoxylated methyl sulfate	12	465, 210
N-Methyl-N-palmitoyltaurine, sodium salt	12	185, 000	Methylaldehydeethylenetriamine condensate,	12	465, 210
Methyl pentachlorostearate, sodium salt	11	124, 000	Polypropoxyated, methyl sulfate	06	54, 000
2-Methyl-2,4-pentanediol (Hexylene glycol)	15	1089, 000	2-Methylthiazole	14	363, 000
			Methylthiobenzoic acid	03	1128, 500

Table 4.---Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Methyl thiocyanate	07	162,800	Mixed alkyl phosphate, diethanolamine salt	12	102,000
6-Methyl thiopropionalehyde	07	167,710	Mixed alkyl phosphate, potassium salt	12	102,050
Methyl thiosulfonic acid, 5-(2-hydroxypropyl) ester	13	205,925	Mixed alkyl phosphate, triethanolamine salt	12	102,120
Methyl tri(C9-10)ammonium chloride	12	499,900	N-(Mixed alkyl)polyethyleneamine	12	412,000
1-Methyl-3,5,7-triaza-1-azonia tricyclohexane chloride	13	175,300	Mixed tert-alkyl primary amines, ethoxylated	12	331,520
5-Methyl-1,2,4-triazolo[3,4-b]benzothiazole (Triazolazole)	13	90,027	Mixed alkyl stearate	12	714,520
Methyltrimethoxysilane and polymethyltrisiloxane	13	139,027	Mixed alkylsulfobetaine	14	167,000
Methyltriethylammonium chloride	12	499,000	Mixed alkylsulfonates	14	167,000
2-Methylundecanal	07	163,000	Mixed alkylsulfonates	12	536,450
2-Methyl undecanal dimethylacetel	07	163,050	Mixed carboxylic acids	12	547,850
Methyl vinyl ether	15	1322,000	Mixed chain length fatty acid, synthetic	15	1438,000
Metoclopramide hydrochloride	06	171,300	Mixed(coco and soya fatty acids), reaction products with chloromethane and diethylenetriamine, ethoxylated, quaternized	12	477,220
Metronidazole	06	187,000	Mixed dialkyl hydrogen phosphates	15	1034,500
Metyrapone	06	578,000	Mixed dialkyl hydrogen phosphates, amine salts	15	1034,502
Minoxidil	06	35,000	Mixed di and triethylene glycol mono ester of tall oil	15	1034,502
Miscellaneous cyclic chemicals, all ether	15	1423,000	Mixed fatty acid amide with diethylene triamine/ethyl sulfate	12	719,600
Mixed alcohol borates	15	1437,000	Mixed fatty acid-ethoxylated nonyl phenol ester	12	477,325
Mixed alcohols, ethoxylated	12	212,000	Mixed fatty acids-daethylene triamine diethylsulfate condensate	12	783,500
Mixed alkane sulfonic acid, sodium salt	12	330,950	Mixed fatty acids-polyalkylenepolyamine condensate	12	377,200
3-(Mixed alkoxy)propylamine, ethoxylated oxides	12	330,955	Mixed fish oils, sulfated, ammonium salt	12	361,000
3-(3-Mixed alkoxy)propylampropyl amine	12	423,000	Mixed fish oils, sulfated, ethoxylated	12	368,000
(Mixed alkyllamine, ethoxylated	12	331,900	Mixed fish oils, sulfated, ethoxylated, sulfated, mixed sodium and cocamphocarboxy glycinate salts	12	276,700
(Mixed alkyllamine phosphatide	12	331,900	Mixed linear alcohols, alkoxyated, all other	12	741,000
(Mixed alkyllamine phosphatide, ethoxylated	12	499,500	Mixed linear alcohols, alkoxyated and phosphated, potassium salt	12	736,950
(Mixed t-2-alkylcarboxylic acid salts	15	671,100	Mixed linear alcohols, ethoxylated	12	87,000
(Mixed alkyl)dibenzyltrimethyl-1,3-propane diammonium chloride	12	527,580	Mixed linear alcohols, ethoxylated and phosphated	12	87,010
(Mixed alkyloxy)propylamine	12	331,300	Mixed linear alcohols, ethoxylated and phosphated, benzyl ether	12	87,000
(Mixed alkyl)phenol, alkoxyated	12	745,900	Mixed linear alcohols, ethoxylated and phosphated	12	737,000
(Mixed alkyl)phenol alkylenediamine/Kanolamine	12	745,900	Mixed linear alcohols, ethoxylated and phosphated	12	737,100
(Mixed alkyl)phenol epichlorohydrin-formaldehyde, formaldehyde	12	782,950	Mixed linear alcohols, ethoxylated and phosphated	12	318,500
(Mixed alkyl)phenol, ethoxylated	12	722,100	Mixed linear alcohols, ethoxylated and phosphated	12	87,000
(Mixed alkyl)phenol, ethoxylated, butyl ether	12	746,000	Mixed linear alcohols, ethoxylated and phosphated, sodium salt	12	87,010
(Mixed alkyl)phenol, ethoxylated and sulfated, sodium salt	12	286,000	Mixed linear alcohols, ethoxylated and propoxylated	12	738,000
(Mixed alkyl)phenol-formaldehyde, alkoxyated	12	722,000	Mixed linear alcohols, ethoxylated and sulfated, ammonium salt	12	276,000
(Mixed alkyl)phenol formaldehyde, methoxylated	12	722,015	Mixed linear alcohols, ethoxylated and sulfated, diethanolamine salt	12	276,500
Mixed alkyl phenol sulfate, ethoxylated	12	722,015	Mixed linear alcohols, ethoxylated and sulfated, potassium salt	12	277,000
Mixed ethylamine salt	12	244,300			
Mixed ethylamine sodium salt	12	102,100			
Mixed ethyl phosphate	12	101,000			
Mixed alkyl phosphate, alkylamine salt	12	101,500			

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME		SECT. NO.	ITEM NO.	CHEMICAL NAME		SECT. NO.	ITEM NO.
Mixed linear alcohols, ethoxylated and sulfated, sodium salt		12	278,000	Mordant Yellow 20		04	842,000
Mixed linear alcohols, sulfated, ammonium salt		12	232,000	Morphine sulfate		06	405,500
Mixed linear alcohols, sulfated, diethanolamine salt		12	232,200	Morpholine		15	140,000
Mixed linear alcohols, sulfated, sodium salt		12	233,000	Morpholine residue stream		15	122,000
Mixed linear alkyldimethylated, triethanolamine salt		12	233,100	Morpholine salt of p-toluene sulfonic acid		14	370,000
Mixed linear alkyldimethylated, triethanolamine salt		12	500,100	p-Morpholino-2,5-dibutoxybenzene diazonium chloride		06	51,500
Mixed linear alkyldimethylated, triethyl sulfate		12	738,100	Musk 69		07	64,300
Mixed linear alkylpoly(ethyleneoxy)ethyl sulfate		12	590,500	Mustard seed oil, sulfated, sodium salt		12	309,000
Mixed oleic, lauric, stearic, and palmitic hexaglycerol esters		12	692,000	Myristyl acetate		15	1303,000
Mixed phenylstyrene, phenol, ethoxylated		12	748,100	Myristaldehyde		07	163,800
Mixed polyesters		14	284,000	Myristic acid		12	571,000
Mixed secondary alkylamines		15	292,900	Myristic acid (Ratio=1/1)		12	547,900
Mixed (secondary) near alcohol/polyethylene propionic acid, sodium salt		12	45,700	Myristyl ethoxy myristate		11	88,600
Mixed (C ₈ -C ₁₀) tertiaryamine		12	443,200	Myristyl lactate		15	1015,000
Potassium salt		12	87,050	Myristyl myristate		11	124,525
Mixed vegetable fatty acids, potassium salt		12	59,000	Myristyl stearate		15	979,000
Mixed vegetable fatty acids, sodium salt		12	58,990	Nafillin, sodium		06	358,500
Mixed vegetable fatty acids, triethanolamine salt		12	59,100	Naphazoline hydrochloride		06	17,000
Mixture of N-octyl, N-dodecyl, sodium salt		12	308,000	1-Naphthaldehyde		08	336,000
Mixture of N-octyl, N-dodecyl, N-dimethyl ammonium chloride and benzyl dimethyl ammonium chloride		12	499,600	Naphthalene		02	17,000
Mixtures not specifically itemized, all other		15	1500,000	1-Naphthalenesulfonic acid (NAA)		13	168,900
Modified rosin (Unesterified)		08	41,000	Naphthalene, crude, solidifying at less than 74° C.		13	168,900
Mordant Black 1		08	40,000	Naphthalene, crude, solidifying at 76° C to less than salt		01	14,000
Mordant Brown 1		06	505,000	1,5-Naphthalenedisulfonic acid, 2-amino-, monosodium salt		03	1138,500
Mordant Brown 18		04	875,000	Naphthalenesulfonates, all other		12	171,000
Mordant Brown 33		04	878,000	2-Naphthalenesulfonic acid		03	141,000
Mordant Brown 70		04	879,000	2-Naphthalenesulfonic acid, ammonium salt		12	174,200
Mordant Orange 1		04	882,000	2-Naphthalenesulfonic acid, formaldehyde condensate and salt		14	466,000
Mordant Orange 6		04	848,000	1-Naphthalenesulfonic acid, 8-(phenylamino)-monosodium salt		03	1308,500
Mordant Red 7		04	850,000	Naphthalene sulfonic acid polymers with formaldehyde and 4,4'-oxydiphenyl alcohol		12	783,700
Mordant Red 9		04	855,000	Naphthalene sulfonic acid, polymer with formaldehyde, sodium salt		12	722,500
Mordant Red 11		04	856,000	1-Naphthalenesulfonic acid, sodium salt		03	1142,000
Mordant Yellow 8		04	857,000	2-Naphthalenesulfonic acid, sodium salt		03	1148,000
		04	839,000	Naphthalene driers, mixed salts		12	310,000
		04		Naphthalenic acid, acid number 150-199		02	19,000
		04		Naphthalenic acid, acid number 200-224		02	20,000

Table 4.---Alphabetical Chemical Index

CHEMICAL NAME	ITEM NO.	SECT. NO.	CHEMICAL NAME	ITEM NO.	SECT. NO.
Naphthoic acid, acid number less than 150	02	18.000	Mitrotriacebonitrils		15
1-(2-naphthenoic acid aminoethyl)-2-naphthethyl-2-			Nitro-tris-methylamine triphosphonic acid	15	293.000
Naphthoic acid, copper salt	12	354.500	Nitrolo-tris-methylamine triphosphonic acid, potas	14	83.000
Naphthoic acid, potassium salt	13	26.000	3'-Nitroacetanilide	03	114.000
Naphthenoic acids-polyallylene polyamine condensate	12	591.500	o-Nitroaniline	03	1172.000
Naphthenoic acids-tall oil fatty acids-polyallylene polyamine condensate	12	361.150	p-Nitroaniline	03	1173.000
1-Naphthol (α -Naphthol)	03	1159.000	5-Nitroanthranilic acid	03	1184.000
1-Naphthol, ethoxylated	02	748.500	1-Nitroanthraquinone	03	1185.000
Naphthol, ethylated	12	286.000	Nitrobenzamide	03	1186.000
Naphthol, methylated	05	865.000	o-Nitrobenzenesulfonic acid, sodium salt	03	1195.000
1-Naphthylamine (α -Naphthylamine)	03	1157.000	o-Nitrobenzimidazole	14	371.000
p-(2-Naphthylamino)phenol (N-(p-Hydroxyphenyl)-2-naphthylamine)	03	1158.000	o-Nitrobenzimidazole nitrate	14	372.000
1-Naphthyl-dodecyl-dimethyl ammonium chloride	03	1160.000	p-Nitrobenzoic acid	03	1200.503
1-Naphthyl N-methylcarbamate (Carbaryl)	12	527.650	m-Nitrobenzoic acid	03	1200.000
Naphthylphthalamic acid (NFA)	13	159.000	p-Nitrobenzoic acid, sodium salt	03	1205.000
NFA, sodium salt	13	171.900	p-Nitro benzyl alcohol	03	1206.200
Neat's foot oil, sulfated, sodium salt	12	284.000	2-Nitro-p-cresol (sodium magnesium salt)	03	1210.000
Neodecanoic acid	15	556.000	Nitrodiphenylamine	03	1212.000
Neodecanoic acid salts, all other	15	712.000	Nitroethane	15	459.000
Neohexane (2,2-Dimethylbutane)	02	67.000	Nitrogenous compounds, acyclic, all other	15	484.000
Neomycin (medicinal grade)	06	52.000	5-Nitrosophthalic acid	03	1215.000
Neomycin (animal feed grade)	06	69.000	Nitromethane	15	460.000
Neopentyl glycol adipate	11	64.500	4-Nitro-N-methylphthalimide	03	1215.400
Neopentyl glycol glutarate	11	85.550	Nitronide thiazolene	06	1222.000
Neostigmine bromide	11	85.550	7(and 8)-Nitronaphth[1,2-d][1,2,3]oxadiazole-5-sulfonic acid	03	1221.000
Neostigmine methylsulfate	06	317.000	p-Nitrophenethyl alcohol	03	1224.000
Nekilacin	06	62.001	o-Nitrophenol	03	1227.000
Niacin (animal feed grade)	06	778.000	p-Nitrophenol	03	1228.000
Niacin (medicinal grade)	06	779.000	p-Nitrophenol, sodium salt	03	1229.000
Niacinamide (medicinal grade)	06	780.500	2-(o-Nitrophenylazo)-p-cresol (OH=1)	03	1231.200
Niacinamide hydrochloride	16	61.000	6-Nitrophenylacetamide	03	1232.000
Nickel 2-ethylhexanoate	15	640.000	1-Nitropropane	15	461.000
Nicotinonitrile (3-Cyanopyridine)	03	1162.000	2-Nitropropane	15	462.000
Nifedipine	06	374.200	5-Nitrosalicylaldehyde	03	1238.000
Nitkethamide	06	547.000	5-Nitrosalicyl alcohol	03	1240.000
3-Nitro-6-pyridodimethyl toluene	03	1237.500	o-Nitrosophenol, sodium salt	03	1240.100
Nitarsone	06	158.000	o-Nitrotoluene	03	1244.000
Nitraded lard oil	15	431.000	p-Nitrotoluene	03	1245.000
Nitroacetamide	14	92.000	Nitrotoluene mixtures	03	1246.000
Nitroacetic acid, trisodium salt	14	81.000			

