UNITED STATES TARIFF COMMISSION

SYNTHETIC ORGANIC CHEMICALS

United States Production and Sales, 1965

TC Publication 206

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United States Production and Sales, 1965

UNDER THE PROVISIONS OF
SECTION 332 OF THE TARIFF
ACT OF 1930, AS AMENDED

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Introduction

This is the forty-ninth annual report of the U.S. Tariff Commission on domestic production and sales of synthetic organic chemicals and the raw materials from which they are made. The report presents statistics for 1965 on production and sales of crude organic chemicals derived from coal, natural gas, and petroleum; of intermediates; and of finished synthetic organic chemical products. The finished products are grouped according to their principal use--dyes, synthetic organic pigments, medicinal chemicals, flavor and perfume materials, plastics and resin materials, rubber-processing chemicals, elastomers, plasticizers, surface-active agents, pesticides and other organic agricultural chemicals, and miscellaneous chemicals. The use classifications of finished synthetic organic chemicals are based principally on the manufacturers' annual reports to the Tariff Commission; other sources include trade associations, the chemical literature, chemical dictionaries, encyclopedias, and consultants in the chemical industry. With a few exceptions, the report does not cover organic chemicals (such as wood-distillation products, essential oils, and naval stores) that are derived from natural (vegetable) sources by simple extraction or distillation. The Commission has compiled the statistics given in this report from information supplied by approximately 800 primary manufacturers, listed in part III.

The first section of the report includes the statistics on all products and groups of products for which such information can be published. The second section lists all the chemicals and chemical products on which data are reported and identifies the manufacturers of each. Each reporting company has been assigned an identification symbol consisting of a combination of not more than three capital letters, selected in most instances with the approval of the manufacturer, and usually bearing some relationship to the company name. The identification symbols are permanent and, except for such changes as may be necessary, will be used in all future reports in this series. Like the seven immediately preceding reports, this report includes data on only those individual chemicals for which the volume of production or sales in the year covered exceeded 1,000 pounds or for which the value of sales exceeded $1,000.

The raw materials referred to in this report are obtained from coal, crude petroleum, natural gas, and certain other natural materials, such as vegetable oils, fats, rosin, and grains. Crude organic chemicals are derived from coal by thermal decomposition, from petroleum and natural gas by catalytic cracking and by distillation or absorption, and from other natural sources by fermentation. Production of these crude organic chemicals is the first step in the manufacture of synthetic organic chemicals. From these crudes, intermediates are obtained by synthesis or refining; most of the intermediates are then converted into finished chemical products, such as medicinal chemicals, plastics and resin materials, and dyes. More than half of the total production of intermediates is not sold directly to the ultimate consumer, but is used by the producing companies themselves in their manufacturing processes. The statistics given in this report include data for all known domestic producers of the items covered.

In this report the statistics on production of the individual chemicals reported by manufacturers include the total output of the companies' plants, i.e., the quantities produced for consumption within the producing plants, 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 inventories. As specified in the reporting instructions that the Commission sends to manufacturers, and as used in this report, production and sales (unless otherwise specifically indicated) are defined as follows:

Production is the total quantity of a commodity made available by *original manufacture only*. It is the sum (expressed in terms of 100-percent active ingredient unless otherwise specified) of the quantities of a commodity--

(1) Produced, separated, and consumed in the same plant or establishment (a commodity is considered to be separated when it is isolated from the reaction system and/or when it is weighed, analyzed, or otherwise measured). Byproducts and coproducts not classified as waste materials are also included;
(2) Produced and transferred to other plants or establishments of the same firm;
(3) Produced and sold to other firms (including production for others under toll agreements[1]); and
(4) Produced and held in stock.

[1] A toll agreement is an agreement between two firms, under which one firm furnishes the raw materials and pays the processing costs and the other firm prepares the finished product and returns it to the first firm.

Production excludes--

(1) Purification of a commodity unless specifically requested in the reporting instructions;
(2) Intermediate products that are formed in the manufacturing process but are not isolated from the reaction system--that is, not weighed, analyzed, or otherwised measured; and
(3) Materials that are used in the process but are recovered for reuse or sale; and waste products that have no economic significance.

Sales are defined as actual sales of commodities by *original manufacturers only*. Sales include--

(1) Shipments of commodities for domestic use and for export, or segregation in a warehouse when title has passed to the purchaser in a bonafide sale;
(2) Shipments of a commodity produced *by others* under toll agreements; and
(3) Shipments to subsidiary or affiliated companies.

Sales exclude--

(1) All intracompany transfers within a corporate entity;
(2) All sales of purchased commodities; and
(3) All shipments of a commodity produced *for others* under toll agreements.

The value of a sale is the net selling price, f.o.b. plant or warehouse, or delivered value, whichever represents the normal industry practice.

Data on the chemicals covered in this report are usually given in terms of undiluted materials. Products of 95 percent or more purity are considered to be 100 percent pure. The principal exceptions are the statistics on dyes and a few solvents, which are reported in terms of commercial concentrations, and the statistics on certain plastics and resins, which are reported on a dry basis. The report specifically notes those products for which the statistics are reported in terms of commercial concentrations.

The average unit values of sales for groups of products shown in the tables accompanying this report are weighted averages for products which vary widely in unit values and in the quantities sold.

In this report, statistics are presented in as great detail as is possible without revealing the operations of individual producers. Statistics for an individual chemical or group of chemicals are not given unless 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.[2]

Statistics on tars and tar crudes include data furnished directly to the Tariff Commission by distillers of coal tar, water-gas tar, and oil-gas tar, and data furnished to the Division of Bituminous Coal, U.S. Bureau of Mines, by coke-oven operators.

Statistics on U.S. general imports in 1965 of benzenoid intermediates and finished benzenoid products that entered under schedule 4, parts 1B and 1C, of the Tariff Schedules of the United States are given in the appendix.

Information on synonymous names of organic chemicals included in this report may be found in the *SOCMA Handbook: Commercial Organic Chemical Names,* recently published by the Chemical Abstracts Service of the American Chemical Society, or in the *Colour Index* (2d edition), published in 1956 by the Society of Dyers and Colourists.

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[2] Sec. 5, U.S.C. 139b and sec. 18, U.S.C. 1905.

Summary

Combined production of all synthetic organic chemicals, tars, tar crudes, and crude products from petroleum and natural gas in 1965 was 151,606 million pounds--an increase of 11.7 percent over the output in 1964 (see table 1). Sales of these materials in 1965, which totaled 80,204 million pounds, valued at $9,898 million, were 10.4 percent larger than in 1964 in terms of quantity and 7.1 percent larger 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 contain some duplication.

In 1965, production of all synthetic organic chemicals, including cyclic intermediates and finished chemical products, totaled 88,864 million pounds, or 12.9 percent more than the output in 1964 (see table 1). Production of plastics and resin materials (11,685 million pounds) was 15.7 percent larger in 1965 than in 1964; that of cyclic intermediates (16,865 million pounds) was 13.2 percent larger; that of plasticizers (1,073 million pounds) was 12.8 percent larger; that of dyes (207 million pounds) was 12.4 percent larger; and that of pesticides and other organic agricultural chemicals (877 million pounds) was 12.1 percent larger.

The output of most other groups of synthetic organic chemicals also increased in 1965 compared with 1964, with miscellaneous chemicals and medicinal chemicals showing increases of more than 10 percent. Production of rubber-processing chemicals (252 million pounds) was 3.3 percent less in 1965 than in 1964. Production and sales statistics for surface-active agents for 1965 are not comparable with those for previous years.

TABLE 1. -- *Synthetic organic chemicals and their raw materials: U.S. production and sales, 1964 and 1965*

Chemical	Production			Sales					
				Quantity			Value		
	1964	1965	Increase or decrease (-), 1965 over 1964[1]	1964	1965	Increase, 1965 over 1964[1]	1964	1965	Increase, 1965 over 1964[1]
	Million pounds	*Million pounds*	*Percent*	*Million pounds*	*Million pounds*	*Percent*	*Million dollars*	*Million dollars*	*Percent*
Grand total[2]	135,716	151,606	11.7	72,668	80,204	10.4	9,242	9,898	7.1
Tar	7,629	8,027	5.2	3,361	3,662	9.0	34	37	6.3
Tar crudes	9,547	10,205	6.9	6,076	6,332	4.2	131	136	4.1
Crude products from petroleum and natural gas	39,862	44,510	11.7	20,465	23,402	14.4	619	705	13.8
Synthetic organic chemicals, total[2]	78,678	88,864	12.9	42,766	46,807	9.4	8,458	9,021	6.7
Intermediates	14,896	16,865	13.2	6,470	7,551	16.7	711	814	14.5
Dyes	184	207	12.4	178	190	6.6	264	292	10.7
Synthetic organic pigments	44	48	9.1	35	38	8.4	84	94	11.3
Medicinal chemicals	144	160	10.7	119	129	[3]	646	362	[3]
Flavor and perfume materials	91	99	9.6	80	88	9.6	84	85	1.5
Plastics and resin materials	10,103	11,685	15.7	8,727	10,053	15.2	2,120	2,504	18.1
Rubber-processing chemicals	261	252	-3.3	184	194	5.2	123	123	.3
Elastomers (synthetic rubbers)	3,421	3,592	5.0	2,958	3,041	2.8	810	843	4.1
Plasticizers	951	1,073	12.8	905	1,022	12.9	188	214	14.4
Surface-active agents	2,119	3,170	[3]	1,900	1,698	[3]	350	300	[3]
Pesticides and other organic agricultural chemicals	783	877	12.1	692	764	10.3	427	497	16.4
Miscellaneous chemicals	45,681	50,836	11.3	20,518	22,040	7.4	2,651	2,890	9.0

[1] Percentages calculated from figures rounded to thousands.
[2] Because of rounding, figures may not add to the totals shown.
[3] Data for 1965 are not comparable with those for 1964; for details see the appropriate tables.

PART I. PRODUCTION AND SALES OF TARS, TAR CRUDES, AND CRUDES DERIVED FROM PETROLEUM AND NATURAL GAS

Tars

Coal tar is produced chiefly by the steel industry as a byproduct 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 tars. Petroleum asphalts are not usually considered to be raw materials for chemicals.

The quantity of tar produced from coal in the United States in 1965 was 803 million gallons, or 5.2 percent more than the 763 million gallons produced in 1964. U.S. production of water-gas tar and oil-gas tar was not reported to the Commission for 1964 or 1965; production of these tars amounted to 19 million gallons in 1962, the last year for which production was reported to the Tariff Commission.

Total consumption of tar in 1965 amounted to 766 million gallons, of which 616 million gallons was consumed by distillation, 123 million gallons as fuel, and 27 million gallons in miscellaneous uses.

TABLE 2.--*Tar: U.S. production and consumption, 1964 and 1965*

[In thousands of gallons]

Product	1964	1965
PRODUCTION		
Coal tar from coke-oven byproduct plants, total[1]	762,918	802,738
CONSUMPTION		
Total	746,900	765,946
Tar consumed by distillation, total	601,753	615,816
Coal tar distilled or topped by coke-oven operators[1]	293,957	312,079
Coal tar, water-gas tar, and oil-gas tar distilled by producers and tar distillers[2]	307,796	303,737
Tar consumed chiefly as fuel[1]	127,872	122,961
Tar consumed otherwise than by distillation or as fuel, total	17,275	27,169
Coal tar consumed at coke-oven plants for roads and upkeep[1]	371	871
Coal tar, water-gas tar, and oil-gas tar processed at tar refineries, crude tar consumed for upkeep at such refineries, and tar consumed in making gas and in special-purpose tar blends	16,904	26,298

[1] Reported to the U.S. Bureau of Mines.
[2] Reported to U.S. Tariff Commission. Represents tar purchased from companies operating coke ovens and gas-retort plants and distilled by companies operating tar-distillation plants.

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, naphthalene, and creosote oil. Some of the products produced from coal tar are identical with those produced from petroleum and natural gas. Data for materials derived from these latter sources are included, for the most part, in or with the statistics for materials derived from coal tar, which are shown in tables 3 and 4A.[1]

[1] See also table 4B, pt. III, which lists these products alphabetically and identifies the manufacturers.

Domestic production of industrial and specification grades of benzene reported by coke-oven operators and petroleum operators[2] in 1965 amounted to 827 million gallons--13.2 percent more than the 730 million gallons reported for 1964. These statistics include data for benzene produced from light oil and petroleum. Sales of benzene by coke-oven operators and petroleum operators in 1965 amounted to 511 million gallons, valued at $123 million, compared with 464 million gallons, valued at $104 million, in 1964. In 1965 the output of toluene[2] (including material produced for use in blending in aviation fuel) amounted to 549 million gallons--10.9 percent more than the 495 million gallons reported for 1964. Sales of toluene in 1965 were 325 million gallons, valued at $54 million, compared with 261 million gallons, valued at $44 million, in 1964. The output of xylene[2] in 1965 (including that produced for blending in motor fuels) was 340 million gallons, compared with 343 million gallons in 1964. About 98 percent of the 340 million gallons of xylene produced in 1965 was obtained from petroleum sources.

Production of crude naphthalene in 1965 (including 347 million pounds of petroleum-derived naphthalene) amounted to 811 million pounds, compared with 740 million pounds in 1964. In 1965 the output of creosote oil for wood preservation was 124 million gallons (100-percent creosote basis), compared with 113 million gallons in 1964. Production of road tar and tar (crude and refined) for other uses in 1965 was 85 million gallons, compared with 76 million gallons in 1964.

TABLE 3.--*Tar and tar crudes: Summary of U.S. production of specified products, average 1950-54, annual 1964 and 1965*

[Leaders are used where the reported data are accepted in confidence and may not be published or where no data were reported]

Chemical	Unit of quantity	Average 1950-54	1964	1965	Increase, or decrease (-)	
					1965 over 1950-54	1965 over 1964
					Percent	*Percent*
Tar[1]	1,000 gal--	876,070	762,918	802,738	-8.4	5.2
Benzene:[2]						
Tar distillers[3]	1,000 gal--	41,389	...	...	...	...
Coke-oven operators	1,000 gal--	163,356	118,944	121,917	-25.4	2.5
Petroleum operators	1,000 gal--	46,635	611,294	704,993	1,411.7	15.3
Total	1,000 gal--	251,380	730,238	826,910	228.9	13.2
Toluene:						
Tar distillers	1,000 gal--	7,497	...	...	...	...
Coke-oven operators	1,000 gal--	32,981	25,521	24,816	-24.8	-2.8
Petroleum operators	1,000 gal--	80,725	469,519	524,013	549.1	11.6
Total	1,000 gal--	121,203	495,040	548,829	352.8	10.9
Xylene:						
Tar distillers	1,000 gal--	1,373	...	...	...	...
Coke-oven operators	1,000 gal--	9,028	[4] 7,119	6,741	-25.3	-5.3
Petroleum operators	1,000 gal--	78,188	[4] 336,079	[4] 333,063	326.0	-.9
Total	1,000 gal--	88,589	343,198	339,804	283.6	-1.0
Naphthalene, crude:						
Solidifying at less than 79° C.[5]	1,000 lb--	307,537	425,690	463,980	50.9	9.0
Petroleum naphthalene, all grades	1,000 lb--	...	314,664	346,620	...	10.2
Total	1,000 lb--	307,537	740,354	810,600	163.6	9.5
Creosote oil (Dead oil)[6]	1,000 gal--	109,946	102,114	111,087	1.0	8.8

[1] Includes data for oil-gas, water-gas, and gas-retort tar reported to the American Gas Association for 1950-54 only, and for coal tar reported to the Division of Bituminous Coal, U.S. Bureau of Mines.

[2] Includes data for motor-grade benzene in 1950-54. Production in recent years has been negligible.

[3] Includes data for benzene produced from imported crude light oil.

[4] Includes data for material produced for use in blending motor fuels. Statistics are not comparable with monthly figures, which included some o-xylene now shown on table 7A.

[5] Figures include production by tar distillers and coke-oven operators and represent combined data for the commercial grades of naphthalene to avoid disclosure of the operations of individual companies. Because of conversion between grades, the figures may include some duplication.

[6] Includes data for creosote oil produced by tar distillers and coke-oven operators and used only in wood preserving. Data for production of creosote oil in coal-tar solution have been excluded because the figures for 1950-54 are not comparable with the figures for 1964 and 1965. Production figures for 1950-54 are for the distillate sold or consumed as such, and for 1964 and 1965 the production of the distillate is on a 100-percent-creosote basis.

[2] Statistics on production and sales of benzene, toluene, and xylene by tar distillers cannot be shown because publication would reveal the operations of individual companies.

TABLE 4A.-- *Tar crudes: U.S. production and sales, 1965*

[Listed below are all tar crudes 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 4B in pt. III lists separately all products for which data on production or sales were reported and identifies the manufacturers reporting to the U.S. Tariff Commission]

Product	Unit of quantity	Production	Sales		
			Quantity	Value	Unit value[1]
				1,000 dollars	
Crude light oil: Coke-oven operators	1,000 gal--	262,701	69,537	9,441	$0.14
Intermediate light oil: Coke-oven operators	1,000 gal--	4,939	1,815	183	.10
Light-oil distillates:					
Benzene, specification and industrial grades, total[2 3]	1,000 gal--	826,910	510,842	123,282	.24
Coke-oven operators	1,000 gal--	121,917	127,449	29,652	.23
Petroleum operators	1,000 gal--	704,993	383,393	93,630	.24
Toluene, all grades, total[2 3]	1,000 gal--	548,829	324,517	53,882	.17
Coke-oven operators	1,000 gal--	24,816	25,087	4,622	.18
Petroleum operators	1,000 gal--	524,013	299,430	49,260	.16
Xylene, total[2 3]	1,000 gal--	339,804	201,743	36,734	.18
Coke-oven operators	1,000 gal--	6,741	6,913	1,523	.22
Petroleum operators	1,000 gal--	333,063	194,830	35,211	.18
Solvent naphtha, total	1,000 gal--	10,016	7,992	1,622	.20
Tar distillers	1,000 gal--	4,596	3,414	753	.22
Coke-oven operators	1,000 gal--	5,420	4,578	869	.19
Other light-oil distillates: Coke-oven operators	1,000 gal--	7,995	4,888	448	.09
Naphthalene, crude (tar distillers and coke-oven operators), total[4]	1,000 lb---	463,980	...	...	...
Solidifying at--					
Less than 74° C	1,000 lb---	81,856	76,963	1,214	.02
74° C. to less than 79° C	1,000 lb---	382,124	...	...	...
Crude tar-acid oils:					
Tar distillers	1,000 gal--	321	317	143	.45
Coke-oven operators	1,000 gal--	28,027	28,635	4,365	.15
Creosote oil (Dead oil) (tar distillers and coke-oven operators) (100% creosote basis), total[5]	1,000 gal--	123,602	107,452	[6] 22,868	[6] .21
Distillate as such (100% creosote basis)	1,000 gal--	111,087	95,927	19,268	.20
Creosote content of coal-tar solution (100% creosote basis)	1,000 gal--	12,515	11,525	[6] 3,600	[6] .31
All other distillate products[7]	1,000 gal--	31,445	...	...	...
Tar, road, and tar (crude and refined) for other uses[8]	1,000 gal--	84,941	79,818	11,896	.15
Pitch of tar:					
Hard (water softening point above 160° F.)	1,000 tons-	916	594	22,638	38.11
Other[9]	1,000 tons-	1,088	487	16,753	34.40

[1] Unit value per gallon, or ton, as specified.

[2] Data reported by tar distillers are not included because publication would disclose the operations of individual companies. Production of toluene and xylene by tar distillers decreased in 1965, compared with 1964; production of benzene increased. The annual production statistics for petroleum operators on benzene, toluene, and xylene are not comparable with the combined monthly production figures, due to fiscal year revisions.

[3] Includes data for material produced for use in blending motor fuels.

[4] Statistics represent combined data for the commercial grades of naphthalene. Because of conversion of naphthalene from one grade to another, the figures may include some duplication.

[5] Statistics include only data for creosote oil sold for, or used in, wood preserving. In 1965, production of creosote in coal-tar solution (100% solution basis) amounted to 21,360 thousand gallons; sales were 19,635 thousand gallons, valued at 3,600 thousand dollars, with a unit value of $0.18 per gallon.

[6] Includes value of coal tar used in preparing creosote in coal-tar solution.

[7] Includes data for pyridine crude bases, crude cresylic acid, dry distilled tar acid, and neutral oils produced by tar distillers, and for crude sodium phenolate produced by coke-oven operators.

[8] Tar (crude and refined) for other uses includes data on tar used for paint, pipe covering, saturating, and other uses.

[9] Includes soft and medium pitch of tar (water softening points less than 110° F., and 110° F. to 160° F. ASTM D61-24), pitch of tar coke, and pitch emulsion.

Note.--Statistics for materials produced in coke and gas-retort ovens are compiled by the Division of Bituminous Coal, U.S. Bureau of Mines, Department of the Interior. Statistics for materials produced in tar and petroleum refineries are compiled by the U.S. Tariff Commission.

Some of the products included in the statistics in table 4A are derived 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. It is estimated that after duplication has been eliminated insofar as possible the net value of the output of these products and of tar burned as fuel was $500 million in 1965, compared with $460 million in 1964 and $406 million in 1963.

Crude Products From Petroleum and Natural Gas for Chemical Conversion

Crude products that are derived from petroleum and natural gas are related to the intermediates and finished products made from such crudes in much the same way that crude products derived from the distillation of coal tar are related to their intermediates and finished products. Many of the crude 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 petroleum crudes because some of these crude chemicals are converted to other crude products derived from petroleum and because data on some production and sales are reported at successive stages in the conversion processes (see table 5A[3]). Notwithstanding these duplications, the statistics are sufficiently accurate to indicate trends in the industry and to serve as a basis for general comparison. Many of the crude products for which data are included in the statistics may be used either as fuel or as basic materials from which to derive other chemicals, depending on prevailing economic conditions. 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 not used directly as fuel but in blending aviation and motor-grade gasolines.

TABLE 5A.--*Crude products from petroleum and natural gas for chemical conversion: U.S. production and sales, 1965*

[Listed below are the crude 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 5B in pt. III lists separately all products from petroleum and natural gas for chemical conversion for which data on production or sales were reported and identifies the manufacturer of each]

Product	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Grand total	44,509,671	23,402,442	704,688	$0.030
AROMATICS AND NAPHTHENES[2]				
Total	13,763,390	8,644,944	214,832	.025
Alkyl aromatics, distillates, and solvents	1,878,248	1,877,189	21,873	.012
Benzene (1° and 2°), total	5,202,849	2,829,440	93,630	.033
Benzene, 1°	4,139,487	...	...	...
Benzene, 2°	1,063,362	...	...	...
Naphthalene, all grades	346,620	269,845	10,643	.039
Naphthenic acids	24,365	17,217	1,805	.105
Toluene, all grades, total	3,809,575	2,176,856	49,260	.023
Nitration grade, 1°	2,375,829	1,673,183	38,728	.023
Pure commercial grade, 2°	177,635	...	...	...
Solvent grade, 90%	124,855	...	...	...
All other[3]	1,131,256	503,673	10,532	.021
Xylenes, mixed, total	2,401,383	1,404,723	35,211	.025
3°	444,864	435,260	11,625	.027
All other[3]	1,956,519	969,463	23,586	.024
All other aromatics and naphthenes[4]	100,350	69,674	2,410	.035

See footnotes at end of table.

[3] See also table 5B, pt. III, which lists these products alphabetically and identifies the manufacturers.

TABLE 5A.--*Crude products from petroleum and natural gas for chemical conversion: U.S. production and sales, 1965*--Continued

Product	Production	Sales		
		Quantity	Value	Unit value[1]
ALIPHATIC HYDROCARBONS	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Total	30,746,281	14,757,498	489,856	$0.033
C_2 hydrocarbons, total	11,581,753	...	...	...
Acetylene[5]	465,208	...	...	...
Ethane	1,546,660	663,130	5,781	.009
Ethylene	9,569,885	2,714,873	109,816	.040
C_3 hydrocarbons, total	7,972,121	5,019,942	69,341	.014
Propane	4,231,286	3,135,301	29,774	.009
Propylene	3,740,835	1,884,641	39,567	.021
C_4 hydrocarbons, total	7,182,182	4,568,676	237,143	.052
1,3-Butadiene, grade for rubbers (elastomers)	2,685,359	1,670,936	171,807	.103
Butadiene and butylene fractions	486,177	102,213	4,251	.042
n-Butane	1,879,011	1,022,371	12,295	.012
1-Butene and 2-butene mixture[6]	1,067,303	1,080,716	30,630	.028
Isobutane	516,726	285,391	3,962	.014
Isobutylene	270,866	167,671	8,448	.050
All other[7]	276,740	239,378	5,750	.024
C_5 hydrocarbons[8]	456,523	95,927	2,938	.031
All other aliphatic hydrocarbons and derivatives, total	3,553,702	1,694,950	64,837	.038
Alpha olefins[9]	125,536	115,065	5,489	.048
Diisobutylene (Diisobutene)	33,151	26,689	1,942	.073
Heptenes, mixed	279,751	172,782	6,483	.038
Nonene (Tripropylene)	244,257	161,009	4,755	.030
Polybutene[10]	240,482	202,974	12,892	.064
Tetrapropylene	462,255	359,033	9,102	.025
Hydrocarbon derivatives[11]	32,847	20,405	6,101	.299
All other[12]	2,135,423	636,993	18,073	.028

[1] Calculated from rounded figures.
[2] The 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 aromatic chemicals from all sources are given in table 4A, "Tar Crudes."
[3] Includes toluene and xylene used as solvents, as well as that which is blended in aviation and motor gasolines.
[4] Includes data for 90-percent benzene, crude cresylic acid, sodium cresylate, sodium carbolate and phenate, and miscellaneous cyclic hydrocarbons.
[5] Production figures on acetylene from calcium carbide for chemical synthesis are collected by the U.S. Bureau of the Census.
[6] The statistics represent principally the butene content of crude refinery gases from which butadiene is manufactured.
[7] Includes data for 1-butene, 2-butene, mixed butylenes, and mixed olefins.
[8] Includes data for isoprene, pentanes, pentenes, and C_5 hydrocarbon mixtures.
[9] Includes data for the following molecular weight ranges: C_6-C_7, C_8-C_{10}, C_{11}-C_{15}, and C_{16}-C_{20}.
[10] Includes compounds having a molecular weight of 3,000 or less.
[11] Includes data for di-tert-butyldisulfide and miscellaneous mercaptans.
[12] Includes data for hexane, heptane, methane, propane-propylene mixture, octanes, 1-dodecene, eicosane, and hydrocarbon mixtures.

The output of crude products derived from petroleum and natural gas as a group amounted to 44,510 million pounds in 1965, or 11.7 percent more than the 39,862 million pounds reported for 1964. The larger output in 1965 is accounted for chiefly by increased production of benzene, toluene, ethylene, and propane. Sales of crude chemicals from petroleum in 1965 were 23,402 million pounds, valued at $705 million, compared with 20,465 million pounds, valued at $619 million, in 1964.

The output of all aromatic and naphthenic products amounted to 13,763 million pounds in 1965, compared with 12,574 million pounds in 1964. Sales in 1965, which amounted to 8,645 million pounds, valued at $215 million, were 1,066 million pounds larger, and valued at $35 million more, than those in 1964. Naphthalene was produced from petroleum sources in substantially greater quantities in 1965 than in 1964. The output of 1^c and 2^c benzene from petroleum

amounted to 5,203 million pounds in 1965--15.3 percent more than the 4,511 million pounds produced in 1964. The output of toluene in 1965 was 3,810 million pounds--11.6 percent more than the 3,413 million pounds produced in 1964. Production of xylene was 2,401 million pounds in 1965, compared with 2,423 million pounds in 1964. These figures include toluene and xylene used in blends in aviation and motor-grade gasolines. The output of naphthenic acids amounted to 24 million pounds in 1965, compared with 30 million pounds produced in 1964.

Production of all aliphatic hydrocarbons and derivatives from petroleum and natural gas was 30,746 million pounds in 1965, compared with 27,288 million pounds in 1964. Sales of these products were 14,757 million pounds, valued at $490 million, in 1965, compared with 12,887 million pounds, valued at $439 million, in 1964. The statistics on production of acetylene (table 5A) include only acetylene produced from natural gas and used as a raw material in the production of other chemicals. Total production of acetylene for chemical synthesis is reported to the U.S. Bureau of the Census. In 1965, production of acetylene from all sources except that produced by railroad shops, shipyards, and small establishments using portable generators, amounted to 1,141 million pounds. Production of ethylene was 9,570 million pounds in 1965, or 10.7 percent more than the 8,641 million pounds produced in 1964. The output of propane and propylene was 7,972 million pounds in 1965--10.3 percent more than the 7,227 million pounds produced in 1964. Production of 1,3-butadiene, one of the principal ingredients of S-type synthetic rubber, was 2,685 million pounds in 1965, compared with 2,491 million pounds in 1964. The output of 1,3-butadiene in 1965--7.8 percent more than that in 1964--was the largest on record.

The following tabulation shows the number of companies that reported production of organic chemical crudes in 1965:

Chemical group	*Number of companies*
Tar crudes	14
Petroleum crudes	72

PART II. PRODUCTION AND SALES OF INTERMEDIATES AND FINISHED SYNTHETIC ORGANIC CHEMICALS, BY GROUPS

General

On the basis of their principal uses, the synthetic organic chemicals covered in this report are classified either as intermediates or as finished products. Finished products, in turn, are grouped as follows: Dyes, synthetic organic pigments, medicinal chemicals, flavor and perfume materials, plastics and resin materials, rubber-processing chemicals, elastomers (synthetic rubbers), plasticizers, surface-active agents, pesticides and other organic agricultural chemicals, and miscellaneous synthetic organic chemicals. Most of these groups are further subdivided, according to chemical classes, into cyclic and acyclic compounds. As most of the intermediates 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 1965 was 88,864 million pounds, or 12.9 percent more than the output of 78,678 million pounds reported for 1964 (see table 6). Sales of synthetic organic chemicals in 1965 amounted to 46,807 million pounds, valued at $9,021 million, compared with 42,766 million pounds, valued at $8,458 million, in 1964. Production of all cyclic products (intermediates and finished products combined) in 1965 totaled 28,229 million pounds, or 10.7 percent more than the 25,506 million pounds produced in 1964. The output of acyclic organic chemicals in 1965 amounted to 60,635 million pounds--14.0 percent more than the 53,172 million pounds reported for 1964.

TABLE 6.--*Synthetic organic chemicals: Summary of U.S. production and sales of intermediates and finished products, average 1957-59, annual 1964 and 1965*

[Production and sales in thousands of pounds; sales value in thousands of dollars]

Chemical	Average 1957-59	1964	1965	Increase, or decrease (-)	
				1965 over 1957-59	1965 over 1964
				Percent	*Percent*
Organic chemicals, cyclic and acyclic, grand total:					
Production	45,598,853	78,677,699	88,864,092	94.9	12.9
Sales	23,744,812	42,766,420	46,807,057	97.1	9.4
Sales value	5,743,764	8,457,909	9,020,540	57.0	6.7
Cyclic, total:					
Production	14,381,651	25,505,853	28,229,128	96.3	10.7
Sales	8,829,037	15,241,685	16,499,189	86.9	8.2
Sales value	2,785,100	3,890,571	3,855,492	38.4	-.9
Acyclic, total:					
Production	31,217,202	53,171,846	60,634,964	94.2	14.0
Sales	14,915,775	27,524,735	30,307,868	103.2	10.1
Sales value	2,958,664	4,567,338	5,165,048	74.6	13.1
1. Intermediates, Cyclic					
Production	7,343,167	14,895,573	16,865,164	129.7	13.2
Sales	2,919,264	6,470,072	7,551,210	158.7	16.7
Sales value	481,920	711,119	814,383	69.0	14.5
2. Dyes, Cyclic					
Production	150,830	184,387	207,193	37.4	12.4
Sales	141,731	178,273	189,965	34.0	6.6
Sales value	182,513	264,023	292,284	60.1	10.7
3. Synthetic Organic Pigments, Cyclic					
Production	38,603	44,053	48,045	24.5	9.1
Sales	30,218	35,081	38,024	25.8	8.4
Sales value	58,648	84,131	93,635	59.7	11.3

TABLE 6.--*Synthetic organic chemicals: Summary of U.S. production and sales of intermediates and finished products, average 1957-59, annual 1964 and 1965*--Continued

[Production and sales in thousands of pounds; sales value in thousands of dollars]

Chemical	Average 1957-59	1964	1965	Increase, or decrease (-)	
				1965 over 1957-59	1965 over 1964
4. Medicinal Chemicals					
Cyclic:				*Percent*	*Percent*
Production	70,654	97,579	100,040	41.6	2.5
Sales	54,151	76,946	72,479	(1)	(1)
Sales value	535,297	612,233	321,158	(1)	(1)
Acyclic:					
Production	31,592	46,511	59,480	88.3	27.9
Sales	28,738	41,732	56,569	(1)	(1)
Sales value	35,660	33,459	41,011	(1)	(1)
5. Flavor and Perfume Materials					
Cyclic:					
Production	27,312	49,563	53,223	94.9	7.4
Sales	22,446	41,235	44,559	98.5	8.1
Sales value	33,903	56,571	56,800	67.5	.4
Acyclic:					
Production	19,033	41,007	46,001	141.7	12.2
Sales	19,958	38,802	43,144	116.2	11.2
Sales value	21,912	27,163	28,180	28.6	3.7
6. Plastics and Resin Materials					
Cyclic:					
Production	2,278,862	3,915,046	4,452,975	95.4	13.7
Sales	1,900,032	3,256,105	3,689,722	94.2	13.3
Sales value	518,501	777,342	873,501	68.5	12.4
Acyclic:					
Production	2,628,779	6,188,018	7,231,900	175.1	16.9
Sales	2,438,853	5,470,616	6,363,044	160.9	16.3
Sales value	864,523	1,342,942	1,630,932	88.7	21.4
7. Rubber-Processing Chemicals					
Cyclic:					
Production	159,182	222,461	211,403	32.8	-5.0
Sales	115,704	161,660	166,214	43.7	2.8
Sales value	74,479	108,656	109,204	46.6	.5
Acyclic:					
Production	29,150	38,095	40,542	39.1	6.4
Sales	22,127	22,567	27,504	24.3	21.9
Sales value	14,289	14,371	14,189	-.7	-1.3
8. Elastomers (Synthetic Rubbers)					
Cyclic:					
Production	1,938,732	2,332,436	2,300,092	18.6	-1.4
Sales	1,726,757	1,961,181	1,897,921	9.9	-3.2
Sales value	404,897	450,913	442,722	9.3	-1.8
Acyclic:					
Production	521,811	1,088,782	1,291,562	147.5	18.6
Sales	509,262	996,403	1,143,242	124.5	14.7
Sales value	199,627	358,989	400,726	100.7	11.6
9. Plasticizers					
Cyclic:					
Production	348,210	717,624	798,741	129.4	11.3
Sales	297,423	689,647	764,736	157.1	10.9
Sales value	83,509	119,565	133,044	59.3	11.3
Acyclic:					
Production	118,118	233,784	274,456	132.4	17.4
Sales	100,984	215,240	256,887	154.4	19.3
Sales value	38,772	67,903	81,348	109.8	19.8

See footnote at end of table.

TABLE 6.--*Synthetic organic chemicals: Summary of U.S. production and sales of intermediates and finished products, average 1957-59, annual 1964 and 1965*--Continued

[Production and sales in thousands of pounds; sales value in thousands of dollars]

Chemical	Average 1957-59	1964	1965	Increase, or decrease (-)	
				1965 over 1957-59	1965 over 1964
10. Surface-Active Agents					
				Percent	*Percent*
Cyclic:					
Production	852,314	1,347,809	1,371,320	60.9	1.7
Sales	800,432	1,245,176	877,202	(1)	(1)
Sales value	127.936	165,132	96,153	(1)	(1)
Acyclic:					
Production	502,715	770,879	1,799,158	(1)	(1)
Sales	432,135	654,754	820,660	(1)	(1)
Sales value	113,215	185,010	204,035	(1)	(1)
11. Pesticides and Other Organic Agricultural Chemicals					
Cyclic:					
Production	440,384	584,698	682,671	55.0	16.8
Sales	375,627	522,691	582,344	55.0	11.4
Sales value	150,837	316,556	377,858	150.5	19.4
Acyclic:					
Production	105,080	198,051	194,526	85.1	-1.8
Sales	91,938	169,664	181,561	97.5	7.0
Sales value	49.049	110.555	119,208	143.0	7.8
12. Miscellaneous Chemicals					
Cyclic:					
Production	733,401	1,114,624	1,138,261	55.2	2.1
Sales	445,252	603.618	624,813	40.3	3.5
Sales value	132,660	224,330	244,750	84.5	9.1
Acyclic:					
Production	27,260,924	44,566,719	49,697,339	82.3	11.5
Sales	11,271,780	19,914,957	21,415,257	90.0	7.5
Sales value	1,621,617	2,426,946	2,645,419	63.1	9.0

[1] Data for 1965 are not comparable with those for 1964; for details see the appropriate tables.

The following tabulation shows, by chemical groups, the number of companies that reported production in 1965 of one or more of the chemicals included in the groups listed in table 6:

Chemical group	*Number of companies*	*Chemical group*	*Number of companies*
Intermediates	213	Rubber-processing chemicals	31
Dyes	53	Elastomers (synthetic rubbers)	29
Synthetic organic pigments	37	Plasticizers	58
Medicinal chemicals	111	Surface-active agents	188
Flavor and perfume materials	55	Pesticides and other organic agricultural chemicals	85
Plastics and resin materials	320	Miscellaneous chemicals	328

Cyclic Intermediates

Cyclic intermediates are synthetic organic chemicals derived principally from coal-tar crudes produced by destructive distillation (pyrolysis) of coal and from petroleum and natural gas. Most cyclic intermediates are used in the manufacture of more advanced synthetic organic chemicals and finished products, such as dyes, medicinal chemicals, elastomers (synthetic rubbers), 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 it may be packaged and sold as a moth repellent or as a deodorant. In general, the way in which the greater part of the output of a given chemical is consumed determines its use classification in this report. Table 7A[1] gives statistics on production and sales of cyclic intermediates in 1965. Individual statistics given in the table represent more than 85 percent of the total quantity of intermediates produced. Since many of the intermediates included in the statistics represent successive steps in production, the totals necessarily include considerable duplication. In 1965 nearly half of the total output of cyclic intermediates was sold; the rest was consumed chiefly by the producing plants in the manufacture of more advanced intermediates and finished products.