Table 4.---Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
p-Nitrotoluene-o-sulfonic acid	03	1247.360	1-Octadecanol (Stearyl alcohol)	15	877.000
Nonanal	07	165.000	9-Octadecene (Olefin alcohol)	15	878.000
Nonane	15	1344.000	9-Octadecene acetate, trifluorododecylum salt	12	731.000
1,3-Nonanediol acetate	07	165.200	9-Octadecenyl alcohol, ethoxylated	12	84.000
1,3-Nonanediol diacetate	07	165.210	9-Octadecenyl alcohol, ethoxylated and phosphated	12	424.000
Nonanoic acid (pelargonic acid)	15	559.000	9-Octadecenylamine	12	332.000
Nonanoyl chloride	15	559.050	(9-Octadecenyl)amine, ethoxylated	15	123.100
Nonane (tripropylene)	02	80.000	Octadecenyl succinic anhydride	12	413.000
Nonane (tetrapropylene)	07	165.400	N-(9-Octadecenyl)trimethylenediamine	12	84.200
Nonane (carbazobenzohyde)	07	165.400	Octadecyl alcohol, ethoxylated	12	732.000
Nonane (carbazobenzohyde)	12	729.000	Octadecyl alcohol, ethoxylated and phosphated	12	395.000
Nonionic surface-active agents, all other	08	27.000	Octadecylamine acetate	12	333.000
Non-nylon type, polyamide resins	07	165.500	Octadecylamine, ethoxylated	15	124.000
Non-nylon type, polyamide resins	03	1261.000	Octadecyl-3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate	15	463.000
Nonyl-dimethylphenol, mixture	09	76.700	Octadecyl isocyanate	15	1016.000
Nonyldiphenylamine mixture (Mono-, di-, and tri-)	09	76.700	Octadecyl 3-mercaptopropionate	15	179.000
Nonylenic acid	09	171.250	N-Octadecylsulfosuccinic acid, disodium salt	12	156.000
Nonyl phenol	03	1262.000	Octanal	07	166.000
Nonyl phenol, barium salt	12	723.000	Octane	15	368.000
Nonyl phenol, ethoxylated	12	82.000	n-Octane	15	716.000
Nonyl phenol, ethoxylated and phosphated	12	83.000	Octanoic acid (Caprylic acid) salts, all other	12	29.750
Nonyl phenol, ethoxylated and phosphated, partial sodium salt	12	83.000	1-Octanol	15	866.000
Nonylphenol, ethoxylated and phosphated, partial sodium salt	12	288.005	1-Octanol (sec-Capryl alcohol)	15	867.000
Nonylphenol, ethoxylated and sulfated, ammonium salt	12	750.000	2-Octanol (N-ethyl methyl ketone)	15	831.000
Nonylphenol, ethoxylated and sulfated, sodium salt	12	287.000	3-Octanone (Ethyl methyl ketone)	07	166.200
Nonyl phenol, ethoxylated, mixed fatty acids	12	288.000	Octanoyl chloride	15	561.000
Nonyl phenol, ethoxylated, mixed fatty acids	12	710.500	Octenylsuccinic anhydride	15	542.000
Nonylphenol-formaldehyde, alkoxyated	12	723.000	N-Octyl acetate	07	166.300
Nonyl phenol oleate, ethoxylated	12	749.500	tert-Octylamine	15	293.100
Nonylphenyl phosphates, mixed	09	85.000	tert-Octylamine	15	1241.000
Nonyl acetate	07	114.950	Octyl chloride	11	65.000
Nonyl tail oil alkyl-1-tall oil amidoethyl imidazoline	12	361.500	N-Octyl decyl dimethyl ammonium chloride	12	500.700
Nonylamine hydrochloride	06	531.000	N-Octyl, N-decyl, N,N-dimethyl ammonium chloride	12	483.200
Novobioin, sodium	06	531.000	N-Octyl, n-decyl, N-decyl, N,N-dimethyl ammonium chloride	11	49.000
Novobioin, sodium	06	531.000	N-Octyl, n-decyl, N-decyl, N,N-dimethyl ammonium chloride	11	49.000
Nylon 6 (Polymer for fiber, only)	14	389.000	Octylidiphenylamine, ethoxylated	09	77.000
Nylon 6/6	14	389.000	Octylidiphenylamine, alkylated	09	79.000
Nylon type (Polyamide resins)	08	26.000	Octyl formate	07	166.355
Nystatin (medicinal grade)	06	165.700	Octyl glucamine	03	1264.050
Octamethylphenyl oxide	07	122.500	N-Octylglucamine	07	166.358
Octadecane (C ₁₈ H ₃₈)	15	143.000	Octyl isobutyrate	07	166.358
Octadecane (C ₁₈ H ₃₈) (Chloran)	13	143.000	2-n-Octyl-4-isothiazolin-3-one	13	25.500
1-Octadecanethiol	15	1335.200	Octyl isovalerate	07	166.360

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CHEMICAL NAME	ITEM NO.	SECT. NO.	CHEMICAL NAME	ITEM NO.	SECT. NO.
n-Octyl mercaptan	171, 400	09	Oleic acid esters, all other	11	96, 000
Octyl mercaptans	95, 010	02	Oleic acid-ethanolamine condensate, ethoxylated	12	579, 000
3-Octyloxy and 3-dicycloxypropylamine	12, 323, 100	12	Oleic acid, ethoxylated	12	671, 500
Octylphenol	12, 385, 000	03	Oleic acid-ethyleneimine condensate, propoxylated and sulfated, sodium salt	12	16, 000
n-Octylphenol, ethoxylated	12, 752, 005	12	Oleic acid, morpholine salt	12	30, 500
Octylphenol, ethoxylated and phosphorylated	12, 85, 000	12	Oleic acid, potassium salt	12	60, 000
Octylphenol, ethoxylated and phosphorylated, magnesium salt	12, 208, 000	12	Oleic acid, sulfate salt	12	261, 600
n-Octylphenol, ethoxylated and phosphorylated, sodium salt	12, 208, 000	12	Oleic acid, sulfated, disodium salt	12	261, 700
4-Octylphenol, ethoxylated and phosphorylated, sodium salt	12, 208, 000	12	Oleic acid, sulfated, sodium salt	12	31, 000
Octylphenoxy ethoxychloride	12, 724, 000	03	Oleic acid, triethanolamine salt	12	450, 000
Octylphenoxy polyethoxy ethyl sulfate	12, 1265, 118	02	Oleic acid, triethanolamine salt	12	450, 000
Octyl phosphate	12, 1295, 100	12	Oleic acid, triethanolamine salt	12	450, 000
Octyl phosphate, alkylamine salt	12, 106, 000	12	Oleoyl chloride	15	568, 000
Octyl phosphate, ethoxylated	12, 784, 000	12	M-(Oleoyloxyisopropyl)sulfosuccinamic acid	12	180, 000
Octyl phosphate, isopropoxy titanium salt	12, 108, 400	12	Oleoylpalmitamide	12	180, 000
Octyl phosphate, neodecyl titanium salt	12, 108, 400	12	N-Oleoylarginine	12	247, 000
Octyl phosphate, potassium salt	12, 107, 000	12	N-Oleoylarginine ethoxylate salt	12	247, 000
Octyl phosphate, sodium salt	12, 107, 000	12	Oleoylamine	12	732, 100
Octyl pyrophosphate	12, 108, 000	12	Oleoylamine, ethoxylated	12	333, 500
Octyl pyrophosphate, ethylenedioxy titanium salt	12, 110, 100	12	Oleyl betaine	12	16, 100
Octyl pyrophosphate, ethylenedioxy titanium salt/dimethylamino methacrylate salt	12, 110, 110	12	Oleyl oleate	11	94, 500
Octyl pyrophosphate, isopropoxy titanium salt	12, 110, 150	12	Oleoyloxyethylamide oxypropyl sulfonic acid	12	212, 200
Octyl pyrophosphate, neodecyl titanium salt	12, 110, 160	12	N-Oleyl sarcosine	12	61, 500
Octyl pyrophosphate, octathylenedioxy titanium salt	12, 110, 170	12	Oleyl sulfate, sodium salt	12	238, 200
Octyl sulfate, sodium salt	15, 1608, 900	15	Olive oil acids, sodium salt	12	1362, 000
Oil-soluble petroleum sulfonate, ammonium salt	14, 217, 000	14	Organo-aluminum compounds, all other	15	1371, 000
Oil-soluble petroleum sulfonate, ammonium salt	14, 217, 000	14	Organo-phosphorus compounds, all other	15	165, 000
Oil-soluble petroleum sulfonate, barium salt	14, 212, 000	14	Organo-phosphorus insecticides, cyclic, all other	15	1399, 000
Oil-soluble petroleum sulfonate, calcium salt	14, 213, 000	14	Organo-silicone compounds, all other	15	1407, 000
Oil-soluble petroleum sulfonate, magnesium salt	14, 214, 000	14	Organo-zinc compounds, all other	15	1409, 000
Oil-soluble petroleum sulfonate, sodium salt	14, 215, 000	14	Ormetoprim	06	265, 500
Oleamide (Octadecene amide)	15, 250, 000	15	Orphenadrine citrate	06	479, 500
Oleic acid	12, 598, 000	12	Other copolymer resins of acrylic and/or methacrylic acid esters	08	20, 000
Oleic acid (Ratio = 2/1)	12, 598, 000	12	Other copolymer resins of acrylic and/or methacrylic acid esters	08	20, 000
Oleic acid (Ratio = 2/1)	12, 598, 000	12	Other homopolymer resins of acrylic and/or methacrylic acid esters	08	20, 050
Oleic acid (amine/acid ratio=1/1)	12, 573, 010	12	Other hydrolytic enzymes	14	120, 000
Oleic acid (Ratio = 1/2)	12, 555, 200	12	7-Okabicyclo-[2.2.1]-heptane-2,3-dicarboxylic acid, disodium salt (endothall)	13	83, 000
Oleic acid aminoethylethanolamine-condensate [amine/acid ratio=1/1]ethyl sulfate	12, 575, 410	12	Okacillin, sodium	13	18, 000
Oleic acid, ammonium salt	12, 598, 000	12	Oleic acid salt, all other	06	58, 000
Oleic acid, diethylamine salt	12, 598, 000	12	Oleic acid, sulfate salt, all other	15	727, 000
Oleic acid, diethylamine salt	12, 363, 000	12	Oxamide	15	125, 490
Oleic acid-N,N-dimethyltriethylethanolamine condensate	12, 363, 000	12	Oxamide, benzophenone hydrazide	15	251, 250
Oleic acid, epoxidized, ammonium salt	12, 59, 900	12	Oxamide	06	506, 000