Total production of cyclic intermediates in 1965--16,865 million pounds--was the largest on record, and was 13.2 percent larger than the output of 14,896 million pounds reported for 1964. The larger output of cyclic intermediates in 1965 was attributable to increased demand by the chemical products industries, particularly those industries that produce dyes, pesticides, plasticizers, and plastics and resin materials. Sales of cyclic intermediates in 1965 amounted to 7,551 million pounds, valued at $814 million, compared with 6,470 million pounds, valued at $711 million, in 1964. In terms of quantity, sales of cyclic intermediates in 1965 were 16.7 percent larger than those in 1964 and in terms of value, 14.5 percent larger.

TABLE 7A.--*Cyclic intermediates: U.S. production and sales, 1965*

[Listed below are all cyclic intermediates 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 7B in pt. III lists alphabetically all cyclic intermediates for which data on production or sales were reported and identifies the manufacturer of each]

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Total	16,865,164	7,551,210	814,383	$0.10
Acetanilide, tech	3,672	...	...	...
N-Acetylsulfanilyl chloride	3,313	...	...	...
Alkylbenzenes[2]	624,894	583,634	55,537	.10
4'-Aminoacetanilide (Acetyl-p-phenylenediamine)	602	...	...	...
5-Amino-2-(p-aminoanilino)benzenesulfonic acid	21	...	...	...
2-(p-Aminoanilino)-5-nitrobenzenesulfonic acid	47	...	...	...
1-Aminoanthraquinone and salt	1,547	43	142	3.30
2-Aminoanthraquinone and salt	1,146	...	...	...
6-Amino-3,4'-azodibenzenesulfonic acid	59	...	...	...
1-Amino-4-benzamidoanthraquinone	95	...	...	...
1-Amino-5-benzamidoanthraquinone	125	...	...	...
7-(p-Aminobenzamido)-4-hydroxy-2-naphthalenesulfonic acid	44	...	...	...
2-Amino-p-benzenedisulfonic acid [SO_3H=1]	42	...	...	...
1-Amino-4-bromo-9,10-dihydro-9,10-dioxo-2-anthracenesulfonic acid and sodium salt	187	...	...	...
1-Amino-2-bromo-4-hydroxyanthraquinone	204	...	...	...
1-Amino-2-bromo-4-p-toluidinoanthraquinone	28	...	...	...
1-Amino-5-chloroanthraquinone	105	...	...	...
o-(3-Amino-4-chlorobenzoyl)benzoic acid	116	...	...	...

See footnotes at end of table.

[1] See also table 7B, pt. III, which lists these products alphabetically and identifies the manufacturers, and table 23 in the appendix, which shows imports of intermediates and related products during 1964 and 1965.

TABLE 7A.--*Cyclic intermediates: U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
3-Amino-5-chloro-2-hydroxybenzenesulfonic acid	13	...	...	...
2-Amino-5-chloro-p-toluenesulfonic acid [SO_3H=1]	1,585	...	...	...
6-Amino-4-chloro-m-toluenesulfonic acid [SO_3H=1]	1,047	166	198	$1.19
1-Amino-2,4-dibromoanthraquinone	370	...	...	...
1-Amino-9,10-dihydro-9,10-dioxo-4-p-toluenesulfonamido-2-anthracenesulfonic acid, sodium salt	14	...	...	...
4-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid (H acid), monosodium salt	4,723	2,929	2,817	.96
4-Amino-3-hydroxy-1-naphthalenesulfonic acid (1,2,4-acid)	1,602	...	...	...
6-Amino-4-hydroxy-2-naphthalenesulfonic acid (Gamma acid), sodium salt	727	184	293	1.59
7-Amino-4-hydroxy-2-naphthalenesulfonic acid (J acid), sodium salt	828	...	...	...
N-(4-Amino-3-methoxy-1-anthraquinonyl)-p-toluenesulfonamide	10	...	...	...
4'-Amino-N-methylacetanilide	22	...	...	...
2-Amino-1,5-naphthalenedisulfonic acid	60	...	...	...
3-Amino-1,5-naphthalenedisulfonic acid (C acid)	212	...	...	...
6-Amino-1,3-naphthalenedisulfonic acid (Amino I acid)	1,187	...	...	...
7-Amino-1,3-naphthalenedisulfonic acid (Amino G acid)	1,123	85	82	.96
4-Amino-1-naphthalenesulfonic acid (Naphthionic acid)	145	...	...	...
5-Amino-2-naphthalenesulfonic acid (1,6-Cleve's acid)	136	100	74	.74
5(and 8)-Amino-2-naphthalenesulfonic acid (Cleve's acid, mixed)	229	...	...	...
6-Amino-2-naphthalenesulfonic acid (Broenner's acid)	135	67	107	1.60
8-Amino-1-naphthalenesulfonic acid (Peri acid)	790	...	...	...
8-Amino-2-naphthalenesulfonic acid (1,7-Cleve's acid)	165	...	...	...
8-Amino-2-naphthol	65	...	...	...
2-Amino-5-nitrobenzenesulfonic acid [SO_3H=1]	48	...	...	...
2-Amino-4-nitrophenol	137	...	...	...
3'-Aminooxanilic acid	19	...	...	...
p-[(p-Aminophenyl)azo]benzenesulfonic acid	196	...	...	...
4-Amino-m-toluenesulfonic acid [SO_3H=1]	266	151	98	.65
6-Amino-m-toluenesulfonic acid [SO_3H=1]	207	...	...	...
5-Amino-2-p-toluidinobenzenesulfonic acid	31	...	...	...
Aniline (Aniline oil)	195,547	76,277	9,959	.13
7-Anilino-4-hydroxy-2-naphthalenesulfonic acid (Phenyl J acid)	43	...	...	...
Anilinomethanesulfonic acid and salt	277	...	...	...
8-Anilino-1-naphthalenesulfonic acid (Phenyl peri acid)	417	...	...	...
o-Anisidine	1,585	743	543	.73
o-Anisidinomethanesulfonic acid	347	...	...	...
Anthranilic acid (o-Aminobenzoic acid)	712	...	...	...
Anthra[1,9-cd]pyrazol-6(2H)-one (Pyrazoleanthrone)	16	...	...	...
N,N'-(1,5-Anthraquinonylene)dianthranilic acid	26	...	...	...
4',4'''-Azobis[4-biphenylcarboxylic acid]	36	...	...	...
Benzaldehyde, tech	3,979	4,168	1,723	.41
1-Benzamido-5-chloroanthraquinone	115	...	...	...
7H-Benz[de]anthracen-7-one (Benzanthrone)	2,256	...	...	...
Benzidine hydrochloride and sulfate	1,610	1,160	1,183	1.02
Benzoic acid, tech	16,190	8,461	1,522	.18
o-Benzoylbenzoic acid	6,680	...	...	...
[3,3'-Bianthra[1,9-cd]pyrazole]-6,6'-(2H,2'H)dione (Pyrazole-anthrone yellow)	16	...	...	...
[4,4'-Bi-7H-benz[de]anthracen]-7,7'-dione	409	...	...	...
1,4-Bis[1-anthraquinonylamino]anthraquinone	66	...	...	...
4,4'-Bis[dimethylamino]benzophenone (Michler's ketone)	107	...	...	...
3-Bromo-7H-benz[de]anthracen-7-one (3-Bromobenzanthrone)	239	...	...	...
1-Bromo-4-(methylamino)anthraquinone	43	...	...	...
p-tert-Butylphenol	...	15,276	3,152	.21
1-Chloroanthraquinone	184	...	...	...
2-Chloroanthraquinone	1,250	...	...	...
Chlorobenzene, mono-	546,292	82,159	5,071	.06
o-(p-Chlorobenzoyl)benzoic acid	1,864	362	232	.64
1-Chloro-2,4-dinitrobenzene (Dinitrochlorobenzene)	8,107	1,659	277	.17
6-Chlorometanilic acid	24	...	...	...
1-Chloro-2-methylanthraquinone	140	...	...	...
2-Chloro-4-nitroaniline (o-Chloro-p-nitroaniline)	448	...	...	...
4-Chloro-2-nitroaniline (p-Chloro-o-nitroaniline)	461	...	...	...

See footnotes at end of table.

TABLE 7A.--*Cyclic intermediates: U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
1-Chloro-5-nitroanthraquinone	117	...	...	...
1-Chloro-8-nitroanthraquinone	56	...	...	...
1-Chloro-2-nitrobenzene (Chloro-o-nitrobenzene)	28,290	10,536	883	$0.08
1-Chloro-4-nitrobenzene (Chloro-p-nitrobenzene)	109,757	...	...	...
4-Chloro-3-nitrobenzenesulfonamide	275	...	...	...
2-Chloro-5-nitrobenzenesulfonic acid	89	...	...	...
4-Chloro-3-nitrobenzenesulfonyl chloride	248	...	...	...
o-(4-Chloro-3-nitrobenzoyl)benzoic acid	145	...	...	...
(p-Chlorophenyl)acetonitrile	34	56	159	2.84
α-Chlorotoluene (Benzyl chloride)	62,000	9,598	1,732	.18
4-Chloro-o-toluidine [NH_2=1] and hydrochloride	62	...	...	...
5-Chloro-o-toluidine [NH_2=1] and hydrochloride	507	160	236	1.48
N-[(5-Chloro-o-tolyl)azo]sarcosine	181	...	...	...
[(4-Chloro-o-tolyl)thio]acetic acid	61	...	...	...
Cresols, total[3]	71,168	72,019	13,617	.19
m-, o-, and p-Cresols	32,533	29,268	8,636	.30
(m,p)-Cresol (from coal tar and petroleum)	24,022	27,715	3,032	.11
(o,m,p)-Cresol[4]	14,613	15,036	1,949	.13
Cresylic acid, refined, total[3]	50,890	56,966	6,192	.11
From coal tar	21,969	21,998	2,587	.12
From petroleum	28,921	34,968	3,605	.11
Cumene	663,009	...	...	...
Cyclohexane	1,700,245	1,474,742	60,166	.04
Cyclohexanol	...	2,663	679	.25
Cyclohexanone	321,651	12,269	3,152	.26
Cyclohexylamine	13,651	5,528	1,386	.25
1,4-Diaminoanthraquinone	64	...	...	...
1,5-Diaminoanthraquinone	64	...	...	...
2,6-Diaminoanthraquinone	179	...	...	...
1,4-Diamino-2,3-dihydroanthraquinone	398	...	...	...
4,4'-Diamino-2,2'-stilbenedisulfonic acid	4,784	...	...	...
4,5'-Dibenzamido-1,1'-iminodianthraquinone	142	...	...	...
1,5-Dibenzoylnaphthalene	231	...	...	...
3,9-Dibromo-7H-benz[de]anthracen-7-one	330	...	...	...
2,5-Dichloroaniline and hydrochloride [NH_2=1]	123	...	...	...
1,5-Dichloroanthraquinone	199	...	...	...
o-Dichlorobenzene	41,115	37,199	4,239	.11
p-Dichlorobenzene	65,835	66,546	5,789	.09
3,3'-Dichlorobenzidine base and salts	2,677	2,331	2,851	1.22
2,5-Dichloro-4-(3-methyl-5-oxo-2-pyrazolin-1-yl)benzenesulfonic acid	292	43	100	2.33
2,6-Dichloro-4-nitroaniline	259	...	...	...
1,4-Dichloro-2-nitrobenzene (Nitro-p-dichlorobenzene)	705	...	...	...
2,5-Dichlorosulfanilic acid [SO_3H=1]	110	...	...	...
p-(Diethylamino)benzaldehyde	30	...	...	...
N,N-Diethylaniline	1,721	901	473	.52
9,10-Dihydro-1,4-dihydroxy-9,10-dioxo-2-anthracenesulfonic acid (2-Quinizarinsulfonic acid)	31	...	...	...
9,10-Dihydro-9,10-dioxo-1,5-anthracenedisulfonic acid and disodium salt	1,226	...	...	...
9,10-Dihydro-9,10-dioxo-1,8-anthracenedisulfonic acid, potassium salt	412	...	...	...
9,10-Dihydro-9,10-dioxo-2,6-anthracenedisulfonic acid and salt	369	...	...	...
9,10-Dihydro-9,10-dioxo-1-anthracenesulfonic acid and salt	3,066	...	...	...
9,10-Dihydro-5-nitro-9,10-dioxo-1-anthracenesulfonic acid	135	...	...	...
9,10-Dihydro-1-nitro-9,10-dioxo-2-anthroic acid	29	...	...	...
1,4-Dihydroxyanthraquinone (Quinizarin)	1,962	75	103	1.37
1,5-Dihydroxyanthraquinone (Anthrarufin)	233	...	...	...
1,8-Dihydroxyanthraquinone (Chrysazin)	181	...	...	...
2,6-Dihydroxyanthraquinone (Anthraflavic acid)	9	...	...	...
1,8-Dihydroxy-4,5-dinitroanthraquinone (4,5-Dinitrochrysazin)	461	...	...	...
16,17-Dihydroxyviolanthrone (Dihydroxydibenzanthrone)	337	...	...	...

See footnotes at end of table.

TABLE 7A.--*Cyclic intermediates: U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
m-Dimethoxybenzene	...	66	98	$1.48
3,3′-Dimethoxybenzidine	567	496	893	1.80
16,17-Dimethoxyviolanthrone	133	...	...	...
N,N-Dimethylaniline	11,041	6,003	1,296	.22
N,N-Dimethylbenzylamine	...	81	111	1.37
2,2′-Dimethyl-1,1′-bianthraquinone	69	...	...	...
N,N-Dimethyl-p-nitrosoaniline	90	...	...	...
p-(2,4-Dinitroanilino)phenol	36	...	...	...
2,4-Dinitrophenol, tech	935	...	...	...
4,4′-Dinitrostilbene-2,2′-disulfonic acid	6,449	...	...	...
1,4-Di-p-toluidinoanthraquinone	202	...	...	...
Divinylbenzene	2,748	1,762	1,403	.80
p-Dodecylphenol	11,021	...	...	...
N-Ethylaniline, refined	761	385	189	.49
Ethylbenzene[5]	3,022,730	580,332	23,614	.04
N-Ethyl-N-phenylbenzylamine	838	...	...	...
o-Formylbenzenesulfonic acid (o-Sulfobenzaldehyde)	271	...	...	...
p-Hydrazinobenzenesulfonic acid	175	...	...	...
p-Hydroxybenzenesulfonic acid (1-Phenol-4-sulfonic acid)	6,310	6,202	956	.15
p-Hydroxybenzoic acid, methyl ester	246	256	375	1.46
p-Hydroxybenzoic acid, propyl ester	102	74	164	2.22
4-Hydroxymetanilamide	119	...	...	...
4-Hydroxymetanilic acid	106	...	...	...
3-Hydroxy-2,7-naphthalenedisulfonic acid, disodium salt	1,715	776	703	.91
6-Hydroxy-2-naphthalenesulfonic acid (Schaeffer's acid) and sodium salt	348	205	164	.80
3-Hydroxy-2-naphthoic acid (B.O.N.)	3,951	...	...	...
N-(7-Hydroxy-1-naphthyl)acetamide	24	...	...	...
1,1′-Iminobis[4-aminoanthraquinone]	138	...	...	...
1,1′-Iminobis[5-benzamidoanthraquinone]	45	...	...	...
7,7′-Iminobis[4-hydroxy-2-naphthalenesulfonic acid]	21	...	...	...
1,1′-Iminobis[4-nitroanthraquinone]	103	...	...	...
1,1′-Iminodianthraquinone (1,1′-Dianthrimide)	145	...	...	...
Isocyanic acid derivatives, total	184,262	162,739	61,648	.38
Diphenylmethane 4,4′-diisocyanate (MDI)	4,817	...	...	...
Toluene 2,4- and 2,6-diisocyanate (80/20 mixture)	146,578	138,152	49,024	.35
All other	32,867	24,587	12,624	.51
4,4′-Isopropylidenediphenol (Bisphenol A)	97,197	56,487	11,753	.21
Isoviolanthrone (Isodibenzanthrone)	44	...	...	...
Leuco quinizarin (1,4,9,10-Anthratetrol)	88	...	...	...
Melamine	73,201	59,285	15,064	.25
o-Mercaptobenzoic acid	17	...	...	...
Metanilic acid (m-Aminobenzenesulfonic acid)	917	...	...	...
1-(Methylamino)anthraquinone	175	190	425	2.24
4,4′-Methylenebis[N,N-dimethylaniline] (Methane base)	1,206	536	303	.57
4,4′-Methylenedianiline	1,086	...	...	...
p-(3-Methyl-5-oxo-2-pyrazolin-1-yl)benzenesulfonic acid	203	...	...	...
4-(3-Methyl-5-oxo-2-pyrazolin-1-yl)-m-toluenesulfonic acid [SO_3H=1]-3-Methyl-1-phenyl-2-pyrazolin-5-one (Developer Z)	6	...	...	...
α-Methylstyrene	281	216	353	1.63
Naphthalene, solidifying at 79°C. or above, refined from domestic crude	13,553	8,480	941	.11
1,4,5,8-Naphthalenetetracarboxylic acid	4,731	...	...	...
1-Naphthol (α-Naphthol)	57	...	...	...
Naphth[1,2-d][1,2,3]oxadiazole-5-sulfonic acid	...	801	484	.60
p-Nitroaniline	1,250	...	...	...
4-Nitro-o-anisidine [NH_2=1]	12,478	6,883	2,988	.43
5-Nitro-o-anisidine [NH_2=1]	103	...	...	...
Nitrobenzene	108	...	...	...
m-Nitrobenzenesulfonic acid and sodium salt	280,341	11,506	1,051	.09
3-Nitro-1,5-naphthalenedisulfonic acid	2,293	2,397	1,023	.43
7(and 8)-Nitronaphth[1,2-d][1,2,3]oxadiazole-5-sulfonic acid	223	...	...	...
p-Nitrophenol and sodium salt	1,084	...	...	...
	19,856	11,273	4,292	.38

See footnotes at end of table.

TABLE 7A.--*Cyclic intermediates: U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
5-Nitro-o-toluenesulfonic acid [SO_3H=1]	8,429	...	...	...
3-Nitro-p-toluenesulfonic acid [SO_3H=1]	73	...	...	...
2-Nitro-p-toluidine [NH_2=1]	1,257	822	843	$1.03
16-Nitroviolanthrone	88	...	...	...
Nonylphenol	61,001	22,190	2,424	.11
1-[(7-Oxo-7H-benz[de]anthracen-3-yl)amino]anthraquinone	375	...	...	...
1,1'-[(7-Oxo-7H-benz[de]anthracen-3,9-ylene)diimino]dianthraquinone	637	...	...	...
5-Oxo-1-phenyl-2-pyrazoline-3-carboxylic acid, ethyl ester	72	...	...	...
5-Oxo-1-(p-sulfophenyl)-2-pyrazoline-3-carboxylic acid (Pyrazolone T)	40	...	...	...
Phenol, grand total[3]	1,229,113	532,704	50,222	.09
Natural, total	55,672	52,532	4,888	.09
From coal tar	41,055	36,241	3,198	.09
From petroleum	14,617	16,291	1,690	.10
Synthetic, total	1,173,441	480,172	45,334	.10
From cumene	560,040	224,040	20,682	.09
Other synthetic	613,401	256,132	24,652	.10
Phenylacetic acid and salts	4,056	3,290	1,285	.39
p-Phenylazoaniline (p-Aminoazobenzene) and hydrochloride	166	...	...	...
1-Phenyl-1,2-propanedione, 2-oxime (Isonitrosopropiophenone)	248	...	...	...
Phthalic anhydride	608,318	336,289	28,364	.08
Picolines, total[6]	4,779	2,493	1,011	.41
2-Picoline (α-Picoline)	2,332	812	278	.34
Other picolines	2,447	1,681	733	.44
Piperidine	434	...	...	...
Propiophenone	533	...	...	...
8,16-Pyranthrenedione	19	...	...	...
2°-Pyridine[6]	6,488	5,751	3,313	.58
Quinaldine	38	...	...	...
Salicylaldehyde	2,540	1,839	1,879	1.02
Salicylic acid, tech	22,763	5,138	1,786	.35
Styrene, all grades	2,864,306	1,248,222	95,190	.08
Terephthalic acid, dimethyl ester	544,578	218,991	52,474	.24
1,4,5,8-Tetrachloroanthraquinone	89	...	...	...
1,4,5,8-Tetrahydroxyanthraquinone, leuco derivative	127	...	...	...
Toluene-2,4-diamine (4-m-Tolylenediamine)	54,411	...	...	...
o(and p)-Toluenesulfonic acid	5,868	5,183	742	.14
4-(o-Tolylazo)-o-toluidine	467	...	...	...
1,3,3-Trimethyl-$\Delta^{2,\alpha}$-indolineacetaldehyde	141	...	...	...
1,3,3-Trimethyl-2-methyleneindoline	326	...	...	...
7,7'-Ureylenebis[4-hydroxy-2-naphthalenesulfonic acid] (J acid urea)	437	...	...	...
Violanthrone (Dibenzanthrone)	569	...	...	...
o-Xylene	351,369	343,755	9,121	.03
p-Xylene	396,333	375,248	32,714	.09
Xylenols[7]	14,585	12,440	1,478	.12
All other cyclic intermediates	2,321,922	990,168	216,479	.22

[1] Calculated from rounded figures.