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CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Oxidate light ends	15	1451.000	Pectinase	14	116.000
Oxidized Fischer-Tropsch wax	15	566.000	Pelargonic acid (Ratio = 2/1)	12	541.000
Oxidized hydrocarbon mixture	14	218.000	Pelargonic acid-tetraethylenepentamine condensate	12	366.000
2-Oxino-3-pentanone	15	466.500	Penicillin V	06	26.000
3-Oxo-1,2-benzisothiazoline-2-acetic acid, methyl ester, octylthiolide	02	172.000	Penicillin G, benzathine	06	21.000
Oxylithyllide	02	780.000	Penicillin G, potassium	06	22.000
Oxymethylenediphenylmethane	03	1275.700	Penicillin G, potassium (animal feed grade)	06	29.000
Oxymaluminum benzoate	15	1363.200	Penicillin G, procaine (medical grade)	06	23.000
Oxy-aluminum octanoate	09	109.000	Penicillins, other than semisynthetic, all other	06	30.000
P,P'-Oxybis(benzenesulfonhydrazide)	06	301.500	Pentabromochlorocyclohexane	03	1275.300
Oxybutynin chloride	06	406.000	Pentabromomethylbenzene	03	1275.352
Oxydione hydrochloride	06	406.100	Pentachlorophenol (PCP)	13	28.000
Oxydione taraphthalate	03	1275.000	Pentachlorophenol, sodium salt	13	29.000
N,N'-Oxydianiline-benzothiazolylsulfonamide	09	34.000	Pentaerythritol	15	1091.000
N-Oxydiethylmethacrylamyl-N'-oxybis(methylsulfenamide)	09	34.100	Pentaerythritol caprylate/caprate	15	127.002
Oxyden-containing quaternary ammonium salts (Except those having amide linkages), all other	12	467.000	Pentaerythritol stearate	15	129.000
Oxyphenacylamine hydrochloride	06	302.000	Pentaerythritol stearate	12	715.100
Oxyquinoline benzoate (benzoquinone)	06	268.000	Pentaerythritol, tall oil acid ester, alkoxylated	12	715.200
Oxyquinoline sulfate	06	270.000	Pentaerythritol tetraacrylate	15	1130.000
Oxytetracycline (medical grade)	06	36.000	Pentaerythritol tetraakis (3-Harcaptopropionate)	15	1131.000
Oxytetracycline (animal feed grade)	06	37.000	Pentaerythritol tetranitrate	15	1467.000
Oxytriacetylene (animal feed grade)	06	72.000	Pentaerythritol tribenzoate	15	125.700
Palmitic and stearic acids (Ratio = 2/1)	12	549.000	M,M',M'',M'''-Pentaerythritol-3,3'-bis(hydroxyethyl)-N-(tallow alkyl)-, 3-diaminopropane diacilate	15	294.000
Palmitoyl chloride	15	567.000	Pentamethylamine	12	465.500
Palm kernel oil acids, potassium salt	12	62.890	Pentamethylaniline	03	1276.000
Palm kernel oil acids, sodium salt	12	62.900	1,1,3,3,5-Pentamethyl-4,6-dinitroindan (HosKene)	07	64.900
Palm oil acids, sodium salt	12	63.000	1,1,3,3,5-Pentamethylindan	03	1277.000
Palm oil	16	790.000	M,M',M'',M'''-Pentamethyl-N-(tallow alkyl)trimethylene-bis(ammonium chloride)	12	501.000
Papsin	06	746.000	n-Pentane	12	55.000
Paracetamine hydrochloride	07	97.405	1-Pentane	15	833.000
Para-Cymene	02	85.000	1-Pentamethione (Acetylacetone)	15	835.000
n-Paraffins, other	02	84.000	3-Pentazone (Diethyl Ketone)	06	416.001
n-Paraffins, C ₁₀ -C ₁₄	02	84.250	Pentazocine	06	416.003
n-Paraffins, C ₁₀ -C ₁₆	02	84.260	Pentazocine hydrochloride	02	56.000
n-Paraffins, C ₁₇ -C ₁₈	02	81.000	1-Pentene	02	57.000
n-Paraffins, C ₁₉ -C ₂₁	02	81.000	2-Pentene	02	57.000
n-Paraffins, C ₂₂ -C ₂₄	15	1178.500	Pentene-trille	15	450.400
Parformaldehyde	03	1121.650	Pentenes, mixed	02	58.000
Parhydroxyphenylglycine potassium methyl diane salt	03	1277.300	Pentylalcohol	15	296.000
Para-Pentylalkyphenol	12	310.000	Pentylamine	15	296.000
Para Phenoyl benzoyl chloride	03	1299.655	o-Pentylcyanmaldehyde	07	655.000
Peanut oil, sulfated, sodium salt	12	309.900	o-Pentylphenol (o-Amylphenol)	03	1279.000
Pecan oil, sulfated, sodium salt	12	309.900	p-tert-Pentylphenol	03	1279.100

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
2-(3-Pentyl)pyridine	03	1279-500	Phenolsulfonaphthalein, sodium salt	03	1299-000
Persulfonate (perchloroethane)	15	1243-000	Phenol-sulfonic acid, formaldehyde condensate	03	1299-200
Pestomorphin (ethyl mercaptan)	15	1410-000	1-Phenol-2-sulfonic acid, formaldehyde condensate	14	467-000
Pestomorphin polyether	15	1410-100	Phenolsulfonic acid, sodium salt	03	1299-802
Permethrin acid chloride	03	1279-600	Phenolsulfonaphthalein	06	580-000
Peroxyacetic acid	15	466-000	Phenol, synthetic, from chlorobenzene by vapor-phase hydrolysis, U.S.P.	03	1295-000
Perphenazine	06	588-000	Phenol, synthetic, from cumene by oxidation, U.S.P.	03	1297-000
3,4,9,10-Perylene-tetracarboxylic-3,4,9,10-dianhydride	03	1280-503	Phenol, synthetic, from toluene by oxidation, U.S.P.	03	1298-050
3,4,9,10-Perylene-tetracarboxylic-3,4,9,10-diolamide	03	1281-000	Phenothiazine	15	126-000
Pery103,4-cd-9,10-c-d' dipyrrom-1,3,8,10-tetrone	03	1282-500	Phenoxyacetic acid, sodium salt	03	1299-613
Pesticides and related products, acyclic, all other	13	245-000	3-Phenoxybenzaldehyde	03	1299-615
Pesticides and related products, cyclic, all other	08	24-000	3-Phenoxybenzaldehyde acetal	03	1299-617
Petroleum sulfonic acid, water soluble (acid layer), sodium salt	12	213-000	3-Phenoxybenzyl alcohol	05	147-000
1,10-Phenanthroline	03	1281-950	2-(2-Phenoxyethoxy)ethanol	05	127-000
Phendimetrazine tartrate	06	588-200	2-Phenoxyethyl isobutyrate	15	128-000
Phenethyl acetate	07	66-000	3-(Phenoxyethyl)benzoic acid	07	74-000
o-Phenethylamine	03	1282-500	3-(Phenoxyethyl)benzoic acid, trans-3-(2,2-dichloroethyl)-2,2-dimethyl cyclopropanecarboxylate	13	166-025
2-Phenethylamine	07	1267-500	Phenoxy (R) resin (other than for coating and adhesives)	08	125-000
Phenethyl benzoate	07	69-000	m-Phenoxytoluene	06	549-000
Phenethyl formate	07	68-000	Phenylamine	06	549-500
Phenethyl isobutyrate	07	69-000	Phenylamine hydrochloride	07	75-000
Phenethyl isovalerate	07	70-000	Phenylacetaldehyde	07	76-000
2-Phenethyl phenylacetate	07	71-000	Phenylacetaldehyde, dimethyl acetal	07	76-050
1-Phenethyl-2-picollinium bromide	12	527-700	Phenylacetic acid isopentyl ester	03	1405-000
Phenethyl propionate	07	52-700	Phenyl acid phosphate	14	196-000
Phenethyl pyridinium bromide	07	52-700	Phenyl alanine	07	76-350
Phenethyl salicylate	07	73-000	o-Phenylmethylphenylamine	03	1311-000
Phenethyl stearate	07	73-000	m-Phenyl-1-butene	03	1314-300
Phenetole	03	1286-050	4-Phenylenebis(maleimide)	09	45-000
Phenindamine tartrate	06	102-000	o-Phenylene-diamine	03	1320-000
Phenobarbital, sodium	06	459-000	p-Phenylene-diamine	03	1319-000
Phenobarbital	06	459-000	p-Phenylene-diamine, substituted, other	06	339-000
Phenol, alkylated	09	101-000	Phenylpicrine	03	1321-250
Phenol, benzoylated	03	128-000	d-Phenylpicrine	03	1321-750
Phenol, ethoxylated	12	88-000	d-Phenylpicrine base	03	1321-750
Phenol, hindered and phosphorylated	09	102-000			
Phenol, hindered	08	9-000			
Phenolic and other tar acid resins	14	230-000			
Phenol, magnesium salt	03	1292-000			
Phenol, natural, from petroleum, all other	03	1291-000			
Phenol, natural, from petroleum, U.S.P.	03	1291-000			
Phenols, ethoxylated, all other	12	758-000			
Phenol, styrenated	03	128-000			
Phenol, styrenated, mixtures	03	128-000			

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME		SECT: NO.	ITEM NO.	CHEMICAL NAME		SECT: NO.	ITEM NO.
	Phenylephrine bitartrate	06	340.000		2-Phosphobutane-1,2,4-tricarboxylic acid, sodium salt	14	86.000
	Phenylephrine hydrochloride	06	341.000		N-(Phosphonomethyl)glycine, isopropylamine salt	13	205.950
	Phenyl ether (Diphenyl oxide)	03	1322.028		N-(Phosphonomethyl)glycine, sodium salsini salt	11	21.000
	Phenyl ether (Diphenyl ether)	03	1322.028		Phosphoric acid esters, all other	11	16.000
	Phenylethyl anthranilate	07	771.050		Phosphoric and polyphosphoric acid esters, all other	11	105.000
	Phenylethyl 2-methyl butyrate	07	771.250		Phosphorothioates used as flocculation reagents, all other	12	113.000
	Phenylethyl tiglate	07	771.200		Phosphorothioates used as lubricating oil and grease additives, all other	14	133.000
	Phenyl glycidyl ether	15	131.500		Phosphorothioic acid salts (Dithiophosphates), all other	14	244.000
	dl-2-Phenylglycine (racemic)	03	1322.300		Phosphoric acid esters, all other	15	706.000
	dl-2-Phenylglycine (racemic)	03	1322.602		Phosphoric acid esters, all other	14	383.000
	d(-)-2-Phenylglycine potassium ethyl diane salt	03	1322.002		Phthalic acid	03	1346.000
	Phenylglycine, potassium salt	03	1322.002		Phthalic acid, diallyl ester	11	23.400
	Phenylhydrazones, all other	03	1325.000		Phthalic acid, lead salt, (Dibasic)	15	135.000
	Phenylhydrazones (N-Phenyldiethanolamine)	03	1327.000		Phthalic anhydride	03	1348.000
	2,2'-(1-Phenylimino)diethanol diacetate ester	03	1327.500		Phthalic anhydride esters, all other	11	51.000
	Phenylisocyanate	03	1322.000		Phthalic anhydride type alkyl resins	08	132.000
	Phenylmalonic acid	13	15.500		Phthalimide	03	1352.000
	Phenylmercuric acetate (PHA)	13	16.000		Phthalimide bis(2-ethyl)copper	03	1352.500
	Phenylmercuric ammonium acetate	13	16.000		[Phthalocyanine]tetrasulfonyl chloride, copper derivative	03	1353.300
	Phenylmercuric carboxylate	13	16.000		Phthalocyanine tetrasulfonyl chloride, copper derivative	03	1353.800
	Phenylmercuric iodide	13	16.000		Phthaloyl chloride (Phthalyl chloride)	03	1355.000
	[5-(Phenylmethyl)]-3-furfuryl alcohol	15	82.900		Picoline (3,4-mixture)	03	1355.000
	Phenyl- α -naphthylamine	03	1329.403		2-Picoline (α -Picoline)	03	1355.000
	o-Phenylphenol	03	1330.000		3-Picoline (β -Picoline)	03	1357.000
	p-Phenylphenol	03	1331.000		4-Picoline (4-Picoline)	03	1359.003
	o-Phenylphenol, sodium salt	12	754.050		4-Picoline-N-oxide	03	1359.004
	o-Phenylphenol, sodium salt	12	754.050		Picolinic acid	03	1360.000
	N-Phenyl-p-phenylenediamine	03	1334.000		Picolinonitrile (2-Cyanopyridine)	03	1359.100
	Phenylphosphinic acid	03	1334.100		2-Picolylamine	03	1360.900
	Phenylphosphinic acid chloride	03	1334.100		3-Picolylamine	03	1361.000
	Phenylpropane	03	1336.100		Picramic acid, sodium salt	15	136.000
	1-Phenyl-1,2-propanedione, 2-oxime	06	343.000		Picric acid (Trinitrophenol)	05	144.000
	Phenylpropanolamine hydrochloride	06	343.000		Pigment Black 7	05	144.000
	3-Phenylpropyl acetate	07	79.000		Pigment Black 7, for use	05	99.000
	3-Phenylpropyl cinnamate	07	79.200		Pigment Blue 1 (PBA)	05	102.000
	1-Phenyl-3-pyracollidone	03	1339.853		Pigment Blue 2 (PBA)	05	111.000
	Phenylstyrene, ethoxylated	14	377.000		Pigment Blue 14, (PBA)	05	113.010
	Phenylstyrene, ethoxylated	12	754.080		Pigment Blue 15, (α form)	05	113.010
	1-Phenyl-2-pyracollidone-5-thione	03	1342.100		Pigment Blue 15.1, (α form)	05	113.020
	4-Phenylthioxanthone-1,1-dioxide	03	1342.202		Pigment Blue 15.2, (α form)	05	113.030
	Phenyltoloxamine citrate	06	104.000		Pigment Blue 15.3, (β form)	05	114.010
	Phenyl xylol ethane	15	134.800				
	Phenylacetone	06	423.300				
	Phenylacetone	06	423.600				
	Phenylcolin, sodium	15	1411.000				
	Phosgene (Carbonyl chloride)	12	111.000				
	Phosphated and polyphosphated alcohols, all other	12	111.000				

Table 4.---Alphabetical Chemical Index

CHEMICAL NAME	ITEM NO.	SECT. NO.	CHEMICAL NAME	ITEM NO.	SECT. NO.
Pigment blue 15:4, (B form)	05	114.020	Pigment Red 38	05	52.000
Pigment blue 9	05	235.000	Pigment Red 39	05	55.000
Pigment blue 21	05	235.000	Pigment Red 40	05	55.000
Pigment blue 25	05	119.000	Pigment Red 48:1, (barium)	05	55.100
Pigment blue 61	05	120.061	Pigment Red 48:2, (calcium)	05	55.200
Pigment blue toners, all other	05	124.000	Pigment Red 48:3, (strontium)	05	55.300
Pigment brown 1	05	135.000	Pigment Red 48:4, (manganese)	05	55.400
Pigment brown 5	05	140.000	Pigment Red 49, (sodium)	05	56.000
Pigment brown toners, all other	05	142.000	Pigment Red 49:1, (barium)	05	57.000
Pigment green 1, (PMA)	05	125.000	Pigment Red 49:2, (calcium)	05	58.000
Pigment green 2, (PMA)	05	125.000	Pigment Red 50, (sodium)	05	61.000
Pigment green 3, (PTA)	05	128.000	Pigment Red 52:2, (manganese)	05	62.000
Pigment green 4, (PMA)	05	130.000	Pigment Red 53, (sodium)	05	63.000
Pigment green 7	05	132.000	Pigment Red 53:1, (barium)	05	64.000
Pigment green 8	05	133.000	Pigment Red 57	05	67.057
Pigment green 10	05	134.000	Pigment Red 57:1, (calcium)	05	68.000
Pigment green 36	05	134.260	Pigment Red 60:1	05	209.000
Pigment green toners, all other	05	135.000	Pigment Red 63	05	70.000
Pigment orange 1	05	19.000	Pigment Red 81, (PMA)	05	70.000
Pigment orange 2	05	21.000	Pigment Red 83, (PTA)	05	75.000
Pigment orange 3	05	21.000	Pigment Red 83	05	75.000
Pigment orange 5	05	21.000	Pigment Red 88	05	211.000
Pigment orange 13	05	23.000	Pigment Red 112	05	78.000
Pigment orange 15	05	24.000	Pigment Red 118	05	45.810
Pigment orange 16	05	25.000	Pigment Red 119	05	79.119
Pigment orange 17	05	206.000	Pigment Red 122	05	79.320
Pigment orange 34	05	25.180	Pigment Red 123	05	80.000
Pigment orange 36	05	25.190	Pigment Red 147	05	85.847
Pigment orange 38	05	25.250	Pigment Red 198	05	95.870
Pigment orange 43	05	26.046	Pigment Red 179	05	80.560
Pigment orange 46	05	26.046	Pigment Red 179	05	80.560
Pigment orange 48	05	26.048	Pigment Red 181	05	80.680
Pigment orange 49	05	26.049	Pigment Red 188	05	80.688
Pigment orange toners, all other	05	29.000	Pigment Red 190	05	80.770
Pigment red 1, (dark)	05	47.000	Pigment Red 200	05	84.200
Pigment red 1, (light)	05	48.000	Pigment Red 202	05	84.202
Pigment red 2	05	30.000	Pigment Red 206	05	84.206
Pigment red 4	05	50.000	Pigment Red 211	05	84.211
Pigment red 5	05	50.000	Pigment Red 211	05	84.211
Pigment red 6	05	50.000	Pigment Red 224	05	84.224
Pigment red 7	05	31.000	Pigment Red 231, (calcium)	05	70.001
Pigment red 9	05	32.000	Pigment Red toners, all other	05	86.000
Pigment red 13	05	36.000	Pigment Violet 1, (fugitive)	05	87.000
Pigment red 17	05	39.000	Pigment Violet 1, (PMA)	05	88.000
Pigment red 21	05	40.021	Pigment Violet 1, (PTA)	05	89.000
Pigment red 22	05	43.000	Pigment Violet 3, (fugitive)	05	90.000
Pigment red 23	05	43.000	Pigment Violet 3, (PMA)	05	91.000
Pigment red 31	05	45.000	Pigment Violet 3, (PTA)	05	92.000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	ITEM NO.	SECT. NO.	CHEMICAL NAME	ITEM NO.	SECT. NO.
Polyacrylic acid, allylate	12	719, 200	Polyethylene glycol sesquiester of tallow acids	12	690, 000
Polyacrylic acid, allylphenoxypolyoxylate	12	17, 210	Polyethylene glycol terephthalate	12	663, 000
Polyacrylonitrile (Neoprene) (CR) type	10	413, 000	Polyethylene glycol terephthalate	12	663, 200
Polyaddition of methylamine and formaldehyde	14	438, 000	Polyethyleneimine methyl ammonium sulfate	12	477, 250
Poly(diallyldimethylammonium chloride)	14	439, 000	Polyethyleneimine polymer with 1,4-dihydroxy-2-butene	14	171, 000
Poly(dimethylamino(2-hydroxyethyl)ethylenechloride)	14	170, 000	Polyethylene polypropylene glycol glyceryl triether maleate	15	1132, 200
Polyester resins, saturated, all other	08	39, 050	Polyethylene terephthalate (PET)	16	30, 000
Polyester resins, unsaturated	08	12, 000	Polyethylene terephthalate	16	30, 000
Polyether and polyether polyols for urethanes	06	12, 050	Polyethyl methacrylate	08	320, 035
Polyethylene glycol, monododecyl ether sulfate, ammonium salt	14	440, 000	Polyglycerol decanoate	12	692, 200
Polyethylene glycol, monododecyl ether sulfate, ammonium salt	14	440, 000	Polyglycerol decanoate	12	697, 400
Polyethylbenzene (80 percent diethylbenzene)	03	1369, 000	Polyglycerol dodecanoate	12	692, 500
Polyethylene glycol	15	1181, 000	Polyglycerol esters, all other	12	699, 000
Polyethylene glycol dibenzoate	11	52, 000	Polyglycerol mono-oleate	12	696, 000
Polyethylene glycol diester of coconut oil and oleic acid	12	684, 300	Polyglycerol mono-oleate	12	697, 000
Polyethylene glycol diester of mixed linoleic acid/oleic acid	12	684, 300	Polyglycerol sulfates	15	1184, 000
Polyethylene glycol diester of tall oil acids	12	684, 500	Polyhexafluoropropylene oxide	15	1268, 900
Polyethylene glycol dilaurate	12	674, 000	Polyhydric alcohol esters, all other	15	1141, 000
Polyethylene glycol dimethyl ether	15	1181, 200	Polyhydric alcohol esters, all other	15	1196, 000
Polyethylene glycol dioleate	12	675, 000	Polyhydric alcohol, ethoxylated and phosphated	12	88, 800
Polyethylene glycol diester of mixed fatty acids	12	676, 000	Polyhydric alcohols, all other	15	1096, 000
Polyethylene glycol esters of chemically defined acids	12	684, 000	Polyisobutylene, type elastomers	08	34, 000
Polyethylene glycol esters of mixed acids, all other	12	691, 000	Polyisoprene, alkyl type	10	18, 000
Polyethylene glycol hydroxyacetate	12	676, 500	Polyisoprene, natural type	10	444, 000
Polyethylene glycol monocaprylate	12	677, 500	Polymeric phosphites	09	85, 500
Polyethylene glycol mono decyl ether	15	1181, 300	Polymerization regulators, acyclic, other	09	173, 000
Polyethylene glycol monoester of coconut oil acids	12	685, 510	Polymers for fibers, all other	14	384, 000
Polyethylene glycol monoester of tall oil acids	12	685, 700	Polymers, water soluble, all other	14	452, 000
Polyethylene glycol mono(phenyl) sulfate	12	678, 000	Polymethacrylic acid esters	15	1499, 000
Polyethylene glycol mono(phenyl) sulfate	12	678, 000	Polymethacrylic acid, sodium salt	14	445, 000
Polyethylene glycol mono-oleate	14	441, 000	Polyethylene polyphenylsulfonate	03	1023, 000
Polyethylene glycol mono-oleate, ethoxylated	12	679, 000	Poly(1,1,1-trimethylamino)bis(5-chloro-2-propanol)	14	446, 000
Polyethylene glycol monopalmitate	12	680, 000	Polyethyl methacrylate (PMMA)	08	20, 400
Polyethylene glycol monopelargonate	12	680, 200	Polyethylvinyl ether monoethylmaleate	15	1181, 600
Polyethylene glycol monoricinoleate	12	681, 000	Poly(mixed ethylene, propylene)glycol	12	763, 000
Polyethylene glycol mono-oleate	12	682, 000	Polyoxyethylene glycol	06	56, 000
Polyethylene glycol mono-oleate of tall oil acids	12	682, 900	Poly- α -olefins	15	1132, 190
Polyethylene glycol mono-oleate of tall oil acids	12	685, 000	Poly- α -olefins, sulfurized	14	453, 000
Polyethylene glycol mono-oleate of coconut oil acids	12	686, 000	Polyol glycidyl ether	14	454, 000
Polyethylene glycol sesquiester of coconut oil acids	12	687, 000	Polyoxalkylated cyclic amines	15	1391, 000
Polyethylene glycol sesquiester of tall oil acids	12	689, 000	Polyoxalkylated fatty alcohol, phosphate ester	14	468, 000
Polyethylene glycol sesquiester of tall oil acids	12	689, 000	Polyoxalkylated fatty alcohol, phosphate ester	12	112, 650