[2] Principally straight-chain dodecylbenzene and tridecylbenzene, but includes lesser amounts of branched-chain compounds and other alkylbenzenes.

[3] Includes data for coke ovens and gas-retort ovens, reported to the Division of Bituminous Coal, U.S. Bureau of Mines, Department of the Interior, and for tar and petroleum refineries and other producers, reported to the U.S. Tariff Commission.

[4] Includes some mixed cresols. Figures include (o,m,p)-cresol from coal tar and from petroleum.

[5] Does not include ethylbenzene produced and consumed in continuous-process styrene manufacture.

[6] Includes data for coke ovens and gas-retort ovens, reported to the Division of Bituminous Coal, U.S. Bureau of Mines, Department of the Interior, and for tar refineries and other producers, reported to the U.S. Tariff Commission.

[7] Includes low- and medium-boiling xylenols and xylenols unclassified as to boiling point.

In 1965, production of ethylbenzene exceeded 3 billion pounds for the first time, reaching 3,023 million pounds. Styrene production in 1965 was 2,864 million pounds, an 11.4-percent increase over the 2,571 million pounds reported for 1964. Ethylbenzene is used almost entirely in the manufacture of styrene, which, in turn, is used almost entirely in the manufacture of plastics materials and synthetic rubber. Other intermediates whose production exceeded one billion pounds in 1965 were cyclohexane at 1,700 million pounds, representing a 24.4-percent increase over the 1,367 million pounds reported for 1964, and phenol at 1,229 million pounds, representing a 10.4-percent increase over the 1964 production of 1,113 million pounds. The output of other large-volume intermediates in 1965 compared with production in 1964 was as follows: Cumene, 663 million pounds (20.6 percent larger); phthalic anhydride, 608 million pounds (9.1 percent larger); monochlorobenzene, 546 million pounds, (1.6 percent larger); terephthalic acid, dimethyl ester, 545 million pounds (53.1 percent larger); p-xylene, 396 million pounds (34.0 percent larger); and isocyanates, 184 million pounds (33.6 percent larger).

Dyes

Dyes produced in the United States are all 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 are used for coloring paper; and the rest are used chiefly in the production of organic pigments and in the dyeing of leather and plastics. Of the several thousand different synthetic dyes that are known, more than two thousand are manufactured by one or more domestic producers. 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 costs that a particular use can bear. Dyes are sold as pastes, powders, lumps, and solutions; concentrations vary from 6 percent to 100 percent. The concentration, form, and purity of a dye are determined largely by the use for which it is intended.

Table 8A[2] shows U.S. production and sales of dyes in 1965, total and by individual dyes, using the *Colour Index* classification and terminology.

Total domestic production of dyes in 1965 amounted to 207 million pounds, or 12.4 percent more than the 184 million pounds in 1964. Sales of dyes in 1965 amounted to 190 million pounds, valued at $292 million, compared with 178 million pounds, valued at $264 million, in 1964. In terms of quantity, sales of dyes in 1965 were 6.6 percent larger than in 1964, and in terms of value, 10.7 percent larger. The average unit value of sales of all dyes in 1965 was $1.54 a pound, compared with $1.48 a pound in 1964.

For many important individual low- and medium-priced dyes for which statistics are given in table 8A, production was larger in 1965 than in 1964. The output of Vat Green 8 was 2.0 million pounds in 1965, or 78.8 percent more than the 1.1 million pounds produced in 1964; that of Vat Black 25 was 4.5 million pounds, or 44.7 percent more than the 3.1 million pounds produced in 1964. Other important dyes whose output was substantially larger in 1965 than in 1964 were Disperse Yellow 3 (38.3 percent), Vat Green 3 (34.3 percent), Vat Yellow 2 (33.0 percent), Sulfur Black 1 (31.9 percent), Direct Blue 2 (23.0 percent), and Mordant Black 11 (17.4 percent).

On the other hand, the output of a few important dyes was smaller in 1965 than in 1964. Production of Vat Green 1 was 3.8 million pounds in 1965, or 36.4 percent less than the 5.9 million pounds produced in 1964; that of Leuco Sulfur Black 2 was 2.2 million pounds, or 20.5 percent less than the 2.8 million pounds produced in 1964. The output of Acid Black 1 was 9.7 percent smaller in 1965 than in 1964, and that of Vat Blue 6 was 4.4 percent smaller.

[2] See also table 8B, pt. III, which lists these products and identifies the manufacturers, and the appendix (table 23), which shows imports of dyes during the years 1964-65.

TABLE 8A. --*Benzenoid dyes; U.S. production and sales, 1965*

[Listed below are all benzenoid 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 8B in pt. III lists all dyes for which data on production or sales were reported and identifies the manufacturer of each]

Dye	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Grand total	207,193	189,965	292,284	$1.54
ACID DYES				
Total	20,395	18,666	39,025	2.09
Acid yellow dyes, total	3,375	2,961	6,743	2.28
Acid Yellow 3	...	31	111	3.58
Acid Yellow 11	46	46	96	2.09
Acid Yellow 17	461	472	1,011	2.14
Acid Yellow 23	387	334	728	2.18
Acid Yellow 36	239	241	361	1.50
Acid Yellow 40	140	135	374	2.77
Acid Yellow 42	60	52	85	1.63
Acid Yellow 44	20	28	82	2.93
Acid Yellow 54	89	65	141	2.17
Acid Yellow 73	246	72	163	2.26
Acid Yellow 99	54	70	157	2.24
All other	1,633	1,415	3,434	2.43
Acid orange dyes, total	2,793	2,789	4,271	1.53
Acid Orange 1	77	48	100	2.08
Acid Orange 7	698	717	672	.94
Acid Orange 8	315	354	404	1.14
Acid Orange 10	265	294	384	1.31
Acid Orange 24	502	516	693	1.34
Acid Orange 60	60	47	120	2.55
Acid Orange 64	50	46	168	3.65
All other	826	767	1,730	2.26
Acid red dyes, total	3,489	2,973	6,022	2.03
Acid Red 1	654	592	621	1.05
Acid Red 4	95	114	207	1.82
Acid Red 14	100	116	159	1.37
Acid Red 18	129	114	135	1.18
Acid Red 26	112	110	135	1.23
Acid Red 37	40	42	126	3.00
Acid Red 73	250	249	547	2.20
Acid Red 85	162	160	288	1.80
Acid Red 87	...	99	183	1.85
Acid Red 88	125	137	202	1.47
Acid Red 89	41	46	71	1.54
Acid Red 99	173	171	397	2.32
Acid Red 114	58	66	138	2.09
Acid Red 115	33	39	64	1.64
Acid Red 137	142	136	429	3.15
Acid Red 151	118	106	230	2.17
Acid Red 182	51	41	131	3.20
Acid Red 186	35	34	103	3.03
All other	1,171	601	1,856	3.09
Acid violet dyes, total	494	502	944	1.88
Acid Violet 1	67	58	83	1.43
Acid Violet 3	71	81	142	1.75
Acid Violet 7	104	122	166	1.36
Acid Violet 12	73	62	94	1.52
Acid Violet 49	77	72	160	2.22
All other	102	107	299	2.79

See footnotes at end of table.

TABLE 8A. --*Benzenoid dyes: U.S. production and sales, 1965*--Continued

Dye	Production	Sales		
		Quantity	Value	Unit value[1]
ACID DYES--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Acid blue dyes, total	3,695	3,275	9,582	$2.93
Acid Blue 7	94	77	198	2.57
Acid Blue 9	748	...	...	...
Acid Blue 25	121	122	647	5.30
Acid Blue 40	15	15	59	3.93
Acid Blue 41	80	74	247	3.34
Acid Blue 43	...	24	181	7.54
Acid Blue 45	610	538	1,722	3.20
Acid Blue 62	22	26	166	6.38
Acid Blue 78	42	39	257	6.59
Acid Blue 90	12	9	91	10.11
Acid Blue 113	357	351	529	1.51
Acid Blue 118	39	...	...	...
Acid Blue 158 and 158A	212	188	424	2.26
All other	1,343	1,812	5,061	2.79
Acid green dyes, total	1,075	890	2,431	2.73
Acid Green 3	206	179	211	1.18
Acid Green 9	25	23	101	4.39
Acid Green 12	15	13	54	4.15
Acid Green 16	81	65	245	3.77
Acid Green 20	38	38	73	1.92
Acid Green 25	364	260	782	3.01
All other	346	312	965	3.09
Acid brown dyes, total	795	737	1,683	2.28
Acid Brown 14	306	270	385	1.43
All other	489	467	1,298	2.78
Acid black dyes, total	4,679	4,539	7,349	1.62
Acid Black 1	1,247	1,178	1,436	1.22
Acid Black 24	101	120	210	1.75
Acid Black 48	12	25	130	5.20
Acid Black 107	289	187	522	2.79
All other	3,030	3,029	5,051	1.67
AZOIC DYES AND COMPONENTS				
Azoic Compositions				
Total	2,100	2,043	3,968	1.94
Azoic Yellow 1	61	56	94	1.68
Azoic Yellow 3	3	3	4	1.33
Azoic Orange 3	53	48	91	1.90
Azoic red dyes, total	665	658	1,159	1.76
Azoic Red 1	202	200	348	1.74
Azoic Red 2	67	64	124	1.94
Azoic Red 6	304	301	500	1.66
Azoic Red 16	6	6	17	2.83
All other	86	87	170	1.95
Azoic Blue 2	13	13	26	2.00
Azoic Blue 3	115	113	185	1.64
Azoic Brown 9	149	146	479	3.28
Azoic black dyes	823	790	1,403	1.78
All other azoic compositions	218	216	527	2.44

See footnotes at end of table.

TABLE 8A. --*Benzenoid dyes: U.S. production and sales, 1965*--Continued

Dye	Production	Sales		
		Quantity	Value	Unit value[1]
AZOIC DYES AND COMPONENTS--Continued				
Azoic Diazo Components, Bases (Fast Color Bases)	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Total	1,558	1,310	2,057	$1.57
Azoic Diazo Component 4, base	107	74	82	1.11
Azoic Diazo Component 9, base	54	...	...	...
Azoic Diazo Component 10, base	71	46	151	3.28
Azoic Diazo Component 12, base	237	224	266	1.19
Azoic Diazo Component 13, base	377	341	429	1.26
Azoic Diazo Component 32, base	307	276	427	1.55
Azoic Diazo Component 48, base	...	46	79	1.72
All other azoic diazo components, bases	405	303	623	2.06
Azoic Diazo Components, Salts (Fast Color Salts)				
Total	2,835	2,646	2,683	1.01
Azoic Diazo Component 1, salt	45	38	50	1.32
Azoic Diazo Component 2, salt	...	7	12	1.71
Azoic Diazo Component 3, salt	296	309	200	.65
Azoic Diazo Component 5, salt	357	327	373	1.14
Azoic Diazo Component 6, salt	...	40	43	1.08
Azoic Diazo Component 8, salt	153	123	125	1.02
Azoic Diazo Component 9, salt	435	384	246	.64
Azoic Diazo Component 10, salt	92	89	132	1.48
Azoic Diazo Component 11, salt	...	42	72	1.71
Azoic Diazo Component 12, salt	103	102	111	1.09
Azoic Diazo Component 13, salt	421	371	254	.68
Azoic Diazo Component 28, salt	340	338	364	1.08
Azoic Diazo Component 48, salt	90	86	96	1.12
Azoic Diazo Component 49, salt	39	38	110	2.89
All other azoic diazo components, salts	464	352	495	1.41
Azoic Coupling Components (Naphthol AS and Derivatives)				
Total	3,172	2,429	4,669	1.92
Azoic Coupling Component 2	271	...	...	...
Azoic Coupling Component 3	39	14	44	3.14
Azoic Coupling Component 4	53	23	46	2.00
Azoic Coupling Component 5	...	10	28	2.80
Azoic Coupling Component 7	791	715	1,454	2.03
Azoic Coupling Component 8	19	...	...	...
Azoic Coupling Component 11	22	21	70	3.33
Azoic Coupling Component 14	215	141	276	1.96
Azoic Coupling Component 17	176	...	...	...
Azoic Coupling Component 18	817	616	736	1.19
Azoic Coupling Component 19	7	6	35	5.83
Azoic Coupling Component 20	137	92	198	2.15
Azoic Coupling Component 21	112	69	150	2.17
Azoic Coupling Component 29	32	24	55	2.29
All other azoic coupling components	481	698	1,577	2.26

See footnotes at end of table.

TABLE 8A. --*Benzenoid dyes: U.S. production and sales, 1965*--Continued

Dye	Production	Sales		
		Quantity	Value	Unit value[1]
BASIC DYES	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Total	10,573	9,553	23,907	$2.50
Basic yellow dyes, total	1,923	1,794	5,419	3.02
Basic Yellow 2	605	614	1,288	2.10
Basic Yellow 11	482	431	1,717	3.98
Basic Yellow 13	82	91	326	3.58
All other	754	658	2,088	3.17
Basic orange dyes, total	1,353	1,317	2,416	1.83
Basic Orange 1	339	333	355	1.07
Basic Orange 2	543	549	646	1.18
Basic Orange 21	358	341	1,082	3.17
All other	113	94	333	3.54
Basic red dyes, total	1,213	1,055	3,428	3.25
Basic Red 14	436	351	1,097	3.13
All other	777	704	2,331	3.31
Basic violet dyes, total	2,991	2,750	5,582	2.03
Basic Violet 1	983	932	1,198	1.29
Basic Violet 3	...	1,129	2,045	1.81
Basic Violet 4	38	31	97	3.13
Basic Violet 16	130	109	388	3.56
All other	1,840	549	1,854	3.38
Basic blue dyes, total	1,569	1,210	4,154	3.43
Basic Blue 1	25	24	105	4.38
Basic Blue 5	22	...	...	...
Basic Blue 7	...	128	396	3.09
Basic Blue 9	474	299	699	2.34
Basic Blue 26	65	54	173	3.20
All other	983	705	2,781	3.94
Basic Green 1	87	95	300	3.16
Basic Green 4	594	584	1,506	2.58
Basic Brown 1	254	195	290	1.49
Basic Brown 4	541	505	669	1.32
All other basic dyes	48	48	143	2.98
DIRECT DYES				
Total	36,080	33,663	50,970	1.51
Direct yellow dyes, total	6,719	6,214	10,972	1.77
Direct Yellow 4	468	422	897	2.13
Direct Yellow 5	75	105	302	2.88
Direct Yellow 6	752	703	1,101	1.57
Direct Yellow 11	974	865	979	1.13
Direct Yellow 12	388	393	926	2.36
Direct Yellow 26	...	6	15	2.50
Direct Yellow 28	345	300	568	1.89
Direct Yellow 44	403	395	671	1.70
Direct Yellow 50	398	365	745	2.04
Direct Yellow 59	127	122	183	1.50
Direct Yellow 84	467	398	567	1.42
Direct Yellow 105	188	220	536	2.44
Direct Yellow 106	691	592	1,008	1.70
All other	1,443	1,328	2,474	1.86

See footnotes at end of table.

TABLE 8A. -- *Benzenoid dyes: U.S. production and sales, 1965*--Continued

Dye	Production	Sales		
		Quantity	Value	Unit value[1]
DIRECT DYES--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Direct orange dyes, total	1,901	1,829	4,044	$2.21
Direct Orange 1	36	21	36	1.71
Direct Orange 8	164	170	228	1.34
Direct Orange 15	201	184	222	1.21
Direct Orange 26	68	41	87	2.12
Direct Orange 34	137	124	272	2.19
Direct Orange 37	63	61	153	2.51
Direct Orange 39	132	121	250	2.07
Direct Orange 72	344	319	685	2.15
Direct Orange 73	34	58	231	3.98
Direct Orange 81	57	57	178	3.12
Direct Orange 102	165	185	474	2.56
All other	500	488	1,228	2.52
Direct red dyes, total	4,519	4,198	9,102	2.17
Direct Red 1	275	245	389	1.59
Direct Red 2	472	463	803	1.73
Direct Red 4	30	...	...	...
Direct Red 10	20	17	28	1.65
Direct Red 13	190	165	264	1.60
Direct Red 16	65	64	124	1.94
Direct Red 23	259	227	553	2.44
Direct Red 24	464	412	810	1.97
Direct Red 26	172	178	451	2.53
Direct Red 28	198	203	277	1.36
Direct Red 31	47	25	95	3.80
Direct Red 37	75	84	219	2.61
Direct Red 39	72	57	158	2.77
Direct Red 75	...	28	99	3.54
Direct Red 79	301	284	684	2.41
Direct Red 80	587	513	901	1.76
Direct Red 81	385	344	872	2.53
Direct Red 83	113	115	179	1.56
Direct Red 122	...	36	178	4.94
Direct Red 127 and 127A	...	10	35	3.50
Direct Red 149	69	65	242	3.72
Direct Red 153	26	24	80	3.33
All other	699	639	1,661	2.60
Direct violet dyes, total	157	162	506	3.12
Direct Violet 1	10	11	23	2.09
Direct Violet 9	35	84	203	2.42
Direct Violet 51	...	7	48	6.86
All other	112	60	232	3.57
Direct blue dyes, total	8,141	7,814	11,437	1.46
Direct Blue 1	431	407	731	1.80
Direct Blue 2	2,248	2,177	1,928	.89
Direct Blue 6	571	527	267	.51
Direct Blue 8	30	43	80	1.86
Direct Blue 14	129	113	102	.90
Direct Blue 15	62	65	111	1.71
Direct Blue 22	24	22	40	1.82
Direct Blue 24	43	38	53	1.39
Direct Blue 25	39	54	146	2.70
Direct Blue 71	80	86	252	2.93
Direct Blue 76	574	583	1,106	1.90
Direct Blue 78	124	108	303	2.81
Direct Blue 80	438	404	650	1.61
Direct Blue 86	1,211	1,103	1,712	1.55
Direct Blue 98	118	125	235	1.88
Direct Blue 120 and 120A	178	189	397	2.10
Direct Blue 126	142	175	462	2.64
Direct Blue 151	...	30	40	1.33
All other	1,699	1,565	2,822	1.80

See footnotes at end of table.

TABLE 8A.--*Benzenoid dyes: U.S. production and sales, 1965*--**Continued**

Dye	Production	Sales		
		Quantity	Value	Unit value[1]
DIRECT DYES--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Direct green dyes, total	1,396	1,149	2,610	$2.27
Direct Green 1	275	201	267	1.33
Direct Green 6	456	471	559	1.19
Direct Green 8	37	32	41	1.28
Direct Green 12	29	...	...	...
Direct Green 38	...	14	50	3.57
All other	599	431	1,693	3.93
Direct brown dyes, total	1,883	1,756	2,496	1.42
Direct Brown 1 and 1A	266	227	308	1.36
Direct Brown 2	200	184	283	1.54
Direct Brown 6	84	103	119	1.16
Direct Brown 31	102	93	270	2.90
Direct Brown 74	56	62	93	1.50
Direct Brown 95	560	498	437	.88
Direct Brown 111	...	61	217	3.56
Direct Brown 154	369	322	313	.97
All other	246	206	456	2.21
Direct black dyes, total	11,364	10,541	9,803	.93
Direct Black 4	234	194	199	1.03
Direct Black 9	64	48	68	1.42
Direct Black 19	208	224	322	1.44
Direct Black 22	903	738	637	.86
Direct Black 38	6,297	5,833	4,487	.77
Direct Black 51	56	65	207	3.18
Direct Black 80	2,148	2,087	1,850	.89
All other	1,454	1,352	2,033	1.50
DISPERSE DYES				
Total	15,514	13,522	32,878	2.43
Disperse yellow dyes, total	2,707	2,484	4,822	1.94
Disperse Yellow 3	1,290	1,245	2,040	1.64
Disperse Yellow 5	56	44	150	3.41
Disperse Yellow 23	...	74	197	2.66
Disperse Yellow 33	229	218	348	1.60
Disperse Yellow 34	202	171	295	1.73
Disperse Yellow 42	201	189	330	1.75
Disperse Yellow 54	185	155	565	3.65
All other	544	388	897	2.31
Disperse orange dyes, total	1,088	801	1,503	1.88
Disperse Orange 3	104	92	159	1.73
Disperse Orange 5	98	71	170	2.39
Disperse Orange 17	179	115	178	1.55
All other	707	523	996	1.90
Disperse red dyes, total	2,178	1,919	5,899	3.07
Disperse Red 1	273	232	379	1.63
Disperse Red 5	112	69	85	1.23
Disperse Red 11	42	30	128	4.27
Disperse Red 13	36	28	38	1.36
Disperse Red 17	127	124	170	1.37
Disperse Red 60	88	80	291	3.64
All other	1,500	1,356	4,808	3.55
Disperse Violet 1	49	33	111	3.36
Disperse Violet 4	21	20	58	2.90
Disperse Violet 27	91	161	238	1.48

See footnotes at end of table.

TABLE 8A.--*Benzenoid dyes: U.S. production and sales, 1965*--Continued

Dye	Production	Sales		
		Quantity	value	Unit value[1]
DISPERSE DYES--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Disperse blue dyes, total	6,296	5,559	16,700	$3.00
Disperse Blue 1	348	250	1,024	4.10
Disperse Blue 3	1,928	1,576	2,520	1.60
Disperse Blue 7	319	301	2,041	6.78
Disperse Blue 64	101	144	464	3.22
All other	3,600	3,288	10,651	3.24
Disperse black dyes, total	2,723	2,266	2,888	1.27
Disperse Black 1	344	275	336	1.22
Disperse Black 9	...	1,572	1,607	1.02
All other	2,379	419	945	2.26
All other disperse dyes	361	279	659	2.36
FIBER-REACTIVE DYES				
Fiber-reactive dyes, total	1,586	1,558	6,744	4.33
Reactive yellow dyes	276	271	1,023	3.77
Reactive red dyes	...	337	1,223	3.63
Reactive blue dyes	631	613	3,320	5.42
All other reactive dyes	679	337	1,178	3.50
FLUORESCENT BRIGHTENING AGENTS				
Total	19,420	18,284	34,516	1.89
Fluorescent Brightening Agent 9	3,749	3,588	5,675	1.58
Fluorescent Brightening Agent 28	1,515	1,568	2,427	1.55
All other fluorescent brightening agents	14,156	13,128	26,414	2.01
FOOD, DRUG, AND COSMETIC COLORS				
Total	2,923	2,736	10,238	3.74
Food, Drug, and Cosmetic Dyes				
Total	2,681	2,493	8,971	3.60
FD&C Blue No. 1	85	52	596	11.46
FD&C Red No. 2	819	820	2,223	2.71
FD&C Red No. 3	111	90	1,278	14.20
FD&C Red No. 4	21	56	241	4.30
FD&C Yellow No. 5	770	682	2,127	3.12
FD&C Yellow No. 6	782	700	1,949	2.78
All other food, drug, and cosmetic dyes	93	93	557	5.99
Drug and Cosmetic and External Drug and Cosmetic Dyes				
Total	242	243	1,267	5.21
D&C Red No. 12	4	...	...	...
D&C Red No. 19	9	11	55	5.00
D&C Red No. 21	36	36	130	3.61
D&C Red No. 36	12	9	31	3.44
All other drug and cosmetic and external drug and cosmetic dyes	181	187	1,051	5.62

See footnotes at end of table.

TABLE 8A. --*Benzenoid dyes: U.S. production and sales, 1965*--Continued

Dye	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
MORDANT DYES				
Total	4,745	4,246	5,706	$1.34
Mordant yellow dyes, total	216	242	428	1.77
Mordant Yellow 1	33	43	69	1.60
Mordant Yellow 8	13	12	23	1.92
All other	170	187	336	1.80
Mordant orange dyes, total	167	144	240	1.67
Mordant Orange 1	31	43	66	1.53
All other	136	101	174	1.72
Mordant red dyes, total	207	192	484	2.52
Mordant Red 7	117	99	205	2.07
All other	90	93	279	3.00
Mordant blue dyes, total	149	102	304	2.98
Mordant Blue 1	...	50	169	3.38
All other	149	52	135	2.60
Mordant brown dyes, total	272	262	629	2.40
Mordant Brown 1	66	59	137	2.32
Mordant Brown 40	31	23	58	2.52
All other	175	180	434	2.41
Mordant black dyes, total	3,715	3,288	3,582	1.09
Mordant Black 3	...	18	25	1.39
Mordant Black 5	...	19	33	1.74
Mordant Black 11	2,412	2,303	2,311	1.00
Mordant Black 13	61	25	72	2.88
Mordant Black 17	970	672	675	1.00
Mordant Black 38	10	17	52	3.06
All other	262	234	414	1.77
All other mordant dyes	19	16	39	2.44
SOLVENT DYES				
Total	9,837	8,930	15,351	1.72
Solvent yellow dyes, total	1,020	895	1,884	2.11
Solvent Yellow 2	38	43	74	1.72
Solvent Yellow 3	42	42	65	1.55
Solvent Yellow 14	663	548	543	.99
Solvent Yellow 47	30	42	198	4.71
All other	247	220	1,004	4.56
Solvent orange dyes, total	388	369	691	1.87
Solvent Orange 2	...	4	7	1.75
Solvent Orange 3	34	21	45	2.14
Solvent Orange 7	110	116	164	1.41
All other	244	228	475	2.08
Solvent red dyes, total	1,478	1,362	2,640	1.94
Solvent Red 24	362	284	540	1.90
Solvent Red 26	290	272	498	1.83
Solvent Red 49	46	40	258	6.45
All other	780	766	1,344	1.75
Solvent violet dyes, total	484	479	982	2.05
Solvent Violet 8	323	...	...	...
All other	161	479	982	2.05
Solvent Blue 38	199	...	...	...

See footnotes at end of table.

TABLE 8A.--*Benzenoid dyes: U.S. production and sales, 1965*--Continued

Dye	Production	Sales		
		Quantity	Value	Unit value[1]
SOLVENT DYES--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Solvent green dyes, total	289	153	580	$3.79
Solvent Green 3	234	97	360	3.71
All other	55	56	220	3.93
Solvent brown dyes	79	86	304	3.53
All other solvent dyes	5,900	5,586	8,270	1.48
SULFUR DYES[2]				
Total	18,648	17,471	9,960	.57
Sulfur Blue 7	120	130	92	.71
Sulfur Blue 11	...	26	26	1.00
Sulfur Blue 15	...	6	13	2.17
Sulfur Brown 10	47	50	34	.68
Sulfur Black 1	1,419	1,160	404	.35
Leuco Sulfur Black 1	5,827	5,871	2,154	.37
Leuco Sulfur Black 2	2,207	2,030	800	.39
All other sulfur dyes	9,028	8,198	6,437	.79
VAT DYES				
Total	57,511	52,439	48,728	.93
Vat yellow dyes, total	4,090	3,897	5,303	1.36
Vat Yellow 2, 8-1/2%	2,373	2,417	2,126	.88
Vat Yellow 4, 12-1/2%	763	675	865	1.28
All other	954	805	2,312	2.87
Vat orange dyes, total	2,794	2,463	5,846	2.37
Vat Orange 1, 20%	613	553	1,506	2.72
Solubilized Vat Orange 1, 26%	13	6	53	8.83
Vat Orange 2, 12%	322	278	509	1.83
Vat Orange 3, 13-1/2%	110	...	...	...
Vat Orange 4, 6%	...	81	242	2.99
Vat Orange 5, 10%	113	163	232	1.42
Solubilized Vat Orange 5, 30%	7	...	...	...
Vat Orange 7, 11%	312	271	795	2.93
Vat Orange 9, 12%	124	109	269	2.47
Vat Orange 15, 10%	687	564	1,362	2.41
All other	493	438	878	2.00
Vat red dyes, total	1,412	1,143	2,436	2.13
Vat Red 1, 13%	651	549	842	1.53
Vat Red 13, 11%	125	98	284	2.90
Vat Red 15, 10%	286	201	201	1.00
Vat Red 32, 20%	...	30	131	4.37
All other	350	265	978	3.69
Vat violet dyes, total	996	802	1,690	2.11
Vat Violet 1, 11%	310	214	591	2.76
Vat Violet 2, 20%	34	33	77	2.33
Vat Violet 9, 12%	133	96	335	3.49
Vat Violet 13, 6-1/4%	421	391	490	1.25
All other	98	68	197	2.90
Vat blue dyes, total	21,964	19,924	12,659	.64
Vat Blue 6, 8-1/3%	3,395	3,318	3,527	1.06
Vat Blue 18, 13%	1,433	1,125	1,942	1.73
Vat Blue 20, 14%	1,205	1,073	1,450	1.35
All other	15,931	14,408	5,740	.40

See footnotes at end of table.

TABLE 8A. --*Benzenoid dyes: U.S. production and sales, 1965* --Continued

Dye	Production	Sales		
		Quantity	Value	Unit value[1]
VAT DYES--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Vat green dyes, total	11,425	10,574	7,379	$0.70
Vat Green 1, 6%	3,755	3,690	2,425	.66
Vat Green 3, 10%	3,970	3,554	2,209	.62
Solubilized Vat Green 3, 26%	16	13	80	6.15
Vat Green 8, 8-1/2%	2,015	1,878	1,379	.73
Vat Green 9, 12-1/2%	1,468	1,297	1,057	.81
All other	201	142	229	1.61
Vat brown dyes, total	5,037	4,726	5,618	1.19
Vat Brown 1, 11%	629	559	887	1.59
Vat Brown 3, 11%	1,049	970	1,493	1.54
Vat Brown 5, 13%	106	115	177	1.54
All other	3,253	3,082	3,061	.99
Vat black dyes, total	9,793	8,910	7,797	.88
Solubilized Vat Black 1, 27-1/2%	...	4	33	8.25
Vat Black 9, 16%	176	153	354	2.31
Vat Black 25, 12-1/2%	4,514	4,151	2,904	.70
Vat Black 27, 12-1/2%	747	653	792	1.21
All other	4,356	3,949	3,714	.94
All other dyes[3]	296	469	884	1.88

[1] Calculated from rounded figures.
[2] Production and sales quantities of C.I. Leuco Sulfur and C.I. Solubilized Sulfur dyes are reported in terms of the usual commercial concentration of the C.I. Sulfur dyes.
[3] Includes oxidation bases, ingrain dyes, and miscellaneous dyes. Statistics for these groups of dyes may not be published separately because publication would disclose information received in confidence.

Table 9 summarizes production and sales of dyes in 1965, by class of application. Six classes of dyes grouped by class of application accounted for more than four-fifths of all the dyes produced in 1965. Vat dyes accounted for 27.8 percent of the total; direct dyes, for 17.4 percent; acid dyes, for 9.8 percent; fluorescent brightening agents, for 9.4 percent; sulfur dyes, for 9.0 percent; and disperse dyes, for 7.5 percent. Of the above six classes, the output of disperse dyes was 18.1 percent larger in 1965 than in 1964; that of fluorescent brightening agents, 16.5 percent larger; and that of both direct and acid dyes, 14.6 percent larger.

Of the remaining classes, the output of mordant dyes was 4.7 million pounds in 1965, or 33.6 percent more than the 3.6 million pounds in 1964. Production of fast color salts was 32.7 percent larger in 1965 than in 1964; basic dyes, 15.5 percent; solvent dyes, 15.1 percent; and fast color bases, 12.0 percent. On the other hand, the output of fiber-reactive dyes was 3.3 percent smaller in 1965 than in 1964, and that of azoic coupling components, 1.4 percent smaller.

Table 10 shows production and sales of dyes in 1965, by chemical class. In 1965, three chemical classes of dyes accounted for approximately two-thirds of all the dyes produced: Azo dyes accounted for 32.1 percent of the total; anthraquinone dyes, for 23.0 percent; and stilbene dyes, for 10.3 percent. The output of each of these three classes was larger in 1965 than in 1964: Stilbene dyes were 15.4 percent larger; azo dyes, 14.9 percent larger; and anthraquinone dyes, 14.4 percent larger. Of the remaining chemical classes for which 1964 and 1965 statistics are published, production of most classes was larger in 1965 than in 1964. In terms of value of sales, the most important classes of dyes in 1965 were the azo dyes ($107.1 million), the anthraquinone dyes ($72.7 million), the stilbene dyes ($33.0 million), and the triarylmethane dyes ($13.3 million).

TABLE 9.--*Benzenoid dyes: U.S. production and sales, by class of application, 1965*

Class of application	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Total	207,193	189,965	292,284	$1.54
Acid	20,395	18,666	39,025	2.09
Azoic dyes and components:				
Azoic compositions	2,100	2,043	3,968	1.94
Azoic diazo components, bases (Fast color bases)	1,558	1,310	2,057	1.57
Azoic diazo components, salts (Fast color salts)	2,835	2,646	2,683	1.01
Azoic coupling components (Naphthol AS and derivatives)	3,172	2,429	4,669	1.92
Basic	10,573	9,553	23,907	2.50
Direct	36,080	33,663	50,970	1.51
Disperse	15,514	13,522	32,878	2.43
Fiber-reactive	1,586	1,558	6,744	4.33
Fluorescent brightening agents	19,420	18,284	34,516	1.89
Food, drug, and cosmetic colors	2,923	2,736	10,238	3.74
Mordant	4,745	4,246	5,706	1.34
Solvent	9,837	8,930	15,351	1.72
Sulfur[2]	18,648	17,471	9,960	.57
Vat	57,511	52,439	48,728	.93
All other[3]	296	469	884	1.88

[1] Calculated from rounded figures.
[2] Production and sales quantities of C.I. Leuco Sulfur and C.I. Solubilized Sulfur dyes are reported in terms of the usual commercial concentration of the C.I. Sulfur dyes.
[3] Includes oxidation bases, ingrain dyes, and miscellaneous dyes. Statistics for these groups of dyes may not be published separately because publication would disclose information received in confidence.

TABLE 10.--*Benzenoid dyes: U.S. production and sales, by chemical class, 1965*

Chemical class	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Total	207,193	189,965	292,284	$1.54
Anthraquinone	47,674	42,774	72,664	1.70
Azo, total	66,497	61,737	107,091	1.73
Monoazo	24,752	22,390	43,337	1.94
Disazo	19,807	18,584	32,631	1.76
Trisazo	12,155	11,350	12,157	1.07
Polyazo	3,315	2,937	4,727	1.61
Not specified	6,468	6,476	14,239	2.20
Azoic	9,754	8,441	13,405	1.59
Cyanine	518	442	1,423	3.22
Indigoid	5,740	5,533	3,304	.60
Ketone imine	613	620	1,313	2.12
Methine	1,343	1,188	4,160	3.50
Nitro	913	788	1,438	1.82
Oxazine	173	179	736	4.11
Phthalocyanine	2,197	2,002	5,051	2.52
Quinoline	576	507	1,664	3.28
Stilbene	21,327	19,874	33,029	1.66
Sulfur[2]	18,648	17,471	9,960	.57
Thiazole	625	559	1,113	1.99
Triarylmethane	6,690	5,992	13,252	2.21
Xanthene	1,311	787	3,887	4.94
All other[3]	22,594	21,071	18,794	.89

[1] Calculated from rounded figures.
[2] Production and sales quantities of C.I. Leuco Sulfur and C.I. Solubilized Sulfur dyes are reported in terms of the usual commercial concentration of the C.I. Sulfur dyes.
[3] Includes acridine, aminoketone, azine, coumarin, hydroxyketone, nitroso, oxidation bases, thiazine, vat sulfur, and miscellaneous dyes. Statistics for these groups of dyes may not be published separately because publication would disclose information received in confidence.

Pigments

As the terms are used in this report, synthetic organic pigments are toners and lakes derived in whole or in part from benzenoid chemicals and colors. They are used in paints and related products, in printing inks, and in plastics and resin materials.

Statistics on production and sales of all benzenoid pigments in 1965 are given in table 11A.[3] Statistics on sales of a few selected pigments by commercial forms (dry full-strength form, dry extended form, dry dispersions, aqueous dispersions, and flushed colors) are given in table 12. Prior to 1961, statistics for toners included the quantities and values of extenders and diluents. Beginning in 1961, data were collected for both the full-strength and extended toners on a full-strength-toner-content basis. Individual toners and lakes are identified in this report by the names used in the second edition of the *Colour Index*.

Total production of benzenoid pigments in 1965 was 48.0 million pounds--9.1 percent more than the 44.1 million pounds produced in 1964 and 21.9 percent more than the 39.4 million pounds produced in 1963. Total sales of benzenoid pigments in 1965 amounted to 38.0 million pounds, valued at $93.6 million, compared with 35.1 million pounds, valued at $84.1 million, in 1964 and 33.5 million pounds, valued at $79.6 million, in 1963. In terms of quantity, sales of benzenoid pigments in 1965 were 8.4 percent larger than in 1964 and 13.4 percent larger than in 1963; in terms of value, sales in 1965 were 11.3 percent larger than in 1964 and 17.6 percent larger than in 1963.

Production of toners in 1965 amounted to 43.7 million pounds--9.2 percent more than the 40.0 million pounds reported for 1964. Sales in 1965 were 34.1 million pounds, valued at $89.9 million, compared with 31.4 million pounds, valued at $80.9 million, in 1964. Sales in 1965 were thus 8.5 percent larger than those in 1964 in terms of quantity, and 11.1 percent larger in terms of value. The individual toners listed in the report which were produced in the largest quantities in 1965 were Pigment Blue 15, alpha form, 4.5 million pounds; Pigment Green 7, 4.3 million pounds; Pigment Yellow 12, 3.5 million pounds; Pigment Red 49, barium toner, 3.2 million pounds; Pigment Red 48, 2.6 million pounds; Pigment Blue 19, 2.5 million pounds; and Pigment Blue 15, beta form, 2.2 million pounds.