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CHEMICAL NAME	SECT: NO.	ITEM NO.	CHEMICAL NAME	SECT: NO.	ITEM NO.
Polyoxoalkylene glycol	15	1181-800	Polyvinyl butyral resins	08	49, 000
Poly(oxy-1,2-ethanediylo)acetoxymethyl, methyl,	12	47, 500	Polyvinyl chloride copolymer resins, all other	08	49, 020
Poly(oxy-1,2-ethanediylo)- α -carboxymethyl, omega-	06	457, 000	Polyvinyl chloride homopolymer resins	08	49, 010
Poly(tridecylloxy), potassium salt	12	754, 460	Polyvinyl formal resin	08	49, 050
Poly(C12-C15 alkyl methyl)- ω -(phenylmethyl)-omega-hydroxy-	12	754, 500	Polyvinylidene fluoride resin	08	38, 150
Poly(oxy-1,2-ethanediylo), α -(phenylmethyl)-omega-	12	754, 500	Polyvinyl octadecyl carbamate	15	468, 300
Hydroxy, vlated nonyl phenol alkyl ethers	13	195, 013	Poly(vinyl- <i>o</i> -sulfobenzal)	14	379, 000
Poly(oxyethylene(dimethylamino)ethylene(dimethylimino) ethylene dichloride)	15	297, 720	Potassium acetate	15	602, 000
Poly(oxypropylene)amine	15	1185, 000	Potassium benzoate	15	375, 000
Poly(oxypropylene polyoxyethylene glycol, mixed	09	86, 000	Potassium benzoate	15	695, 000
Polyphenolic phosphates, polyalkylated	08	34, 500	Potassium citrate	15	730, 500
Poly-m-phenylene sulfide resins	04	32, 000	Potassium dihexyl phosphorodithioate	15	641, 000
Polyphenylene oxide type resins	08	35, 500	Potassium formate	15	653, 000
Polyphenylene sulfide resins	08	35, 500	Potassium gluconate	06	766, 000
Poly-p-phenylene tetraphthalamide	14	393, 000	Potassium lactate	14	9, 000
Polypropoxybutyl ether	15	1182, 000	Potassium lactate	15	663, 750
Polypropoxybutyl ether, ethoxylated	15	1183, 000	Potassium 2-ethylbutyrate	15	1411, 500
Polypropoxyethers, all other	15	1183, 000	Potassium 2-methyl-2-butanol	15	1411, 500
Polypropylene glycol dicols	12	719, 400	Potassium oxalate	15	795, 000
Polypropylene glycol, ethoxylated	12	187, 000	Potassium salicylate	15	387, 000
Polypropylene glycol, ethoxylated	15	1183, 000	Potassium and sodium salts of fatty, rosin, and tall oil acids, all other	12	74, 000
Polypropylene glycol glycerol tri-ether	15	145, 500	Potassium sodium tartrate	15	768, 000
Polypropylene glycol glycerol triether and epichlorohydrin bisphenol epoxy resin	15	145, 500	Potassium stannate	06	629, 000
Polypropylene glycol glyceryl triether(epichlorohydrin-bisphenol A epoxy resin copolymer, ethoxylated	15	145, 500	Potassium sulfate	06	271, 000
Polypropylene-polyethylene glycol glyceryl triether	15	145, 500	Prazepam	06	508, 000
Polypropylene polymer and copolymers	08	36, 000	Prazosin hydrochloride	06	359, 700
Polypropylene (T) type elastomers	08	37, 000	Prednisolone	06	664, 000
Poly sulfone resins	08	38, 000	Prednisolone acetate	06	665, 000
Polyterpene resins	08	38, 000	Prednisolone	06	666, 000
Polytetrafluoroethylene (PTFE)	08	38, 100	Primaquine phosphate	06	184, 000
Polytetrafluoroethylene ethyl iodide	15	1269, 000	Priming and refractory oil	01	21, 040
Polytetramethylene glycol ether	15	1187, 000	Procaine hydrochloride	06	740, 000
Poly(tetramethylene tetramethylenediamine) with (chloromethyl) tetramethylenediamine	13	195, 014	Prochlorperazine edisylate	06	497, 000
Poly(1,1,1-trichloroethane-2-ol)ethylene glycol	15	1187, 200	Prochlorperazine maleate	06	497, 000
dextrose ether	15	1187, 200	Product from the reaction of stearyl nitrite, candelilla wax, paraformaldehyde, phosphorus trichloride, and p-colline	14	495, 000
Poly(2,2,4-trimethyl-1,3-pentanediol) maleate	08	13, 750	Progesterone	06	683, 000
Polyurethane elastomers	08	13, 040	Promazine hydrochloride	06	489, 000
Polyurethane resins	08	13, 080	Promazine hydrochloride	06	490, 000
Polyvinyl acetate resins	08	47, 000	1-Propanamine, alkoxylated	12	384, 600
Polyvinyl alcohol resins	08	48, 000	1-Propanamine, N-ethyl-N,N-dimethyl-3-[(1-oxooctadecylamino)-, ethyl sulfate	12	477, 280

Table 4. --Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
g-Quinololinol, copper salt	13	30.000	Reactive Red 29	04	926.000
g-Quinololinol, magnesium salt	13	30.200	Reactive Red 31	04	927.000
g-Quinololinol, sulfate salt	13	30.300	Reactive Red 33	04	928.000
g-Quinololinol zinc salt	03	1397.100	Reactive Red 43	04	930.003
g-Quinone	15	14.000	Reactive Red 49	04	930.049
Quinone dioxime	03	1397.500	Reactive Red 106	04	931.106
Rare earths naphthenate	15	312.000	Reactive Red 120	04	931.120
Rare earths neodecanoate	15	709.750	Reactive Red 141	04	931.141
Reactive Black 5	04	952.000	Reactive Red 180	04	931.180
Reactive Black 9	04	953.000	Reactive red dyes, all other	04	932.000
Reactive Blue 3	04	939.000	Reactive Violet 5	04	936.000
Reactive Blue 4	04	940.000	Reactive violet dyes, all other	04	937.000
Reactive Blue 5	04	941.000	Reactive Yellow 6	04	903.000
Reactive Blue 13	04	943.000	Reactive Yellow 15	04	904.000
Reactive Blue 19	04	943.000	Reactive Yellow 17	04	905.000
Reactive Blue 21	04	944.000	Reactive Yellow 18	04	907.000
Reactive Blue 38	04	946.000	Reactive Yellow 22	04	907.022
Reactive Blue 71	04	946.071	Reactive Yellow 37	04	910.000
Reactive Blue 89	04	946.089	Reactive Yellow 42	04	910.042
Reactive Blue 173	04	946.173	Reactive Yellow 57	04	910.057
Reactive Blue 174	04	946.174	Reactive Yellow 66	04	910.066
Reactive Blue 199	04	946.199	Reactive Yellow 133	04	910.133
Reactive Blue 199, all other	04	946.199	Reactive Yellow dyes, all other	04	911.000
Reactive Brown 1	04	949.000	Reactive Yellow dyes, all other	04	911.000
Reactive Brown 17	04	949.017	Reactive Red 35	04	928.035
Reactive Brown 18	04	949.018	Rennin	14	105.000
Reactive Green 12	04	948.012	Resorcinol	06	272.000
Reactive Green 19	04	948.019	Resorcinol monobenzoate	15	151.000
Reactive green dyes, all other	04	948.999	Resorcinol, tech.	03	1399.000
Reactive Orange 1	04	912.000	β-Resorcylic acid, lead salt	03	1403.000
Reactive Orange 11	04	914.000	Rhodinol acetate	07	164.000
Reactive Orange 12	04	914.000	Rhodinol acetate	07	164.000
Reactive Orange 13	04	915.000	Riboflavin (animal feed grade)	06	801.000
Reactive Orange 14	04	916.000	Riboflavin (medical grade)	06	802.000
Reactive Orange 16	04	917.000	Ricebean oil, sulfated, sodium salt	12	311.000
Reactive Orange 20	04	917.020	Ricinoleic acid salts, all other	15	742.000
Reactive Orange 78	04	917.078	Rodenticides, acyclic, all other	13	233.000
Reactive Orange 84	04	917.084	Roenegenographic contrast media, all other	06	574.000
Reactive Orange 88	04	918.000	Rose oxide	07	115.500
Reactive Orange dyes, all other	04	918.000	Rosin acid salts, all other	15	184.000
Reactive Red 2	04	920.000	Rosin acids, phthalate salt	15	184.000
Reactive Red 5	04	922.000	Rosin acids, potassium salt	12	66.000
Reactive Red 11	04	924.000	Rosin acids, triethanolamine salt	12	32.000
Reactive Red 21	04	925.000	Rosin alcohol, ethoxylated	12	765.000
			Rosin amine, ethoxylated	12	355.000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT.	ITEM NO.	CHEMICAL NAME	SECT.	ITEM NO.
Rosin amines	14	136.000	Sodium carbonylmethyl amylose	14	432.000
Rosin esters, unmodified (Ester gums)	08	39.000	Sodium carbonylmethylcellulose (100Z)	14	412.000
Roxarsone	06	159.000	Sodium carbonylmethyl-1-(sodium carbonylmethyleneoxyethylene)-2-nor-(coconut oil fatty acids)-2-hydroxy-2-(4-(trifluoromethyl)phenoxy)-2-nitrobenzoate	12	27.200
Roxarsone, sodium polysulfate	06	60.000	Sodium citrate	13	118.042
Rubber processing chemicals, cyclic, all other	09	172.000	Sodium diacetate	15	626.000
Rust preventing additives	14	170.000	Sodium di-sec-butyl dialthyl phosphorodithioate	15	731.000
Saccharin (1,2-Benzisothiazolin-3-one, 1,1-dioxide)	07	87.000	Sodium di-sec-butyl phosphorodithioate	15	732.000
Saccharin sodium salt	07	85.000	Sodium di-2-ethylhexyl sulfosuccinate	15	742.900
Sallylaldehyde	03	1404.000	Sodium dihydroxy-2-methoxyethylaluminum hydride	15	133.900
Sallylaldehyde oxime	03	1405.000	Sodium ethoxide	15	735.000
Sallylamide	03	1405.000	Sodium fluoroacetate	13	232.000
Sallylic acid	16	182.200	Sodium formaldehyde bisulfite	15	743.250
Sallylic acid tech	16	182.200	Sodium formaldehyde sulfoxylate	15	743.255
Sallylic acid tech	03	1406.000	Sodium formate, refined	15	625.000
Salsalate	06	389.000	Sodium formate, technical	15	625.000
Salts of organic acids, all other	15	781.000	Sodium gluconate	06	630.000
Santalol	07	116.000	Sodium lactate	06	630.000
Sarcosine	14	18.000	Sodium laurate (Nalac)	13	674.000
Sebacic acid	15	574.000	Sodium methacrylate	15	697.000
Sebacic acid, sodium salt	02	461.000	Sodium methoxide (Sodium methoxide)	15	1418.000
Secondary and tertiary monoamines, all other	12	447.000	Sodium N-methyl-N-oley l taurate	15	743.550
Semicarbazide hydrochloride	06	20.000	Sodium oxalate	15	726.000
Semiothetic penicillins, all other	15	1392.000	Sodium phenate or carbolate	01	22.050
Silicone fluids	14	462.000	Sodium polyacrylate	15	733.000
Silicone greases	14	14.000	Sodium propionate	06	330.000
Silicone resins	14	14.000	Sodium stearate	06	330.000
Silicone resins for mold release agents	15	1460.000	Sodium tetrachlorobenzenesulfate	03	1410.100
Silicone resins for mold release agents	15	1460.000	Sodium tetrachlorobenzenesulfate ether	03	1410.500
Silver trifluoroacetate	15	742.700	Solid type polyvinylidene chloride resins	08	50.020
Sitomycin	06	56.700	Solubilized Sulfur Black 2	04	1053.000
Sitomycin	06	56.700	Solvent Black 7	04	1053.000
Sodium acetate	06	618.000	Solvent Black 13	04	1055.000
Sodium aminobenzoate	15	603.000	Solvent Black 26	04	1057.047
Sodium ammonium polyacrylate and copolymers	06	336.000	Solvent Black 46	04	1057.048
Sodium arseniate	14	431.000	Solvent Black 49	04	1057.049
Sodium azobisisobutyronitrile	06	161.000	Solvent Blue 3	04	1057.049
Sodium benzene phosphinate	15	182.250	Solvent Blue 4	04	1052.000
Sodium benzoate, U.S.P.	15	12.000	Solvent Blue 5	04	1052.000
Sodium benzoate, tech.	15	11.000	Solvent Blue 23	04	1028.032
Sodium benzoate, tech.	14	142.000	Solvent Blue 35	04	1028.033
Sodium butylxanthate	14	143.000			
Sodium sec-butylxanthate	14	143.000			
Sodium caprylate	06	137.000			
1-(Sodium carbonyloxyethylene)-1-(sodium carbonyloxyethylene)-2-nor-(tall oil fatty acids)-2-hydroxyethylaluminum hydride	12	27.100			

Table 4.---Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Solvent Blue 36	04	1029.000	Solvent Red 166	04	1012.000
Solvent Blue 38	04	1031.000	Solvent Red 168	04	1012.168
Solvent Blue 43	04	1032.000	Solvent Red 169	04	1012.169
Solvent Blue 56	04	1031.056	Solvent Red 172	04	1012.172
Solvent Blue 59	04	1034.000	Solvent Red 173	04	1012.173
Solvent Blue 99	04	1037.000	Solvent Red 175	04	1012.175
Solvent Blue 100	04	1037.039	Solvent Red 207	04	1012.207
Solvent Blue 102	04	1038.102	Solvent Red 208	04	1012.208
Solvent Blue 128	04	1038.128	Solvent Red 210	04	1012.210
Solvent Blue 129	04	1038.129	Solvent Red 222	04	1012.222
Solvent Blue dyes, all other	04	1039.000	Solvent red dyes, all other	04	1013.000
Solvent Brown 12	04	1045.000	Solvent Violet 8	04	1014.000
Solvent Brown 20	04	1047.000	Solvent Violet 9	04	1015.000
Solvent Brown 26	04	1048.000	Solvent Violet 11	04	1016.000
Solvent Brown 38	04	1049.000	Solvent Violet 14	04	1017.000
Solvent Brown 51	04	1049.052	Solvent violet dyes, all other	04	1019.000
Solvent Brown 52	04	1049.052	Solvent Yellow 1	04	959.000
Solvent Green 1	04	980.000	Solvent Yellow 13	04	959.000
Solvent naphtha	01	8.000	Solvent Yellow 14	04	959.016
Solvent Orange 2	04	977.000	Solvent Yellow 16	04	963.000
Solvent Orange 3	04	978.000	Solvent Yellow 33	04	965.000
Solvent Orange 7	04	980.000	Solvent Yellow 40	04	965.000
Solvent Orange 20	04	981.000	Solvent Yellow 42	04	966.000
Solvent Orange 23	04	982.000	Solvent Yellow 44	04	967.000
Solvent Orange 31	04	985.000	Solvent Yellow 45	04	968.000
Solvent Orange 60	04	987.060	Solvent Yellow 75	04	971.000
Solvent Orange 73	04	987.073	Solvent Yellow 94	04	974.094
Solvent Orange 74	04	987.074	Solvent Yellow 107	04	975.000
Solvent Orange 76	04	987.076	Solvent Yellow 109	04	975.109
Solvent Orange 77	04	987.077	Solvent Yellow 131	04	975.131
Solvent orange dyes, all other	04	987.097	Solvent Yellow 135	04	975.135
Solvent Red 1	04	988.000	Solvent Yellow 143	04	975.143
Solvent Red 5	04	989.005	Solvent Yellow 160	04	975.160
Solvent Red 23	04	991.023	Solvent Yellow 163	04	975.163
Solvent Red 24	04	992.000	Solvent Yellow 166	04	975.166
Solvent Red 26	04	993.000	Solvent Yellow 167	04	975.167
Solvent Red 27	04	994.000	Solvent yellow dyes, all other	04	976.000
Solvent Red 68	04	999.000	Sorbic acid (2,4-Hexadienoic acid)	15	576.000
Solvent Red 74	04	1001.000	Sorbitol (70% by Weight)	15	1094.000
Solvent Red 111	04	1003.000	Sorbitol, ethoxylated	15	1189.000
Solvent Red 125	04	1008.000	Sorbitol, propoxylated	15	1190.000
Solvent Red 164	04	1011.000	Soylatic acids, reaction products with chloroethane	12	477.350
Solvent Red 165	04	1011.165	Soylatic acids, reaction products with chloroethane, quaternized	12	477.350

Table 4.—Alphabetical Chemical Index

SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME
		Soya fatty acids, reaction products with chloromethane and diethylenetriamine, propoxylated, quaternized			Stearic acid-ethylenediamine condensate, monoethoxylated
	477, 360	Soya sterols, ethoxylated	12	382, 000	Stearic acid-ethylenediamine condensate, monoethoxylated
	751, 500	Soybean oil acids (ratio=2/1)	12	368, 300	Stearic acid-ethylene diamine methyl ammonium sulfate
	541, 500	Soybean oil acids (ratio=1/1)	12	501, 500	Stearic acid-ethylenediamine condensate
	549, 300	Soybean oil acids, potassium salt	12	389, 600	Stearic acid-mono-bis(propyl amine)condensate
	67, 000	Soybean oil alkyllamine, ethoxylated	12	369, 500	Stearic acid mixed amine condensate
	427, 000	Soybean oil alkyllamine, ethoxylated	12	68, 000	Stearic acid, potassium salt
	335, 000	M-(Soybean oil alkyllamine)ethylenediamine	12	768, 000	Stearic acid salts, all other
	414, 000	M-(Soybean oil alkyllamine)ethylenediamine	12	69, 000	Stearic acid, sodium salt
	672, 000	Soybean oil, sulfated	12	370, 000	Stearic acid-tetraethylenepentamine condensate
	312, 000	Specific gravity 0.940 and below	12	370, 000	Stearic acid-tetraethylenepentamine condensate, acetate
	31, 400	Specific gravity over 0.940	08	33, 000	Stearic acid, N,N',N'',N'-tetraakis(2-hydroxyethyl)-ethylenediamine salt
	31, 400	Specific gravity over 0.940	08	33, 000	Stearic acid, triethanolamine salt
	75, 000	Spectinomycin (animal feed grade)	06	34, 000	Stearic acid, triethanolamine salt
	57, 000	Spectinomycin (medical grade)	06	451, 000	Stearonitrile (octadecane nitrile)
	740, 500	Spironolactone	06	104, 000	M-Stearoyl-p-aminophenol
	643, 000	Stannous 2-ethylhexanoate	15	577, 000	Stearoyl chloride
	715, 000	Stannous octanoate	15	735, 300	Stearoyl acid phosphate
	164, 200	Stannous octyl phthalate	15	735, 300	Stearyl alcohol, propoxylated and ethoxylated
	64, 200	Stanzolol (Octadecane amide)	06	738, 320	Stearyl alcohol, propoxylated and ethoxylated ammonium chloride copolymer ethyl sulfate ammonium
	253, 000	Stanzolol (Octadecane amide)	15	477, 400	Stearyl amine polyphosphoric acid, ethoxylated
	388, 900	Stearamidoethyldiethylamine	12	112, 810	Stearyl amine polyphosphoric acid, ethoxylated
	388, 900	Stearamidoethylethanolamine acetate	12	465, 850	Stearyl dimethylammoniumthiosulfate quaternary
	414, 500	Stearamidoethyl-2-heptadecyl imidazolone	12	465, 870	Stearyl dimethyl ethyl ammonium ethyl sulfate
	542, 000	Stearic acid (Ratio = 2/1)	12	254, 000	Stearylsuccinimide
	565, 000	Stearic acid (Ratio = 1/1)	12	1053, 000	Stearyl methacrylate
	567, 000	Stearic acid (Ratio = 1/2)	12	74, 000	Straight polystyrene
	562, 000	Stearic acid (Ratio = 2/1)	12	74, 000	Streptomycin
	556, 000	Stearic acid (Ratio = 1/2)	12	3, 500	Styrene
	556, 000	Stearic acid (Ratio = 2/1)	12	3, 500	Styrene-alkylsulfate copolymer alkyds
	575, 450	Stearic acid-aminothanolamine (amine acid ratio = 1.0/1.65)	12	1411, 000	Styrene-butadiene copolymer
	575, 450	Stearic acid-aminothyl ethanolamine (amine/acid ratio=1.75/1.0)	12	43, 000	Styrene-acrylonitrile copolymer resins (SAN)
	591, 200	Stearic acid-N-aminothyl ethanolamine condensate	12	44, 003	Styrene-allyl alcohol copolymer resins
	67, 990	Stearic acid, ammonium salt	12	3, 100	Styrene-butadiene, dry type
	575, 500	Stearic acid diethanolamine (amine acid ratio = 1.0/1.65)	12	4, 950	Styrene-butadiene latexes
	369, 500	Stearic acid-diethylenetriamine condensate, methyl sulfate	12	4, 500	Styrene-butadiene, latex type
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 500	Styrene-butadiene, other
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Styrene copolymers, all other
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Styrene copolymers, all other
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Styrene-divinylbenzene copolymer resins
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Styrene latexes, all other
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Styrene latexes, all other
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Styrene-maleic anhydride copolymer resins
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Styrene-maleic anhydride copolymer resins
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Styrene-methyl methacrylate copolymer resins
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Styrene oxide
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Styrene type plastics materials, all other
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Succinaldehyde-sodium bisulfite complex
	367, 000	Stearic acid-diethylenetriamine condensate, ethyl sulfate	12	4, 000	Succinaldehyde-sodium bisulfite complex

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
Succinic acid	15	576.000	Sulfosuccinic acid esters, all other	12	197.000
Succinic anhydride	15	577.000	Sulfosuccinic acid, (cocount oil alkyl)iminoisopropanol	12	193.400
Succinylcholine chloride	06	490.000	Sulfosuccinic acid, mixed linear alcohols, ethoxylate ester, sodium salt	12	196.160
Succinyl peroxide	15	1419.000	Sulfosuccinic acid, monoalkylamido ester, disodium salt	12	196.475
Sucrose acetate isobutyrate	15	166.000	Sulfosuccinic acid, monoalkylamido ester, disodium salt	12	196.500
Sucrose benzoate	15	1133.000	Sulfosuccinic acid, monoalkylamido ester, disodium salt	12	196.515
Sucrose octa-acetate	15	1133.000	Sulfosuccinic acid, monoalkylamido ester, disodium salt	12	197.000
Sulfacetamide, sodium	06	212.000	Sulfone, disodium salt	06	149.000
Sulfadiazine	06	215.000	Sulfone, sodium salt	06	149.000
Sulfadimethine	06	216.000	Sulfur black dyes, all other	04	1116.000
Sulfamethazine	06	221.000	Sulfur blue dyes, all other	04	1116.000
Sulfamethazole	06	222.000	Sulfur compounds, all other	04	1082.000
Sulfamethoxazole	06	223.000	Sulfuric acid esters, all other	14	264.000
Sulfantran	06	227.000	Sulfuric acid esters, all other	12	317.000
Sulfasalazine	06	228.000	Sulfurized fatty acid amides, esters, or ester-amides	15	1330.050
Sulfated fish oils and oils, all other	12	297.000	Sulfurized lard oil	14	173.000
Sulfated fish oils, all other	12	304.000	Sulfurized sperm oil	14	200.000
Sulfathiazole, sodium	06	234.000	Sulfurized stearic acid	14	202.000
Sulfisoxazole	06	235.000	Sulfurized tallow	14	203.000
Sulfisoxazole, acetyl	06	201.000	Sulfurized tallow, orange	06	474.500
5-Sulfisophthalic acid, 1,3-dimethyl ester, sodium salt	03	1417.100	Synpathometric (adrenergic) agents, all other	06	349.000
5-Sulfisophthalic acid, lithium salt	03	1417.300	Synthetic hydroglycolic agents, all other	06	691.000
5-Sulfisophthalic acid, sodium salt	03	1417.500	Synthetic sweeter material, all other	07	88.000
Sulfonic acids, all other	12	215.000	Talbutal	06	462.000
Sulfonic acids having amide linkages, all other	12	189.000	Tall oil acids (Ratio = 2/1)	12	543.000
Sulfonic acids with ester linkages, all other	12	209.000	Tall Oil Acids	12	551.000
4,4'-Sulfonyldiphenol (4,4'-Dihydroxydiphenyl sulfone)	03	1420.000	Tall Oil Acids/amineethylpiperazate condensate	12	374.100
4,4'-Sulfonyldiphenol (4,4'-Dihydroxydiphenyl sulfone)	03	1420.000	Tall oil acids/diethylenetriamine condensate	12	374.300
Sulfosiphthalic acid, bis(diacetyl)ester, amidoisodium salt	03	1421.600	Tall oil acids-N,N-dimethylpropylendiamine condensate	12	371.200
Sulfosiphthalic acid, bis(2,6-dimethyl-4-n-heptyl)ester, sodium salt	12	190.000	Tall oil acids/ethylene/amine distillation residue, condensate	12	672.420
Sulfosiphthalic acid, bis(2-ethylhexyl)ester, sodium salt	12	191.000	Tall oil acids-ethylene/amine condensate (Amine acid ratio = 1/2)	12	371.300
Sulfosiphthalic acid, dihexyl ester, sodium salt	12	192.000	Tall oil acids-ethylamine condensate	12	587.510
Sulfosiphthalic acid, disodecyl ester, sodium salt	12	194.200	Tall oil acids-polyalkylene polyamine condensate	12	372.000
Sulfosiphthalic acid, disooctyl ester, sodium salt	12	194.200	Tall oil acids-polyalkylene sulfonic acid and/or tall oil fatty acids	12	372.010
Sulfosiphthalic acid, dodecyl ester, sodium salt	12	194.300	Tall oil acids, potassium salt	12	71.000
Sulfosiphthalic acid, dodecyl ester, sodium salt	12	196.000	Tall oil acids, sodium salt	12	70.000
Sulfosiphthalic acid, dodecyl ester, sodium salt	12	196.000	Tall oil acids, sulfated, sodium salt	12	268.700
Sulfosiphthalic acid, dodecyl ester, sodium salt	12	196.000	Tall oil alkyl/amine	12	428.000