Production of lakes totaled 4.3 million pounds in 1965--8.0 percent more than the 4.0 million pounds reported for 1964. Sales of lakes in 1965 amounted to 3.9 million pounds, valued at $3.8 million, compared with sales in 1964 of 3.7 million pounds, valued at $3.3 million. Sales in 1965 were thus 7.3 percent larger than those in 1964 in terms of quantity, and 15.3 percent larger in terms of value. Pigment Blue 24, with an output of 2.2 million pounds, was the lake produced in largest quantity in 1965.

For each of 14 selected pigments, or groups of pigments, table 12 gives data on sales by commercial forms. Pigment Yellow 12, Pigment Red 90, and Pigment Blue 19 were sold principally in the flushed form. The remaining 11 pigments, or groups of pigments, for which statistics are published were sold principally in the dry full-strength form. Statistics on sales by commercial forms could not be published for Pigment Red 49, sodium toner, or for Pigment Blue 24 without revealing the operations of individual companies.

[3] See also table 11B, pt. III, which lists these products alphabetically and identifies the manufacturers, and table 23 in the appendix, which shows imports of benzenoid pigments during the years 1964-65.

TABLE 11A.--*Benzenoid pigments: U.S. production and sales, 1965*

[Listed below are all toners and lakes 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 11B in pt. III lists all toners and lakes for which data on production or sales were reported and identifies the manufacturer of each]

Pigment	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Grand total	48,045	38,024	93,635	$2.46
TONERS				
Total	43,696	34,105	89,876	2.64
Yellow toners, total	6,935	4,523	12,737	2.82
Hansa yellows, total	1,208	868	2,316	2.67
Pigment Yellow 1, C.I. 11 680	590	386	728	1.89
Pigment Yellow 3, C.I. 11 710	170	85	196	2.31
Other Hansa yellows	448	397	1,392	3.51
Benzidine yellows, total	5,509	3,515	8,730	2.48
Pigment Yellow 12, C.I. 21 090	3,541	2,063	4,503	2.18
Pigment Yellow 13, C.I. 21 100	316	177	566	3.20
Pigment Yellow 14, C.I. 21 095	1,204	942	2,184	2.32
Pigment Yellow 17, C.I. 21 105	223	152	526	3.46
Other benzidine yellows	225	181	951	5.25
All other	218	140	1,691	12.08
Orange toners, total	860	700	2,745	3.92
Pigment Orange 2, C.I. 12 060	...	39	55	1.41
Pigment Orange 5, C.I. 12 075	247	185	290	1.57
Pigment Orange 13, C.I. 21 110	172	160	520	3.25
Pigment Orange 16, C.I. 21 160	212	181	536	2.96
All other	229	135	1,344	9.96
Red and violet toners, total	20,554	16,720	38,883	2.33
Naphthol reds, total	770	601	2,759	4.59
Pigment Red 2, C.I. 12 310	94	54	165	3.06
Pigment Red 5, C.I. 12 490	100	62	324	5.23
Pigment Red 17, C.I. 12 390	63	58	172	2.97
Pigment Red 18, C.I. 12 350	12	...	...	...
Pigment Red 22, C.I. 12 315	115	97	291	3.00
Pigment Red 23, C.I. 12 355	104	109	416	3.82
Other naphthol reds	282	221	1,391	6.29
Pigment Red 1, C.I. 12 070, dark	210	152	189	1.24
Pigment Red 1, C.I. 12 070, light	192	162	199	1.23
Pigment Red 3, C.I. 12 120	1,593	1,250	1,915	1.53
Pigment Red 4, C.I. 12 085	388	251	351	1.40
Pigment Red 6, C.I. 12 090	73	...	...	...
Pigment Red 38, C.I. 21 120	157	127	576	4.54
Pigment Red 48, C.I. 15 865	2,627	2,231	4,068	1.82
Pigment Red 49, C.I. 15 630:				
Barium toner	3,223	2,941	2,870	.98
Calcium toner	1,544	1,384	1,413	1.02
Sodium toner	241	268	272	1.01
Pigment Red 52, C.I. 15 860	1,181	1,008	1,307	1.30
Pigment Red 53, C.I. 15 585, barium toner	1,924	1,590	2,038	1.28
Pigment Red 54, C.I. 14 830, calcium toner	69	52	115	2.21
Pigment Red 57, C.I. 15 850, calcium toner	965	853	1,272	1.49
Pigment Red 63, C.I. 15 880	...	38	71	1.87
Pigment Red 81, C.I. 45 160, PMA	323	223	1,359	6.09
Pigment Red 81, C.I. 45 160, PTA	166	133	835	6.28
Pigment Red 90, C.I. 45 380	1,291	667	1,239	1.86
Pigment Violet 1, C.I. 45 170, PMA	78	81	227	2.80
Pigment Violet 1, C.I. 45 170, PTA	44	39	264	6.77
Pigment Violet 3, C.I. 42 535, fugitive	432	385	578	1.50
Pigment Violet 3, C.I. 42 535, PMA	429	378	1,096	2.90
Pigment Violet 3, C.I. 42 535, PTA	40	36	147	4.08
All other	2,594	1,870	13,723	7.34

See footnotes at end of table.

TABLE 11A.--*Benzenoid pigments: U.S. production and sales, 1965*--Continued

Pigment	Production	Sales		
		Quantity	Value	Unit value[1]
TONERS--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Blue toners, total	9,997	8,239	23,603	$2.86
Pigment Blue 1, C.I. 42 595, PMA	170	160	750	4.69
Pigment Blue 1, C.I. 42 595, PTA	31	22	123	5.59
Pigment Blue 2, C.I. 44 045, fugitive, PMA, and PTA	18	14	46	3.29
Pigment Blue 9, C.I. 42 025, PTA	9	9	55	6.11
Pigment Blue 14, C.I. 42 600, PMA	70	66	522	7.91
Pigment Blue 15, C.I. 74 160, alpha form	4,538	3,464	9,497	2.74
Pigment Blue 15, C.I. 74 160, beta form	2,239	1,797	5,390	3.00
Pigment Blue 19, C.I. 42 750A	2,546	2,450	5,661	2.31
Pigment Blue 22, C.I. 69 810	...	17	343	20.18
All other	376	240	1,216	5.07
Green toners, total	4,898	3,557	11,369	3.20
Pigment Green 1, C.I. 42 040, PMA	9	11	55	5.00
Pigment Green 1, C.I. 42 040, PTA	6	8	45	5.62
Pigment Green 2, C.I. 42 040 and 49 005, PMA	55	51	249	4.88
Pigment Green 2, C.I. 42 040 and 49 005, PTA	41	34	212	6.24
Pigment Green 4, C.I. 42 000, PMA	7	6	26	4.33
Pigment Green 4, C.I. 42 000, PTA	7	6	21	3.50
Pigment Green 7, C.I. 74 260	4,252	2,965	9,270	3.13
Pigment Green 8, C.I. 10 006	184	143	190	1.33
All other	337	333	1,301	3.91
Brown toners, total	164	109	280	2.57
Pigment Brown 5, C.I. 15 800	124	81	157	1.94
All other	40	28	123	4.39
Black toners	288	257	259	1.01
LAKES				
Total	4,349	3,919	3,759	.96
Red lakes, total	1,024	958	1,067	1.11
Pigment Red 60, C.I. 16 105	220	178	272	1.53
Pigment Red 83, C.I. 58 000	83	70	248	3.54
(Acid Red 26), C.I. 16 150	623	625	286	.46
All other	98	85	261	3.07
Violet lakes, total	191	118	252	2.14
Pigment Violet 5, C.I. 58 055	180	103	232	2.25
All other	11	15	20	1.33
Blue lakes, total	2,214	1,960	1,872	.96
Pigment Blue 24, C.I. 42 090	2,183	1,928	1,852	.96
All other	31	32	20	.62
Black lakes: (Natural Black 3), C.I. 75 291	67	...	...	...
All other lakes[2]	853	883	568	.64

[1] Calculated from rounded figures.
[2] Includes all brown, green, orange, and yellow lakes, "all other" black lakes, and sales of Natural Black 3.

Note.--The C.I. *(Colour Index)* numbers shown in this report are the identifying numbers given in the second edition of the *Colour Index*.
The abbreviations PMA and PTA stand for phosphomolybdic and phosphotungstic (including phosphotungstomolybdic) acids, respectively.

TABLE 12.--*U.S. sales of selected dry full-strength colors, dry extended colors, dry dispersions, aqueous dispersions, and flushed colors, 1965*

Selected pigments by commercial forms	Sales		
	Quantity[1]	Value	Unit value[2]
	1,000 pounds	*1,000 dollars*	*Per pound*
Pigment Yellow 12, C.I. 21 090, total	2,063	4,734	$2.29
Dry full-strength toner	608	1,315	2.16
Dry extended toner, aqueous dispersions[3] and flushed color[4]	1,455	3,419	2.35
Pigment Yellow 13, C.I. 21 100; Pigment Yellow 14, C.I. 21 095; Pigment Yellow 17, C.I. 21 105; and other benzidine yellows, total	1,452	4,302	2.96
Dry full-strength toner	1,007	3,093	3.07
Dry extended toner and dry dispersions[4]	45	107	2.38
Aqueous dispersions[3]	237	596	2.51
Flushed color	163	506	3.10
Pigment Red 3, C.I. 12 120, total	1,250	1,986	1.59
Dry full-strength toner and dry extended toner[4]	740	1,126	1.52
Aqueous dispersions[3]	65	108	1.66
Flushed color	445	752	1.69
Pigment Red 48, C.I. 15 865, total	2,231	4,083	1.83
Dry full-strength toner	2,062	3,756	1.82
Dry extended toner	41	83	2.02
Dry dispersions and aqueous dispersions[3 4]	68	144	2.12
Flushed color	60	100	1.67
Pigment Red 49, C.I. 15 630, barium toner, total	2,941	2,981	1.01
Dry full-strength toner	2,070	2,019	.98
Dry extended toner and aqueous dispersions[3 4]	10	10	1.00
Flushed color	861	952	1.11
Pigment Red 49, C.I. 15 630, calcium toner, total	1,384	1,556	1.12
Dry full-strength toner and dry dispersions[4]	1,110	1,131	1.02
Aqueous dispersions[3] and flushed color[4]	274	425	1.55
Pigment Red 49, C.I. 15 630, sodium toner[4]	268	289	1.08
Pigment Red 53, C.I. 15 585, barium toner, total	1,590	2,106	1.32
Dry full-strength toner, dry extended toner, and dry dispersions[4]	936	1,201	1.28
Aqueous dispersions[3] and flushed color[4]	654	905	1.38
Pigment Red 90, C.I. 45 380, total	667	1,324	1.98
Dry full-strength toner and dry extended toner[4]	40	87	2.18
Dry dispersions and flushed color[4]	627	1,237	1.97
Pigment Violet 3, C.I. 42 535, fugitive, total	385	580	1.51
Dry full-strength toner and dry extended toner[4]	275	418	1.52
Flushed color	110	162	1.47
Pigment Violet 3, C.I. 42 535, permanent (PMA and PTA), total	414	1,257	3.04
Dry full-strength toner	222	693	3.12
Dry extended toner, dry dispersions and aqueous dispersions[3 4]	78	226	2.90
Flushed color	114	338	2.96
Pigment Blue 15, C.I. 74 160, alpha form, total	3,464	9,630	2.78
Dry full-strength toner	2,036	5,498	2.70
Dry extended toner	497	1,618	3.26
Dry dispersions	34	153	4.50
Aqueous dispersions[3]	721	1,892	2.62
Flushed color	176	469	2.66
Pigment Blue 15, C.I. 74 160, beta form, total	1,797	5,392	3.00
Dry full-strength toner	883	2,760	3.13
Dry extended toner, dry dispersions and flushed color[4]	513	1,564	3.05
Aqueous dispersions[3]	401	1,068	2.66
Pigment Blue 19, C.I. 42 750A, total	2,450	5,661	2.31
Dry full-strength toner and dry extended toner[4]	207	471	2.28
Aqueous dispersions[3] and flushed color[4]	2,243	5,190	2.31

See footnotes at end of table.

TABLE 12. -- *U.S. sales of selected dry full-strength colors, dry extended colors, dry dispersions, aqueous dispersions, and flushed colors, 1965*--Continued

Selected pigments by commercial forms	Sales		
	Quantity[1]	Value	Unit value[2]
	1,000 pounds	*1,000 dollars*	*Per pound*
Pigment Blue 24, C.I. 42 090[4]	1,928	2,392	$1.24
Pigment Green 7, C.I. 74 260, total	2,965	9,341	3.15
Dry full-strength toner	1,345	4,314	3.21
Dry extended toner	244	903	3.70
Dry dispersions	67	279	4.16
Aqueous dispersions[3]	985	2,892	2.94
Flushed color	324	953	2.94

[1] Quantity of the various commercial forms is given in terms of dry full-strength toner (or dry lake) content.
[2] Calculated from rounded figures.
[3] Includes presscake.
[4] Separate data on these commercial forms may not be published without revealing the operations of individual companies.

Note.--The C.I. (*Colour Index*) numbers shown in this report are the identifying numbers given in the second edition of the *Colour Index*.
The abbreviations PMA and PTA stand for phosphomolybdic and phosphotungstic (including phosphotungstomolybdic) acids, respectively.

Medicinal Chemicals

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 the technical grade material. They include alkaloids, antibiotics and other anti-infective agents, antihistamines, autonomic drugs, central-nervous-system depressants and stimulants, hormones, vitamins, and other therapeutic agents for human or veterinary use and for animal feed supplements. Statistics on the production of medicinal chemicals are in terms of 100-percent content of the medicinal chemical itself, exclusive of all diluents or other materials used in mixing or compounding tablets, solutions, and suspensions for consumer use. Sales include that part of the original production that was sold in bulk and exclude all dosage-form products and other finished pharmaceutical preparations.

Statistics on U.S. production and sales of medicinal chemicals in 1965 are given in table 13A.[4] Total production of medicinal chemicals in 1965 amounted to 160 million pounds, or 10.7 percent more than the 144 million pounds produced in 1964, and 14.6 percent more than the 139 million pounds produced in 1963. Total sales of medicinal chemicals in 1965 amounted to 129 million pounds, valued at $362 million. These figures represent sales of bulk medicinal chemicals only and therefore cannot be compared with sales data for earlier years, which included all antibiotics sold by the primary producers, whether they were sold as medicinal preparations or as bulk materials. Sales of medicinal chemicals in 1965, exclusive of antibiotics, amounted to 125 million pounds, valued at $269 million, compared with sales in 1964 of 113 million pounds, valued at $260 million, and sales in 1963 of 108 million pounds, valued at $251 million. Sales in 1965 of medicinal chemicals other than antibiotics were thus 10.6 percent larger than in 1964 and 15.3 percent larger than in 1963, in terms of quantity, and 3.4 percent larger than in 1964 and 7.1 percent larger than in 1963, in terms of value.

Production of the more important groups of medicinal chemicals in 1965 was as follows: Antibiotics, 7.5 million pounds (14.0 percent larger than in 1964), of which 4.7 million pounds was for medicinal use and 2.8 million pounds was for other uses; anti-infective agents other than antibiotics, 27.5 million pounds (5.9 percent larger than in 1964); central depressants and stimulants, 42.8 million pounds (5.4 percent larger); and vitamins, 16.3 million pounds (15.5 percent larger). Production of some of the more important individual products listed in the report was as follows: Aspirin, 29.1 million pounds (3.1 percent larger than in 1964); salicylic acid, 9.9 million pounds (24.8 percent smaller than in 1964); choline chloride, 31.1 million pounds (23.6 percent larger); methionine and its hydroxy analogue, 10.4 million pounds (72.0 percent larger); ascorbic acid, 7.3 million pounds (19.6 percent larger); piperazine base and salts, 6.5 million pounds (6.3 percent smaller); anti-infective sulfonamides, 4.7 million pounds (4.8 percent smaller); vitamin A alcohol and esters, 598 trillion units (3.1 percent smaller); penicillins, 1,343 trillion units (11.7 percent larger); and tetracyclines, 1,157 million grams of antibiotic base.

[4] See also table 13B, pt. III, which lists these products alphabetically and identifies the manufacturers, and table 23 in the appendix, which shows imports of coal-tar medicinal chemicals and pharmaceuticals during the years 1964-65.

TABLE 13A.--*Medicinal chemicals: U.S. production and sales, 1965*[1]

[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 13B in pt. III lists alphabetically all medicinal chemicals for which data on production or sales were reported and identifies the manufacturer of each]

Chemical	Production	Sales		
		Quantity	Value	Unit value[2]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Grand total	159,520	129,048	362,169	$2.81
Acyclic	59,480	56,569	41,011	.72
Benzenoid[3]	84,678	60,977	224,159	3.68
Cyclic nonbenzenoid[4]	15,362	11,502	96,999	8.43
Antibiotics, total[5]	7,455	4,086	93,593	22.91
For medicinal use, total	4,656	2,397	53,713	22.41
Antifungal and antitubercular antibiotics, total	1,134	846	11,023	13.03
Streptomycin	470	389	3,539	9.10
All other	664	457	7,484	16.38
Bacitracin	7	7	897	128.14
Penicillins, total	1,749	...	...	...
Penicillin G, potassium	530	328	3,343	10.19
Penicillin G, procaine	798	...	...	...
All other	421	82	5,996	73.12
All other antibiotics for medicinal use	1,766	1,134	32,454	28.62
For other uses, total	2,799	1,689	39,880	23.61
Bacitracin	127	132	2,943	22.30
Penicillin G, procaine	707	...	...	...
All other	1,965	1,557	36,937	23.72
Antihistamines, total	380	206	4,745	23.03
Antinauseants	45	...	...	...
Chlorpheniramine maleate	36	11	257	23.36
Pheniramine maleate	14	13	299	23.00
Pyrilamine maleate	17	...	...	...
All other	268	182	4,189	23.02
Anti-infective agents (except antibiotics), total	27,493	16,887	67,581	4.00
Antimony, arsenic, and bismuth compounds	3,035	...	...	...
Cetylpyridinium chloride	31	27	82	3.04
Mercury compounds	35	27	348	12.89
5-Nitrofurane, -imidazole, and -thiazole derivatives	502	...	...	...
Phenolic antiseptics and disinfectants	279	239	428	1.79
Piperazine base and salts, total	6,513	4,455	3,507	.79
Piperazine	2,891	712	789	1.11
All other	3,622	3,743	2,718	.73
Quinoline derivatives, total	536	152	495	3.26
Diiodohydroxyquin	19	...	...	...
All other	517	152	495	3.26
Sulfonamides, total	4,728	1,343	6,265	4.66
Sulfathiazole	117	72	186	2.58
All other	4,611	1,271	6,079	4.78
Other anti-infective agents, total	11,834	10,644	56,456	5.30
Anthelmintic, antifungal, antiprotozoan, and antiviral agents	8,680	7,729	46,718	6.04
Urinary antiseptics	696	573	997	1.74
All other	2,458	2,342	8,741	3.73
Antineoplastic agents and local anesthetics	2,189	1,522	1,724	1.13
Autonomic drugs, total	436	302	5,791	19.18
Parasympatholytic (anticholinergic) agents:				
Quaternary ammonium compounds (except tropane derivatives)	52	14	810	57.86
Tertiary amines (except tropane derivatives)	43	19	1,031	54.26
Sympathomimetic (adrenergic) agents, total	291	256	3,603	14.07
Epinephrine salts	(6)	(6)	51	137.84
Isoproterenol salts	3	...	...	...
Phenylephrine base and salts, total	77	53	1,767	33.34
Phenylephrine hydrochloride	63	47	1,547	32.91
All other	14	6	220	36.67

See footnotes at end of table.