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CHEMICAL NAME	ITEM NO.	SECT. NO.	CHEMICAL NAME	ITEM NO.	SECT. NO.
Tall oil alkyl amines	12	335-500	Terbutaline sulfate	06	347-500
3-(Tall oil amino)propyl amine	12	414-600	Terephthalic acid	03	1422-000
Tall oil, chemically modified	15	168-000	Terephthalic acid, dimethyl ester	03	1424-000
Tall oil, fatty acid, diethylene triamine condensate	12	587-450	Terephthaloyl chloride	03	1424-500
(amine/acid ratio = 1/2)	12	585-300	Terephthaloyl diacetate, diethyl ester	15	183-000
Tall oil fatty acids, triethanolamine condensate	12	672-500	Terpene hydrocarbons, monocyclic (Solventol)	15	182-000
Tall oil refined, ethoxylated	12	675-000	Tetraphenylphosphonium hexafluorophosphate	03	1426-000
Tall oil salts, all other (linoleic-rosin acid salts)	15	179-000	Tetrapine-ol	07	116-500
Tall oil sulfated, ammonia salt	12	312-500	Tetrapine-ol and β -	03	1426-500
Tall oil, sulfated, potassium salt	12	312-700	o-Tetrapineol	07	117-000
Tallow acids (ratio = 2/1)	12	594-000	o-Tetrapineol acetate	07	120-000
Tallow acids, ethanolamine salt	12	584-400	o-Tetrapinyl propionate	06	641-800
Tallow acids, potassium salt	12	72-000	Tetostecone cypionate	06	642-000
Tallow acids, sodium salt	12	73-000	Tetostecone enanthate	06	642-100
Tallow acids, triethanolamine salt	12	34-500	Tetostecone propionate	06	642-300
Tallow alcohol, ethoxylated	12	740-000	Tetraalkyl silicate	15	1053-700
Tallow alkyl amide, ethoxylated	12	587-970	Tetrabromobisphenol A	15	184-000
Tallow alkylamine	12	429-000	1,1,2-Tetrabromoethane (Acetylene tetrabromide)	15	124-000
(Tallow alkylamine, ethoxylated)	12	399-000	Tetrabromophthalic anhydride	03	1423-000
(Tallow alkylamine, ethoxylated, sulfate)	12	386-000	Tetrabutylammonium bromide	12	477-850
N-(Tallow alkyl)diisopropylacetamide	12	415-000	Tetra butyl ammonium hydrogen sulfate	12	477-850
N-(Tallow alkyl)diisopropyltriethanolamine	12	18-000	2-(2,4,6-trichloroethyl)thio]-1-cyclohexene-1,	13	31-050
N-(Tallow alkyl)dimethylenediamine	12	416-000	2,4,5,6-Tetrachloroisophthalonitrile	13	31-200
N-(Tallow alkyl)trimethylenediamine acetate	12	400-000	2,4,4',5'-Tetrachlorophenylsulfone	03	1435-400
N-(Tallow alkyl)trimethylenediamine, ethoxylated	12	337-000	Tetrachlorophthalic anhydride	03	1435-600
N-(Tallow alkyl)trimethylenediamine, oleate	12	402-000	Tetracycline	06	37-000
N-(Tallow alkyl)trimethylenediamine, propoxylated	12	337-020	1-Tetradecanamine,N,N-trimethyl-chloride	15	1398-500
N-(Tallow alkyl)trimethylenediamine, 3-propane diamine	12	415-000	1-Tetradecane (Myristyl alcohol)	15	879-000
Tallow amine, ethoxylated, quarternary ammonium salt	12	672-700	3-Tetradecylsuccinic anhydride	15	185-500
Tallow amine, ethoxylated, ethoxylated, sulfate	12	336-020	3-Tetradecylaminopyrrol amine	12	416-200
Tallow fatty acids, etho	15	453-000	Tetradecyl mercaptan	09	171-200
Tallow fatty acids, sodium salt	12	295-000	Tetra-(2,2-diallyloxyethyl)-1-butoxy titanium bis-	12	784-500
Tannic acid, N.F.	15	180-000	(dtriacyl) phosphite	12	501-620
Tar bases: crude bases (Dry basis)	01	10-000	Tetraethylenammonium hydroxide	12	501-612
Tar bases: centrifuged or denaturing grade	01	22-000	Tetraethyl ammonium bromide	12	501-612
Tar bases: 100% ethylated	01	22-000	Tetraethyl ammonium chloride	15	1191-000
Tar for other uses: crude	01	24-000	Tetraethylene glycol diacrylate	15	1135-000
Tar for other uses: refined	01	25-000	Tetraethylene glycol di(2-ethylhexanoate)	11	126-100
Tar, road	01	23-000	Tetraethylene glycol diheptanoate	15	1135-700
Tetral acetate	07	169-000	Tetraethylene glycol dimethacrylate	15	1136-000

Table 4.—Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
TetraethylenePentamine	15	303.000	Tetramethyl octahydro acetyl naphthalene	07	88.810
Tetraethyl lead	14	186.000	Tetramethylthiuram tetrasulfide	09	48.250
0-0,6',0'-Tetraethyl S,S'-methylene			1,3,6,8-Tetranitro-9H-carbazole	03	1443.600
Tetraphosphorothionate (Ethion)	13	827.000	Tetranitromethane	12	478.050
Tetraethyl silicate	15	1954.000	Tetra-octyloxy titanium Chlstridecyl phosphite	15	785.100
Tetrafluoroethylene, monomer	15	1975.000	Tetraphenyltin chloride	12	191.000
Tetrafluoroethane	15	1271.000	Tetrahydrofuran, hydroxide	03	1458.950
Tetraethyl ammonium bromide	12	501.635	Textile chemicals, other than surface active agents,		
Tetrahydrobenzyl alcohol	03	1437.402	Thebaine	14	507.000
Tetrahydro-3,5-dimethyl-4H-1,3,5-oxadiazine-4-thione	09	6.900	Therium clozylate	06	431.200
Tetrahydro-3,5-dimethyl-2(1H)-pyrimidinone(3-[4-trifluoromethylphenyl]-1-[2-(4-trifluoromethyl)trifluoromethylphenyl]-4-imidazole)hydrozone			Theophylline sodium glycinate	06	131.000
Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione (DMTV)	13	166.028	Therapeutic nutrients, all other	06	746.600
Tetrahydrofuran	03	1436.000	Thermoplastic resins,benzenoid,all other	08	52.000
Tetrahydrofurfuryl alcohol	03	12.000	Thermoplastic resins,all other	08	20.030
Tetrahydrofurfuryl oleate	15	83.000	Thermosetting azylate resins	08	18.100
Tetrahydrofurfuryl alcohol	15	53.000	Thermosetting resins,nombenzenoid,all other	08	18.100
Tetrahydrofurfuryl alcohol	07	169.170	Thiabendazole	06	132.000
1,2,3,4-Tetrahydronaphthalene (TetraIn)	15	186.000	1,3,4-Thiadiazole, 2,5-bis(dialkylthio) derivatives	14	290.000
1,2,3,4-Tetrahydronaphthalene	03	1438.253	Thiamine hydrochloride	06	804.000
Tetrahydroamine from tall oil fatty acids and propyleneimine	03	1438.253	Thiamine mononitrate	06	805.000
1,2,3,4-Tetrahydro-2,4,7-tetramethylquinoline	14	174.900	Thiamylal, sodium	06	463.000
Tetrahydrothiophene	03	1437.990	Thiazole derivatives, cyclic, other	09	36.000
Tetrahydrothiophene-1,1-dioxide (Sulfolane)	15	187.000	Thioacetic acid	15	581.000
Tetrahydrozoline hydrochloride	15	188.000	Thioacetic acid (Disphenylthiourea)	15	207.500
Tetra-isopropoxy titanium bis diocetyl phosphite	06	348.000	Thiocyanic acid, methylene ester	13	40.018
Tetraisopropyl titanate	12	784.550	2-(Thiocyanomethylthio)benzothiazole	15	1193.000
Tetrakis(2-chloroethoxy)ethylene diphosphate	15	1061.000	2,2'-Thiodiethanol (Thiodiglycol)	15	768.500
Tetrakis(2-chloroethoxy)ethylene diphosphate	15	1035.500	Thiodiglycol ethoxylated	12	1452.500
M.M.M., N'-Tetrakis(2-hydroxypropyl)ethylene diamine	15	1062.000	Thiodiphenol	03	455.000
M.M.M., N'-Tetrakis(2-hydroxypropyl)ethylene diamine	12	337.590	3,3'-Thiodipropionic acid	15	582.000
propoxylated and ethoxylated	12	339.000	3,3'-Thiodipropionitrile	15	455.000
Tetralin, crude (Tetrahydronaphthalene)	01	21.060	Thioisamine (hexahydrate)	06	280.000
Tetra methyl ammonium bromide	12	501.637	Thioisamine (hexahydrate)	06	280.000
Tetramethylammonium chloride	12	501.638	Thioisopropyl sodium	02	96.995
Tetramethylammonium hydroxide	12	501.640	Thiophene (Tetrahydrothiophene)	02	96.995
M.M.M., N'-Tetramethylbenzene (Buzene)	03	1442.100	Thiophene	15	198.000
P-(1,1,3-Tetramethylbutyl)phenylamine	05	304.000	2-Thiophenesacetic acid	03	1452.700
2,4,7,9-Tetramethyl-5-decyno-4,7-diol, ethoxylated	13	743.000	2-Thiophenesacetonitrile	03	1452.800
Tetramethylthylethylamine	15	305.000	2-Thiophenesacetyl chloride	03	1452.900
Tetra(methyl-ethyl)lead, (Tel-tml,reacted)	14	187.000	2-Thiophenecarboxaldehyde	03	1453.000
Tetra(methyl-ethyl)lead	14	188.000	Thiophenol	03	1453.100
Tetramethyl, octahydro acetophenone	07	88.800	Thiophenol - hydrochloride	16	493.002
			Thiosemicarbazide	16	498.000
			Thiostrontion	06	58.000
			Thiothimene hydrochloride	06	509.000

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME		SECT. NO.	ITEM NO.	CHEMICAL NAME		SECT. NO.	ITEM NO.
	Thiourea-formaldehyde resins	08	15.000		n-Toluidine, ethoxylated	12	355.200
	Thiourea resins	08	17.010		2-o-Toluidinoethanol	03	1429.200
	Thyroglobulin	06	695.800		2-Toluidinohemansulfonic acid	03	1480.000
	Tinoid	06	686.500		p-Tolylacetate	07	89.600
	Tinorcin, disodium	06	19.700		2,2'-(m-Tolylimino)diethanol	03	1487.000
	Tinorcin, sodium	06	321.500		p-Tolyl isobutyrate	07	90.100
	Titanic acid esters, all other	15	1063.000		p-Tolyl octanoate	07	90.400
	Titanium acetylacetonate complex	15	1407.250		p-Tolylphenylacetate	02	1487.700
	Tobramycin	06	4.001		Tolyltriazole	03	145.000
	Tocamide	06	383.001		Toluene (Chlorinated camphene)	03	1487.500
	d- α -Tocopherol	06	815.000		Toluene (Chlorinated camphene)	06	770.000
	d- α -Tocopheryl acetate	06	817.000		Toluidine (vitamin A acid)	15	1036.000
	d- α -Tocopheryl acetate (animal feed grade)	06	818.000		Trialkyl phosphite	15	200.000
	d- α -Tocopheryl acetate (medicinal grade)	06	819.000		Triallyl cyanurate	06	667.000
	d- α -Tocopheryl acid succinate	06	821.000		Triaminolone	06	668.000
	Tolazamide	06	689.000		Triaminolone acetate	06	1487.802
	Tolbutamide	06	690.000		2,4,6-Triamino-5-nitrosopyrimidine	06	741.000
	P-Tolualdehyde	07	89.000		Triamterene	09	86.500
	Toluene (Toluol) 90-100%	01	1484.000		Triazole phosphites	06	509.100
	Toluene-2,3-(and 3,4)-diamine (35/65 Mixture)	03	1455.000		Triazolo lead maleate	15	689.000
	Toluene-2,4-(and 3,6)-diamine (60/20 Mixture)	03	1455.313		N,N,N-Tribenzylamine	03	1487.900
	Toluene-3,4-diamine	03	1455.402		ar-Tribromethyl benzene	03	1488.100
	Toluenediamine-bis-maleimide	03	1455.500		2,4,6-Tribromophenol	03	1488.289
	Toluene 2,4-diisocyanate (80/20 Mixture)	03	1025.600		Tri(1,2,3-trichloroethyl) phosphite	11	102.000
	Toluene 2,4-and 2,6-diisocyanate (65/35 Mixture)	03	1025.600		Tributyl acetylacrylate	11	71.100
	Toluene High purity (98-100%)	02	26.500		Tributyl citrate	15	266.000
	Toluene Other grade o- α -mixtures	11	54.000		Tributyl phosphate	11	71.200
	p-(8-Toluenesulfonamido)diphenylamine	09	83.000		S,S-Tributyl phosphorothioate	15	501.750
	p-Toluenesulfonic acid	03	1461.000		S,S-Tributyl phosphorothioate (Herphos)	15	1039.000
	p-Toluenesulfonic acid, aniline salt	03	1461.300		Tributyltin benzene	13	208.000
	p-Toluenesulfonic acid, copper salt	03	1461.400		Tributyltin chloride	13	203.000
	Toluenesulfonic acid, potassium salt	12	146.000		Tributyltin bromide	13	195.018
	Toluenesulfonic acid, sodium salt	02	146.000		Tributyltin sulfone	15	1406.000
	p-Toluenesulfonyl chloride	09	110.703		Trichloromethyl glycol maleate	15	1406.200
	p-Toluenesulfonylpyrazate	03	1025.700		Trichloromethyl alkyl phosphate	12	786.000
	p-Toluenesulfonylsemicarbazide	09	109.800		Trichloromethylallyl diisopropylthiocarbamate (Triallate)	06	726.000
	m-Tolonic acid	03	1469.000		S-(1,2,3-Trichloroallyl) diisopropylthiocarbamate (Triallate)	13	211.000
	p-Tolonic acid, methyl ester	03	1471.202		1,2,3-(and 1,2,4)-Trichlorobenzene	03	1491.000
	o-Toluidine	03	1473.000		1,2,4-Trichlorobenzene	03	1491.000
	m-Toluidine	03	1472.000				
	P-Toluidine	03	1474.000				

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
1,1-Trichloro-2,2-bis(p-methoxyphenyl)ethane (Methoxychlor)	13	146,000	Tridecylpoly(ethyleneoxy)propionic acid, potassium salt	12	18,500
3,4,4-Trichlorobenzamide	15	203,000	3-(3-Tridecylxy)propylaminopropyl amine	12	339,600
1,1,1-Trichloroethane (Methyl chloroform)	15	1245,000	Tridecyl phosphate	12	110,300
1,1,2-Trichloroethane (Vinyl trichloride)	15	1246,000	Tridecyl stearate	15	980,000
Trichloroethylene	15	1247,000	Tridecyl stearate	11	124,800
Tri(2-chloroethyl) phosphate	11	102,200	Tridecyl stearate	12	270,350
Trichloroethane	15	1272,000	Tridecyl sulfate, sodium salt	06	293,900
a-Trichloromethylbenzyl acetate (Rosetone)	15	1043,800	Tridimethyl chloridate	03	1699,208
Trichloromethylsulfonamide	15	1391,000	Triethanolamine	15	381,000
3-Trichloromethyl-1,2,4-thiadiazole	03	1492,500	Triethanolamine, ethoxylated	12	340,100
N-Trichloromethylthio-4-cyclohexene-1,2-dicarbonyl imide (Caplan)	13	34,000	Triethanolamine salicylate	12	340,100
N-Trichloromethylthiophthalimide (Folpet)	13	35,000	Triethyl acetylacrylate	11	71,300
Trichloronitromethane (Chloropirrin)	13	242,000	Triethylaluminum	15	1864,000
Trichlorophenylsilane	02	1498,000	Triethylamine	15	1568,800
1,2-Trichloropropane	15	1248,000	Triethylborane	15	71,400
1,1,1-Trichloropropane	11	102,400	Triethylglycol	15	1194,000
Tri(2-chloropropyl) phosphate	11	102,400	Triethylglycol diacetate	15	1134,800
Trichloropropylsilane	15	1395,000	Triethylene glycol diacrylate	15	1137,000
3,5,6-Trichloro-2-pyridinyloxyacetic acid	13	118,064	Triethylene glycol di(caprylate-caprate)	11	128,000
a,a-Trichlorotoluene (Benzotrithloride)	03	1495,000	Triethylene glycol di(2-ethylbutyrate)	11	128,000
2,4,6-Trichloro-s-triazine (Cyanuric chloride)	03	1499,000	Triethylene glycol di(2-ethylhexanoate)	11	129,000
1,3,5-Trichloro-s-triazine-2,4,6-(1H,3H,5H)trione (Trichloroisocyanuric acid)	15	209,000	Triethylenetetramine	11	56,750
Trichlorotrifluoroethane	15	1273,000	Tri(2-ethylhexyl) trimellitate	15	1064,000
Tricresyl phosphate	11	14,000	Triethyl orthoformate	15	1065,000
Tricresyl phosphate	13	166,031	Triethyl orthophosphate	15	1066,000
Tricyclohexyltin hydroxide	15	880,000	Triethyl phosphate	11	103,000
1-Tridecanol	12	90,010	Triethyl phosphite	15	1040,000
Tridecyl alcohol, ethoxylated and phosphated, polyalkylene polyamine salt	12	769,000	Triethyltrimethylenetriamine	09	7,000
Tridecyl alcohol, ethoxylated	12	282,000	Trifluoperazine	06	493,001
Tridecyl alcohol, ethoxylated and carbonated, sodium salt	12	319,000	Trifluoroacetic acid	05	584,009
Tridecyl alcohol, ethoxylated and phosphated	12	90,000	Trifluoroacetic anhydride	15	584,010
Tridecyl alcohol, ethoxylated and phosphated, potassium salt	12	90,020	Tri(n-hydrogenated tallow) amine	12	501,800
Tridecyl alcohol, ethoxylated and sulfated, ammonium salt	12	281,000	Tri(n-hydrogenated tallow) ammonium chloride	12	501,800
Tridecyl alcohol, ethoxylated and sulfated, sodium salt	12	282,000	a,a-Trifluoro-2,6-difluoro-N-ethyl-N-(2-methyl-2-propenyl)-p-toluidine (Ethylfluralin)	13	116,100
Tridecyl alcohol, propoxylated and ethoxylated	12	779,000	Trifluoroethanol	15	1273,490
Tridecylbenzenesulfonic acid	12	139,100	Trifluoropropene	15	1273,550
Tridecylbenzenesulfonic acid, sodium salt	12	139,200	Tri-n-hexyl aluminum	15	365,000
Tridecylpoly(ethyleneoxy)acetic acid, sodium salt	12	38,000	Triphenylmethyl hydrochloride	12	446,050
Tridecylpoly(ethyleneoxy)acetic acid, sodium salt	12	38,000	Tri(n-hydrogenated tallow) ammonium chloride	12	501,800

Table 4.--Alphabetical Chemical Index

CHEMICAL NAME	SECT. NO.	ITEM NO.	CHEMICAL NAME	SECT. NO.	ITEM NO.
a,c',c''-Tris(dimethylamino)mesitol	03	1525.000	Vat Brown 1, 11%	04	1187.000
Tris(2-ethylhexyl)phosphite	15	1048.000	Vat Brown 3, 11%	04	1188.000
Tris(2-hydroxyethyl)(tallow alkyl) ammonium diacetate	12	466.100	Vat Brown 11, 12%	04	1190.000
Tris(2-methoxyethoxy)vinyl silane	15	1398.600	Vat Brown 13, 17%	04	1192.000
Tris(2-methyl-1-aziridinyl)phosphine oxide	03	1526.000	Vat Brown 57, 12.8%	04	1200.000
Trisacetyl citrate	15	1068.500	Vat brown dyes, all other	04	1201.000
Tris and tetraethyl glycol monoethyl ethers, borate	15	1193.800	Vat Green 1, 8%	04	1178.000
Tylosin	06	777.000	Vat Green 7, 10%	04	1180.000
Tyrosanoate, sodium	06	573.000	Vat Green 9, 12-1/2%	04	1183.000
Undecanal	07	170.000	Vat Green 32	04	1185.000
9-Undecenal	07	171.010	Vat green dyes, all other	04	1185.000
Urea, 2-[(2-aminoethylamino)ethanol polymer, stearate	14	502.000	Vat Orange 1, 20%	04	1123.000
Urea-formaldehyde resins (100% Basis)	08	17.000	Vat Orange 2, 12%	04	1136.000
Urea in liquid copolymers (100% Basis)	14	509.000	Vat Orange 7, 11%	04	1139.000
Urea in plastics (100% Basis)	14	512.000	Vat Orange 15, 10%	04	1139.000
Urea in solid fertilizer (100% Basis)	14	511.000	Vat Orange dyes, all other	04	1142.000
Urea polymer with formaldehyde and methanol	14	503.000	Vat Red 10, 18%	04	1144.000
Urea polymer with tetakis[hydroxymethyl]phosphonium sulfate	14	506.000	Vat Red 13, 11%	04	1146.000
Urea, primary solution (Report on 100% urea-content Basis)	14	508.000	Vat Red 15, 10%	04	1148.000
7,7'-(Glycidic acid urea)-[4-hydroxy-2-naphthalenesulfonic acid]	03	1528.000	Vat Red 29, 18%	04	1150.000
Uricase	14	128.000	Vat Red 32, 20%	04	1151.000
Valeraldehyde (Pentanal)	15	804.000	Vat red dyes, all other	04	1150.000
Valeric acid	15	585.000	Vat Violet 1, 11%	04	1155.000
Vancomycin	06	423.900	Vat Violet 13, 6-1/4%	04	1162.000
Vasodilators, all other	06	61.000	Vat Yellow 2, 8-1/2%	04	1168.000
Vat Black 26	04	1206.016	Vat Yellow 22, 10%	04	1126.000
Vat Black 25, 12-1/2%	04	1208.000	Vat Yellow 33, 15%	04	1127.000
Vat Black 27, 12-1/2%	04	1210.000	Vat Yellow 51	04	1127.051
Vat Black dyes, all other	04	1214.000	Vegetable glycerides, hydrogenated	15	1330.400
Vat Blue 1, 20%	04	1164.000	Veratraldehyde (3,4-dimethoxybenzaldehyde)	03	1529.000
Vat Blue 6, 8-1/3%	04	1167.000	Very high molecular weight (>1000) hydrocarbons	04	292.000
Vat Blue 16, 16%	04	1171.000	Vetiveneol acetate	07	125.000
Vat Blue 18, 13%	04	1172.019	Vinyl acetate	06	281.000
Vat Blue 20	04	1173.000	Vinyl acetate	07	125.000
Vat Blue 29	04	1175.000	Vinyl acetate	06	282.000
Vat Blue 43	04	1175.066	Vinyl acetate-acrylate copolymers	06	282.000
Vat Blue 66	04	1175.066	Vinyl acetate, monomer	15	1069.000
Vat blue dyes, all other	04	1177.000	Vinyl acetate, monomer	15	456.000
			Vinyl bromide (Bromomethylene)	15	1215.000
			Vinyl chloride-acetate copolymer resins	08	50.000
			Vinyl chloride, monomer (Chloroethylene)	15	1069.010
			Vinylcyclohexane	03	1530.100
			Vinylcyclohexene monoxide	03	1531.503

Table 4.-Alphabetical Chemical Index

CHEMICAL NAME	ITEM NO.	SECT. NO.	CHEMICAL NAME	ITEM NO.	SECT. NO.
Vinyl fluoride, monomer	15	1274.000	Zinc 2-ethylhexanoate	15	614.000
Vinylidene chloride, monomer (1,1-Dichloroethylene)	15	1274.000	Zinc formaldehyde sulfoxylate	15	780.400
Vinylidene fluoride, monomer	15	1275.000	Zinc gluconate	06	767.300
2-Vinylpyridine	03	1535.000	Zinc hydrocarbon dithiophosphate	14	242.000
4-Vinylpyridine	03	1536.000	Zinc isopropyl xanthate	09	154.800
1-Vinyl-2-pyrrolidone--other copolymers	15	214.000	Zinc laurate (activator, physical property improver, and processing auxiliary)	09	179.000
1-Vinyl-2-pyrrolidone-methylacrylic acid	15	214.000	Zinc naphthenate	14	315.000
dimethylamine ethyl ester, copolymer	15	214.000	Zinc neodecanoate	15	10.000
1-Vinyl-2-pyrrolidone, monomer	15	51.000	Zinc neodecanoate	15	210.000
1-Vinyl-2-pyrrolidone, copolymer	03	51.000	Zinc phenylsulfonate	15	763.000
Vinyl tetraethylthiopyranol	08	3.800	Zinc stearate	15	178.000
Vinyl toluene alkyls	08	3.800	Zinc tellurate	15	178.000
Vinyltriethoxysilane	15	1398.000	Zinc undecylenate	06	140.000
Vitamin A, all other	06	776.000	Zirconium acetate	15	607.000
Vitamin A acetate (animal feed grade)	06	771.000	Zirconium t-o-alkylcarboxylate	15	671.975
Vitamin A acetate (medicinal grade)	06	772.000	Zirconium 2-ethylhexanoate	15	645.000
Vitamin A alcohol	06	773.000	Zirconium neodecanoate	15	711.000
Vitamin A palmitate (medicinal grade)	06	775.000	Zirconium acetylacetonate complex	15	1409.500
Vitamin A stearate (medicinal grade)	06	775.000			
Waxes and paraffinic products	09	178.800			
Wool wax alcohols, ethoxylated	12	740.500			
Xanthan gum	14	451.000			
Xanthates and sulfides	14	146.000			
o-Xylene (90-100% of o-xylene isomer)	03	1540.000			
m-Xylene (90-100% of m-xylene isomer)	03	1539.000			
p-Xylene (90-100% of p-xylene isomer)	03	1541.000			
Xylenes (Xylenol) 99-100%	03	6.000			
Xylenes (Xylenol) 99-100%	03	6.000			
Xylene Other	02	31.500			
2,4-Xylenesulfonic acid	03	1542.800			
2,5-Xylenesulfonic acid	03	1543.000			
Xylenesulfonic acid, ammonium salt	12	148.000			
Xylenesulfonic acid, potassium salt	12	149.000			
Xylenesulfonic acid, sodium salt	12	150.000			
2,6-Xylenol	03	1544.500			
2,4,6-Xylenol	03	1545.003			
Xylidine, original mixture	03	1550.000			
Xylidine, low boiling point	03	1550.000			
Zeranol	06	643.000			
Zinc acetate	15	606.000			
Zinc acetylacetonate complex	15	1408.900			
Zinc t-o-alkylcarboxylate	15	671.950			
Zinc calcium/cobalt neodecanoate	15	709.800			
Zinc dialkylidithiophosphate	14	235.000			
Zinc dibutyl phosphorodithioate	14	239.000			
Zinc diisodecyl phosphorodithioate	14	241.000			