TABLE 13A. --*Medicinal chemicals: U.S. production and sales, 1965*[1] --Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[2]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Autonomic drugs--Continued				
Sympathomimetic (adrenergic) agents--Continued				
Phenylpropanolamine hydrochloride	162	181	1,233	$6.81
All other	49	22	552	25.09
All other autonomic drugs	50	13	347	26.69
Cardiovascular agents, total	687	392	11,731	29.93
Vasodilators	76	...	...	...
All other	611	392	11,731	29.93
Central depressants, total	39,904	34,998	34,739	.99
Analgesics and antipyretics, total	36,320	32,859	21,726	.66
Salicylates, total	32,355	29,091	17,165	.59
Aspirin	29,089	26,169	14,380	.55
All other	3,266	2,922	2,785	.95
All other analgesics and antipyretics	3,965	3,768	4,561	1.21
Anticonvulsants, hypnotics, and sedatives, total	1,759	...	...	...
Barbiturates, total	971	527	2,128	4.04
Butabarbital	31	...	...	...
Butabarbital, sodium	42	39	289	7.41
Phenobarbital, sodium	9	...	...	...
All other	889	488	1,839	3.77
All other anticonvulsants, hypnotics, and sedatives[7]	788	...	...	...
Skeletal muscle relaxants, total	223	169	899	5.32
Mephenesin	56	...	...	...
Succinylcholine chloride	5	...	...	...
All other	162	169	899	5.32
Tranquilizers, total	1,548	1,361	5,237	3.85
Meprobamate	1,179	1,272	3,344	2.63
Phenothiazine derivatives	...	4	762	190.50
All other[7]	369	85	1,131	13.31
Other central depressants, total[8]	54	82	4,749	57.91
Ethylmorphine hydrochloride	...	(9)	82	182.22
All other	54	82	4,667	56.91
Central stimulants, total	2,889	2,938	10,169	3.46
Amphetamines, total	153	96	753	7.84
Amphetamine, dextroamphetamine and levamphetamine base and salts, total	105	64	471	7.36
Dextroamphetamine sulfate	38	...	...	...
All other	67	64	471	7.36
Methamphetamine base and hydrochloride, total	48	32	282	8.81
Methamphetamine (racemic)	23	...	...	...
Methamphetamine hydrochloride (dextro)	...	18	208	11.56
All other	25	14	74	5.29
Antidepressants	74	...	...	...
Caffeine (natural and synthetic)	...	2,741	5,036	1.84
Other central stimulants	2,662	101	4,380	43.37
Dermatological agents, total	11,255	6,812	3,286	.48
Allantoin	22	...	...	...
Bismuth subgallate	32	...	...	...
Salicylic acid	9,866	5,579	2,177	.39
Other dermatological agents	1,335	1,233	1,109	.90
Expectorants and mucolytic agents	1,021	1,022	1,613	1.58
Gastrointestinal agents, total	43,183	44,627	19,084	.43
Choleretics and hydrocholeretics	143	...	...	...
Choline chloride (all grades)	31,146	32,459	5,423	.17
Methionine and its hydroxy analogue	10,402	10,658	10,368	.97
Other gastrointestinal agents	1,492	1,510	3,293	2.18
Hormones and synthetic substitutes, total	1,381	408	26,893	65.91
Corticosteroids, total	...	48	21,713	452.35
Hydrocortisone	10	10	2,109	210.90

See footnotes at end of table.

TABLE 13A.--*Medicinal chemicals: U.S. production and sales, 1965*[1]--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[2]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Hormones and synthetic substitutes--Continued				
Corticosteroids--Continued				
All other	...	38	19,604	$515.89
Estrogens	27	20	688	34.40
Synthetic hypoglycemic agents	1,139	337	1,189	3.53
Other hormones and synthetic substitutes	205	3	3,303	1,101.00
Renal-acting and edema-reducing agents, total	1,284	185	7,913	42.77
Mercurial diuretics	9	1	28	28.00
Theobromine and theophylline derivatives, total	101	106	262	2.47
Aminophylline	44	...	...	...
All other	57	106	262	2.47
Other renal-acting and edema-reducing agents	1,174	78	7,623	97.73
Therapeutic nutrients, total	3,203	2,374	2,842	1.20
Amino acids and salts, total	1,927	1,334	1,968	1.48
Glutamic acid	75	56	89	1.59
All other	1,852	1,278	1,879	1.47
Calcium gluconate	656	524	345	.66
Other therapeutic nutrients	620	516	529	1.03
Vitamins, total	16,297	12,028	65,366	5.43
Ascorbic acid and derivatives, total	8,629	6,089	11,978	1.97
Ascorbic acid	7,274	4,903	9,349	1.91
All other	1,355	1,186	2,629	2.22
B-complex vitamins:				
Cyanocobalamin (all grades)[10]	...	1	8,324	8,324.00
Niacin (all grades)	1,828	1,461	1,812	1.24
Niacinamide	889	858	1,754	2.04
Pantothenic acid and derivatives, total	1,610	1,310	2,967	2.26
Calcium pantothenate (racemic) (all grades)	1,252	1,055	1,780	1.69
All other	358	255	1,187	4.65
Riboflavin (all grades)	958	599	6,214	10.37
Cholecalciferol (Vitamin D_3)[10]	...	2	520	260.00
Ergocalciferol (Vitamin D_2)[10]	1	1	180	180.00
Menadione	59	...	...	...
Menadione sodium bisulfite	77	73	578	7.92
Vitamin A alcohol and esters, total[10]	677	613	17,249	28.14
Vitamin A palmitate (feed grade)	464	419	8,642	20.63
All other	213	194	8,607	44.37
Other vitamins	1,569	1,021	13,790	13.51
Miscellaneous medicinal chemicals, total[11]	463	261	5,099	19.54
Anticoagulants	10	5	775	155.00
All other	453	256	4,324	16.89

[1] The data on production and sales are for bulk medicinal chemicals; they *exclude* finished preparations and dosage-form products which are manufactured from bulk chemicals. All quantities are given in terms of 100% active ingredient.

[2] Calculated from rounded figures.

[3] The term "benzenoid," as used in this report, describes any cyclic medicinal chemical whose molecules contain either a 6-membered carbocyclic ring with conjugated double bonds (e.g., the benzene ring or the quinone ring) or a 6-membered heterocyclic ring with 1 or 2 hetero atoms and conjugated double bonds, except the pyrimidine ring (e.g., the pyridine ring or the pyrazine ring).

[4] Includes antibiotics of unknown structure.

Footnotes for table 13A--Continued

[5] All quantities for antibiotics were reported in terms of grams of antibiotic base or U.S.P. units, but are shown in the table in pounds. Statistics for all individually publishable antibiotics are shown below in terms of kilograms of antibiotic base (Kg.) or billions of U.S.P. units (BU):

Antibiotic	Production	Sales		
		Quantity	Value	Unit value
			1,000 dollars	
Bacitracin (BU), total	3,054	3,159	3,840	$1,215.57
For medicinal use	169	169	897	5,307.69
For other uses	2,885	2,990	2,943	984.28
Neomycin (Kg.), for all uses	76,332	31,783	1,831	57.61
Penicillins (BU), total	1,343,126	773,372	16,444	21.26
Penicillin G, potassium, for medicinal use	383,402	236,822	3,343	14.12
Penicillin G, procaine, total	689,433	482,669	7,105	14.72
For medicinal use	365,587	...	...	...
For other uses	323,846	...	...	...
Other penicillins, for medicinal use	270,291	53,881	5,996	108.71
Streptomycin (Kg.), for medicinal use	213,242	176,398	3,539	20.06
Tetracyclines (Kg.), for all uses	1,156,705	472,551	29,089	61.56

[6] Production of epinephrine salts amounted to 374 pounds; sales amounted to 370 pounds.

[7] Includes 2 or more of the following 6 drugs which are subject to Federal control under the Drug Abuse Control Act: Chlordiazepoxide hydrochloride, diazepam, ethchlorvynol, ethinamate, glutethimide, and methyprylon. U.S. production of these 6 drugs amounted to 524 thousand pounds in 1965.

[8] Includes production and sales of anesthetics and antitussives; also includes sales of "all other" anticonvulsants, hypnotics, and sedatives.

[9] Sales of ethylmorphine hydrochloride amounted to 450 pounds.

[10] The following tabulation shows statistics for vitamins A, B_{12}, D_2, and D_3 in terms of kilograms (Kg.) or billions of U.S.P. units (BU):

Vitamin	Production	Sales		
		Quantity	Value	Unit value
			1,000 dollars	
Cholecalciferol (Vitamin D_3) (BU)	...	29,676	520	$17.52
Cyanocobalamin (Vitamin B_{12}) (Kg.)	...	660	8,324	12,612.12
Ergocalciferol (Vitamin D_2) (BU)	20,552	16,233	180	11.09
Vitamin A alcohol and esters (BU), total	598,264	541,147	17,249	31.62
Vitamin A palmitate (feed grade)	382,665	345,165	8,642	25.04
All other	215,599	195,982	8,607	42.96

[11] Includes diagnostic agents, hematological agents, smooth-muscle relaxants, and miscellaneous unclassified medicinal chemicals.

Flavor and Perfume Materials

Flavor and perfume materials are organic chemicals used in the manufacture of foods, beverages, cosmetics, and soaps. Aromatic organic chemicals are utilized to neutralize or to mask unpleasant odors in industrial processes and products as well as in consumer products. Most of them have desirable flavors or odors, and some have the ability to enhance natural flavors when added to certain foods. This report includes data on materials derived from natural products by actual chemical processes and from coal tar; it does not include data on purely natural products, such as floral essences, essential oils, and other materials that are obtained by simple extraction or by distillation from natural plant and animal sources.

The flavor and perfume materials covered in this report are grouped as either cyclic or acyclic materials, according to their chemical structure. Cyclic materials are further classified as (1) benzenoid and naphthalenoid, and (2) terpenoid, heterocyclic, and alicyclic. Statistics on production and sales of flavor and perfume materials in 1965 are given in table 14A.[5]

Production of flavor and perfume materials in 1965 amounted to 99.2 million pounds--9.6 percent more than the output of 90.6 million pounds in 1964. Sales in 1965 amounted to 87.7 million pounds, valued at $85.0 million, compared with 80.0 million pounds, valued at $83.7 million, in 1964.

Production of cyclic flavor and perfume materials in 1965 amounted to 53.2 million pounds--7.4 percent more than the 49.6 million pounds reported for 1964. Sales of cyclic flavor and perfume materials in 1965 were 44.6 million pounds, valued at $56.8 million, compared with 41.2 million pounds, valued at $56.6 million, in 1964. The individual chemical in the cyclic group that was produced in the greatest volume in 1965 was methyl salicylate (4.7 million pounds). In 1965, production of synthetic sweeteners, as a group, amounted to 12.8 million pounds, representing an increase of only 5.1 percent over production in 1964, compared with an increase in 1964 of 113.7 percent over production in 1963.

The output of acyclic flavor and perfume materials in 1965 amounted to 46.0 million pounds--12.2 percent more than the 41.0 million pounds reported for 1964. By far the most important of the acyclic materials in 1965 was monosodium glutamate, a flavor-enhancing chemical, production of which totaled 43.1 million pounds. Sales of acyclic flavor and perfume materials in 1965 amounted to 43.1 million pounds, valued at $28.2 million, compared with 38.8 million pounds, valued at $27.2 million, in 1964.

TABLE 14A.--*Flavor and perfume materials: U.S. production and sales, 1965*

[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 14B in pt. III lists alphabetically all flavor and perfume materials for which data on production or sales were reported and identifies the manufacturer of each]

Material	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Grand total	99,224	87,703	84,980	$0.96
FLAVOR AND PERFUME MATERIALS, CYCLIC				
Total	53,223	44,559	56,800	1.26
Benzenoid and Naphthalenoid				
Total	24,087	22,365	25,307	1.13
4-Allylveratrole (Eugenyl methyl ether)	6	8	22	2.97
Anethole (p-Propenylanisole)	1,904	1,489	1,053	.71
p-Anisaldehyde (p-Methoxybenzaldehyde)	963	922	1,292	1.40
Benzophenone[2]	179	122	122	1.00
Benzyl acetate	1,324	1,325	534	.40
Benzyl alcohol[2]	3,955	3,725	1,399	.38
Benzyl cinnamate	...	4	14	3.78
Benzyl propionate	13	12	13	1.11
Benzyl salicylate	190	182	234	1.29
Cinnamaldehyde	908	893	633	.71
Cinnamyl alcohol	184	161	225	1.40

See footnotes at end of table.

[5] See also table 14B, pt. III, which lists these products alphabetically and identifies the manufacturers, and table 23 in the appendix, which shows imports of benzenoid flavor and perfume materials during the years 1964-65.

TABLE 14A.--*Flavor and perfume materials: U.S. production and sales, 1965*--Continued

Material	Production	Sales		
		Quantity	Value	Unit value[1]
FLAVOR AND PERFUME MATERIALS, CYCLIC--Continued				
Benzenoid and Naphthalenoid--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Eugenol	327	350	620	$1.77
Isobutyl phenylacetate (Isobutyl α-toluate)	15	17	17	.95
Isobutyl salicylate	49	54	49	.92
Isoeugenol	98	107	302	2.82
Isopentyl salicylate (Amyl salicylate)	429	409	295	.72
p-Isopropyl-α-methylhydrocinnamaldehyde (Cyclamen aldehyde)	...	184	512	2.78
Methyl anthranilate	...	177	323	1.83
α-Methylcinnamaldehyde	11	11	21	1.90
Methyl cinnamate	79	64	126	1.98
Methyl salicylate (Synthetic wintergreen oil)	4,675	4,121	1,850	.45
α-Pentylcinnamaldehyde (α-Amylcinnamaldehyde)	527	451	624	1.39
Phenethyl acetate	...	73	74	1.01
Phenethyl isobutyrate	...	6	14	2.26
Phenethyl phenylacetate (Phenethyl α-toluate)	16	12	39	3.17
3-Phenyl-1-propanol (Hydrocinnamic alcohol)	...	18	33	1.88
All other benzenoid and naphthalenoid materials	8,235	7,468	14,867	1.99
Terpenoid, Heterocyclic, and Alicyclic				
Total	29,136	22,194	31,493	1.40
Cedryl acetate	125	122	252	2.06
Citral (Geranial)	171	80	286	3.59
Citronellol	555	460	737	1.60
Citronellyl acetate	29	29	51	1.74
Citronellyl formate	25	21	53	2.54
Coumarin	1,016	963	2,157	2.24
Essential oils, chemically modified	146	136	152	1.12
Geraniol	634	602	828	1.38
Geranyl acetate	76	67	117	1.75
Hydroxycitronellal	454	386	1,553	4.03
Ionones	262	248	830	3.34
Isobornyl acetate	942	910	346	.38
Menthol, synthetic, tech. and U.S.P.	381	384	1,357	3.53
Methylionones	446	444	1,790	4.03
Nerol	25	15	76	5.17
Piperonal (Heliotropin)	256	272	574	2.11
Rhodinol	12	11	312	28.21
Sweeteners, synthetic	12,841	10,133	8,971	.89
Terpineols	3,418	3,105	920	.30
Terpinyl acetate	586	578	329	.57
Vetivenyl acetate	33	25	565	22.75
All other terpenoid, heterocyclic, and alicyclic materials	6,703	3,203	9,237	2.91
FLAVOR AND PERFUME MATERIALS, ACYCLIC				
Total	46,001	43,144	28,180	.65
Allyl hexanoate (Allyl caproate)	57	58	216	3.72
Ethyl butyrate	248	294	201	.68
Ethyl nonanoate (Ethyl pelargonate)	...	2	7	3.18
Glutamic acid, monosodium salt (Monosodium glutamate)	43,121	40,366	25,530	.63
Isopentyl butyrate (Amyl butyrate)	45	58	46	.80
Isopentyl formate (Amyl formate)	2	2	2	1.34
Lauraldehyde (Dodecyl aldehyde)(C_{12})	...	19	105	5.63
All other acyclic materials	2,528	2,345	2,073	.88

[1] Calculated from the unrounded figures.
[2] Includes some technical grade.

Plastics and Resin Materials

Plastics and resin materials are condensation or polymerization products of organic chemicals containing necessary fillers, plasticizers, and extenders. At some stage in their manufacture they exist in such physical condition that they can be shaped or processed by the application of heat and pressure. Some types of plastics may be molded, cast, or extruded into finished or semifinished forms. Other types are used as adhesives, for the treatment of textiles and paper, and for protective coatings. Still other types of plastics materials may be processed into sheets, rods, and tubes, which are further manufactured into finished articles. Except for vinyl resins, the statistics given in the following tables are based on the total weight of the materials, excluding liquids. Statistics for vinyl resins are given on the basis of resin content.

Statistics on production and sales of plastics and resins in 1965 are given in table 15A[6] according to chemical composition and broad end uses. In general, this table follows the outline

TABLE 15A.--*Plastics and resin materials: U.S. production and sales, by chemical classes and uses, 1965*

[Quantities and values are given in terms of the total weight of the materials (dry basis). Listed below are all plastics and resin 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 15B in pt. III lists all plastics and resin materials for which data on production or sales were reported and identifies the manufacturer of each]

Kind and use	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds, dry basis[2]	*1,000 pounds, dry basis*[2]	*1,000 dollars*	*Per pound*
Grand total	11,684,875	10,052,766	2,504,433	$0.25
Plastics and resin materials, benzenoid	4,452,975	3,689,722	873,501	.24
Plastics and resin materials, nonbenzenoid	7,231,900	6,363,044	1,630,932	.26
THERMOSETTING RESINS				
Total	3,236,701	2,550,863	662,392	.26
Alkyd resins, total	639,577	334,856	88,679	.26
Protective coatings:				
Phthalic anhydride type, total	562,618	273,148	73,167	.27
Unmodified	412,648	207,438	54,578	.26
Modified	149,970	65,710	18,589	.28
Polybasic acid type	59,365	46,701	10,282	.22
All other uses[3]	17,594	9,407	3,536	.38
Sales for export	...	5,600	1,694	.30
Coumarone-indene and petroleum polymer resins, total	324,309	309,494	30,569	.10
Floor tile	84,727	74,289	...	...
Rubber compounding	65,631	63,271	...	...
All other uses	173,951	144,623	...	...
Sales for export	...	27,311	...	...
Epoxy resins:				
Unmodified, total	110,663	105,681	58,180	.55
Bonding and adhesives	...	10,124	...	...
Protective coatings	...	48,080	...	...
Reinforced plastics	...	17,499	...	...
All other uses	...	19,224	...	...
Sales for export	...	10,754	...	...
Modified	8,559	2,935	3,390	1.16
Polyester resins,[4] total	398,884	343,605	99,331	.29
Reinforced plastics:				
Sheets, flat and corrugated	...	32,841	...	...
All other	...	219,725	...	...
Surface coatings	...	6,500	...	...
All other uses	...	75,641	...	...
Sales for export	...	8,898	...	...

See footnotes at end of table.

[6] See also table 15B, pt. III, which lists these products according to chemical composition, and identifies the manufacturers.

TABLE 15A.--*Plastics and resin materials: U.S. production and sales, by chemical classes and uses, 1965*--Continued

Kind and use	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds, dry basis[2]	*1,000 pounds, dry basis*[2]	*1,000 dollars*	*Per pound*
THERMOSETTING RESINS--Continued				
Phenolic and other tar acid resins, total	921,753	744,657	178,799	$0.24
Molding materials	274,193	246,140	...	...
Bonding and adhesive resins for--				
Laminating	132,732	79,109	...	...
Coated and bonded abrasives	27,024	22,013	...	...
Friction materials	32,623	28,102	...	...
Thermal insulation	120,626	52,576	...	...
Foundry or shell molding	68,782	66,651	...	...
Plywood	117,832	110,589	...	...
Fibrous and granulated wood	31,815	28,051	...	...
All other bonding and adhesive uses	32,176	28,580	...	...
Protective coatings, unmodified and modified	34,814	24,678	...	...
All other uses	49,136	44,164	...	...
Sales for export	...	14,004	...	...
Polyurethane and diisocyanate resins	66,209	55,443	31,226	.56
Rosin modifications, total	102,962	101,249	20,115	.20
Rosin and rosin esters, unmodified (ester gums)	62,279	61,735	11,321	.18
All other	40,683	39,514	8,794	.22
Urea and melamine resins, total	[5] 621,179	517,698	129,227	.25
Textile treating and coating resins	65,703	59,571	...	...
Paper treating and coating resins	50,758	34,698	...	...
Bonding and adhesive resins for--				
Laminating	51,764	34,686	...	...
Plywood	135,125	115,162	...	...
Fibrous and granulated wood	117,102	103,054	...	...
All other bonding and adhesive uses	15,138	15,306	...	...
Protective coatings	58,515	35,373	...	...
All other uses (including molding)	127,074	103,103	...	...
Sales for export	...	16,745	...	...
All other thermosetting resins[6]	42,606	35,245	22,876	.65
THERMOPLASTIC RESINS				
Total	8,448,174	7,501,903	1,842,041	.26
Cellulose plastics materials, total	169,476	163,095	107,825	.66
Sheets, continuous:				
Under 0.003 gage	24,104	24,350	...	...
0.003 gage and over	38,342	35,945	...	...
All other sheets, rods, and tubes	8,316	8,921	...	...
Molding and extrusion materials	98,714	93,879	...	...
Polyamide resins, total	92,076	73,383	65,376	.89
Nylon type	73,415	55,916	54,884	.98
Non-nylon type	18,661	17,467	10,492	.60
Styrene-type plastics materials:				
Production and sales	[7] 2,033,147	1,836,246	383,318	.21
Used by reporting companies in processing	...	184,245	...	...
Sales and use, total	...	2,020,491	...	...
Molding	...	1,063,005	...	...
Textile and paper treating and coating	...	153,169	...	...
Emulsion paint	...	43,062	...	...
Extrusion	...	310,986	...	...
All other uses	...	325,843	...	...
Sales for export	...	124,426	...	...
Vinyl resins (resin-content basis):				
Polyvinyl acetate resins:				
Production and sales	313,160	220,354	67,974	.31
Used by reporting companies in processing	...	62,923	...	...

See footnotes at end of table.

TABLE 15A.--*Plastics and resin materials: U.S. production and sales, by chemical classes and uses, 1965*--Continued

Kind and use	Production	Sales		
		Quantity	Value	Unit value[1]
THERMOPLASTIC RESINS--Continued	*1,000 pounds, dry basis*[2]	*1,000 pounds, dry basis*[2]	*1,000 dollars*	*Per pound*
Vinyl resins (resin-content basis)--Continued				
Polyvinyl acetate resins--Continued				
Sales and use, total	...	283,277	...	...
Emulsion paint	...	104,641	...	...
Adhesives	...	111,064	...	...
Bonding and sizing	...	19,856	...	...
All other uses	...	45,074	...	...
Sales for export	...	2,642	...	...
Polyvinyl chloride and copolymer resins:				
Production and sales	1,837,467	1,715,321	297,189	$0.17
Used by reporting companies in processing	...	140,337	...	...
Sales and use, total	...	1,855,658	...	...
Calendering:				
Film, under 6 mils	...	83,626	...	...
Sheet, 6 mils and over	...	250,374	...	...
Flooring	...	262,282	...	...
Coating, bonding, and adhesives:				
Paper and textile coating (including calendering)	...	180,884	...	...
Flooring	...	68,507	...	...
Extrusion:				
Wire and cable	...	217,214	...	...
Garden hose	...	11,367	...	...
All other extrusions	...	254,781	...	...
Molding:				
Records	...	89,552	...	...
Slush and rotational molding	...	43,070	...	...
All other moldings	...	30,993	...	...
All other uses	...	294,913	...	...
Sales for export	...	68,095	...	...
All other vinyl resins: Production and sales	[8] 161,659	[9] 154,936	[9] 78,915	[9] .51
Polyolefin plastics materials:				
Polyethylene, density 0.940 and below:				
Production and sales	2,262,922	2,046,006	344,431	.17
Used by reporting companies in processing	...	236,885	...	...
Sales and use, total	...	2,282,891	...	...
Injection molding	...	291,091	...	...
Blow molding	...	40,468	...	...
Extrusions:				
Film and sheet	...	938,193	...	...
Wire and cable coating	...	215,946	...	...
Extrusion coating on paper and other substrates	...	282,610	...	...
Pipe	...	19,381	...	...
All other extrusions	...	12,282	...	...
All other uses	...	179,326	...	...
Sales for export	...	303,594	...	...
Polyethylene, density over 0.940:				
Production and sales	784,441	649,084	119,861	.18
Used by reporting companies in processing	...	90,835	...	...
Sales and use, total	...	739,919	...	...
Injection molding	...	130,111	...	...
Blow molding	...	272,769	...	...
Extrusions:				
Film and sheet	...	37,539	...	...
Wire and cable coating	...	22,600	...	...
Pipe	...	29,759	...	...
All other extrusions (including extrusion coating and filament)	...	26,302	...	...
All other uses	...	133,254	...	...
Sales for export	...	87,585	...	...

See footnotes at end of table.

TABLE 15A.--*Plastics and resin materials: U.S. production and sales, by chemical classes and uses, 1965*--Continued

Kind and use	Production	Sales		
		Quantity	Value	Unit value[1]
THERMOPLASTIC RESINS--Continued	*1,000 pounds, dry basis*[2]	*1,000 pounds, dry basis*[2]	*1,000 dollars*	*Per pound*
Polyolefin plastics materials--Continued				
Polypropylene:				
Production and sales	374,067	300,934	64,831	$0.22
Used by reporting companies in processing	...	75,671	...	...
Sales and use, total	...	376,605	...	...
Molding	...	182,712	...	...
Extrusion	...	135,991	...	...
All other uses (including export)	...	57,902	...	...
All other thermoplastic resins[10]	419,759	342,544	312,321	.91

[1] Calculated from rounded figures.
[2] For the purpose of this report, "dry basis" is defined as the total weight of the material, including resin, plasticizers, fillers, extenders, colors and stabilizers, and excluding water, solvents, and other liquid diluents.
[3] Includes saturated polyesters for urethanes.
[4] The term "polyester resins" includes unsaturated alkyds copolymerized with a monomer such as styrene, and polyallyl resins such as diallyl phthalate and allyl diglycol carbonate.
[5] Includes 448,650 thousand pounds of urea-formaldehyde type, and 172,529 thousand pounds of melamine-formaldehyde type.
[6] Includes data for acetone-formaldehyde resins, styrene-alkyd polyesters, toluenesulfonamide resins, silicone resins, and other thermosetting resins, which were produced in small quantities.
[7] Includes straight polystyrene, 728,435 thousand pounds; rubber modified polystyrene, 641,884 thousand pounds; styrene-butadiene copolymers, 253,146 thousand pounds; and all other, including ABS and SAN, 409,682 thousand pounds.
[8] Includes 37,373 thousand pounds of polyvinyl alcohol.
[9] Data for intra-company consumption may not be shown separately, and are included with sales at an estimated unit value.
[10] Includes data for acrylic, fluorocarbon, polycarbonate, polyoxymethylene, polyterpene, and other thermoplastic resins.

of the Tariff Commission's monthly report on the production and sales of synthetic plastics and resin materials (S. O. C. Series P-65). However, data are included for plastics materials which are not covered in the monthly report and for a number of smaller producers that do not report monthly. The monthly data for 1965, moreover, were returned to the reporting companies for verification or correction. In consequence, many of the figures in the following table are revised from those shown in the monthly release of March 23, 1966, which contained yearend cumulative totals for 1965. The figures in the thermoplastics section of the table under "Used by reporting companies in processing" represent captive use of the materials. The quantities reported under "Sales and use" in this section include data for captive consumption, and for outside sales as defined in the introduction to this volume.

In 1965, total U. S. production of synthetic plastics and resin materials, including cellulosics, amounted to 11,685 million pounds, or 15. 7 percent more than the 10,103 million pounds reported for 1964. Sales of synthetic plastics and resin materials in 1965 amounted to 10,053 million pounds, valued at $2,504 million. Production of benzenoid plastics and resin materials in 1965 amounted to 4,453 million pounds, and that of nonbenzenoid materials, to 7,232 million pounds. These figures compare with production in 1964 of 3,915 million pounds, and 6,188 million pounds, respectively. Production of all thermosetting resins in 1965 was 3,237 million pounds, and that of thermoplastic resins was 8,448 million pounds.

In 1965, polyethylene, polystyrene, and polyvinyl chloride resins were the materials produced in the largest volume. The total output of high-density and low-density polyethylene resins in 1965 amounted to 3,047 million pounds, compared with 2,613 million pounds in 1964. Sales of polyethylene resins in 1965 were 2,695 million pounds, valued at $464 million. Production of styrene-type plastics materials in 1965 was 2,033 million pounds, compared with 1,728 million pounds in 1964. Sales of such materials in 1965 were 1,836 million pounds, valued at $383 million. The output of polyvinyl chloride and copolymer resins in 1965 amounted to 1,837 million pounds, compared with 1,637 million pounds in 1964. Sales of polyvinyl chloride resins in 1965 totaled 1,715 million pounds, valued at $297 million. Other synthetic plastics and resin materials produced in 1965 in large volume were phenolic and other tar acid resins (922 million pounds), alkyd resins (640 million pounds), urea and melamine resins (621 million pounds), polyester resins (399 million pounds), coumarone-indene and petroleum polymer resins (324 million pounds), and polyvinyl acetate resins (313 million pounds).

Rubber-Processing Chemicals

Rubber-processing chemicals are organic compounds that are added to natural and synthetic rubbers 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 peptizers. Statistics on production and sales of rubber-processing chemicals in 1965 are given in table 16A.[7]

Production of rubber-processing chemicals as a group in 1965 amounted to 252 million pounds, compared with the 261 million pounds reported for 1964. This apparent decrease in 1965 production was due principally to the reclassification of sodium 2-mercaptobenzothiazole (2-benzothiazolethiol, sodium salt) from rubber-processing chemicals to cyclic intermediates. Sales of rubber-processing chemicals in 1965 amounted to 194 million pounds, valued at $123 million, compared with 184 million pounds, valued at $123 million, in 1964.

TABLE 16A.--*Rubber-processing chemicals: U.S. production and sales, 1965*

[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 16B in pt. III lists separately all rubber-processing chemicals for which data on production or sales were reported and identifies the manufacturer of each]

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Grand total	[2] 251,945	193,718	123,393	$0.64
RUBBER-PROCESSING CHEMICALS, CYCLIC				
Total	[2] 211,403	166,214	109,204	.66
Accelerators, activators, and vulcanizing agents, total	71,279	55,841	32,529	.58
Aldehyde-amine reaction products	...	1,086	971	.89
Dithiocarbamic acid derivatives	239	207	354	1.71
Thiazole derivatives, total	59,439	44,077	22,907	.52
N-Cyclohexyl-2-benzothiazolesulfenamide	7,228	6,232	3,501	.56
2,2'-Dithiobis(benzothiazole)	21,307	10,805	5,386	.50
All other	30,904	27,040	14,020	.52
All other accelerators	11,601	10,471	8,297	.79
Antioxidants, antiozonants, and stabilizers, total	127,537	99,421	67,045	.67
Amino antioxidants, antiozonants, and stabilizers, total	97,928	77,166	50,380	.65
Aldehyde- and acetone-amine reaction products, total	9,374	7,991	4,041	.51
Diphenylamine-acetone condensate	8,601	7,414	3,594	.48
All other	773	577	447	.77
Substituted p-phenylenediamines, total	41,496	29,538	27,249	.92
N,N'-Diphenyl-p-phenylenediamine	1,732	1,479	1,335	.90
All other	39,764	28,059	25,914	.92
Octyldiphenylamine	2,189	1,982	1,044	.53
All other amino antioxidants, antiozonants, and stabilizers	44,869	37,655	18,046	.48
Phenolic and phosphite antioxidants and stabilizers, total	29,609	22,255	16,665	.75
Phenol, alkylated	11,522	6,693	3,508	.52
All other phenolic and phosphite antioxidants and stabilizers	18,087	15,562	13,157	.85
Blowing agents	3,425	3,340	4,698	1.41
Peptizers	4,950	4,404	2,842	.65
All other cyclic rubber-processing chemicals, total	4,212	3,208	2,090	.65
N-Nitrosodiphenylamine (retarder)	3,224	2,254	1,239	.55
All other[3]	988	954	851	.89

See footnotes at end of table.

[7] See also table 16B, pt. III, which lists these products alphabetically and identifies the manufacturers.

TABLE 16A. --*Rubber-processing chemicals: U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
RUBBER-PROCESSING CHEMICALS, ACYCLIC	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Total	40,542	27,504	14,189	$0.52
Accelerators, activators, and vulcanizing agents, total	21,340	14,144	8,834	.62
Dithiocarbamic acid derivatives, total[4]	8,575	6,557	4,802	.73
Dibutyldithiocarbamic acid, zinc salt	1,522	1,559	1,468	.94
Diethyldithiocarbamic acid, zinc salt	1,262	861	523	.61
Dimethyldithiocarbamic acid, zinc salt	1,478	1,288	570	.44
All other	4,313	2,849	2,241	.79
Thiurams, total[5]	12,379	7,324	3,746	.51
Bis(dimethylthiocarbamoyl) disulfide	7,045	4,708	2,036	.43
Bis(dimethylthiocarbamoyl) sulfide	1,561	1,338	1,088	.81
All other	3,773	1,278	622	.49
All other accelerators, activators, and vulcanizing agents	386	263	286	1.09
Dodecyl mercaptans[6]	12,551	10,748	4,218	.39
Dimethyldithiocarbamic acid, sodium salt	3,469	...	...	...
All other acyclic rubber-processing chemicals[7]	3,182	2,612	1,137	.44

[1] Calculated from rounded figures.
[2] Not comparable with data for previous years owing to reclassification of certain products previously considered to be rubber-processing chemicals.
[3] Includes tackifiers and physical-property improvers.
[4] Data on dithiocarbamates included in this table are for materials used chiefly in the processing of natural and synthetic rubbers. Data on dithiocarbamates which are used chiefly as fungicides are reported in table 20A, "Pesticides and Other Organic Agricultural Chemicals."
[5] Includes data for small amounts of tetramethylthiuram sulfides for uses other than in the processing of natural and synthetic rubbers.
[6] Includes some detergent-grade dodecyl mercaptans.
[7] Includes blowing agents, polymerization regulators, shortstops, and conditioning and lubricating agents.

The output of cyclic rubber-processing chemicals in 1965 amounted to 211 million pounds. Sales in 1965 were 166 million pounds, valued at $109 million, compared with 162 million pounds, valued at $109 million, in 1964. Of the total output of cyclic rubber-processing chemicals in 1965, accelerators accounted for 33.7 percent and antioxidants for 60.3 percent. Production of amino and phenolic and phosphite antioxidants, which amounted to 127.5 million pounds in 1965, included 97.9 million pounds of amino compounds and 29.6 million pounds of phenolic and phosphite compounds. Sales of amino antioxidants in 1965 were 77.2 million pounds, valued at $50.4 million; sales of phenolic and phosphite antioxidants were 22.3 million pounds, valued at $16.7 million.

Production of acyclic rubber-processing chemicals in 1965 amounted to 40.5 million pounds, compared with the 38.1 million pounds reported for 1964. Sales in 1965 totaled 27.5 million pounds, valued at $14.2 million, compared with 22.6 million pounds, valued at $14.4 million, in 1964. Accelerators, principally dithiocarbamic acid derivatives and tetramethylthiuram sulfides, accounted for 52.6 percent of the output of acyclic rubber-processing chemicals in 1965. Dodecylmercaptans accounted for 31.0 percent. Blowing agents, peptizers, modifiers, shortstops, and lubricating and conditioning agents accounted for the remainder of the output in the acyclic group.

Elastomers (Synthetic Rubbers)

The synthetic rubber industry in the United States continued to operate at a high level of capacity in 1965. The styrene-butadiene, or S-type, rubber is a general-purpose material used in the manufacture of tires and other rubber goods, and is the most important type of synthetic rubber, in terms of quantity produced. Several other types of synthetic rubbers are also produced in large volume; among them are the polybutadiene-acrylonitrile type, or N-type, the polybutadiene-isoprene type, or Butyl-type, neoprene, and stereo elastomers.

The total output of all types of elastomers in the United States in 1965 amounted to 3,592 million pounds--somewhat more than the 3,421 million pounds reported for 1964. Sales of elastomers covered in this report amounted to 3,041 million pounds, valued at $843 million, in 1965, compared with 2,958 million pounds, valued at $810 million, in 1964. Statistics on the production and sales of elastomers are given in table 17A.[8]

Production of cyclic elastomers, which consisted chiefly of the polybutadiene-styrene type (S-type), amounted to 2,300 million pounds in 1965, compared with 2,332 million pounds in 1964. Sales of these elastomers amounted to 1,898 million pounds, valued at $443 million, in 1965, compared with 1,961 million pounds, valued at $451 million, in 1964. Production of polyurethane type elastomers in 1965 amounted to 9.0 million pounds.

The output of acyclic elastomers, including N-type, neoprene, Butyl, silicone, and stereo elastomers, amounted to 1,292 million pounds in 1965, compared with the 1,089 million pounds reported for 1964. Sales of these elastomers amounted to 1,143 million pounds, valued at $401 million, in 1965, compared with 996 million pounds, valued at $359 million, in 1964. The output of silicone elastomers in 1965 amounted to 10.9 million pounds, and that of stereo elastomers, to 502 million pounds.

TABLE 17A.--*Elastomers (synthetic rubbers):*[1] *U.S. production and sales, 1965*

[Listed below are all elastomers (synthetic rubbers) 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 17B in pt. III lists alphabetically all elastomers for which data on production or sales were reported and identifies the manufacturer of each]

Product	Production	Sales		
		Quantity	Value	Unit value[2]
	1,000 pounds[3]	*1,000 pounds*[3]	*1,000 dollars*	*Per pound*
Grand total	3,591,654	3,041,163	843,448	$0.28
ELASTOMERS, CYCLIC				
Total	2,300,092	1,897,921	442,722	.23
Polybutadiene-styrene type (S-type)	2,271,647	[4] 1,879,568	427,741	.23
Polybutadiene-styrene-vinylpyridine type	19,402	10,432	6,650	.64
Polyurethane type	9,043	7,921	8,331	1.05
ELASTOMERS, ACYCLIC				
Total	1,291,562	1,143,242	400,726	.35
Polybutadiene-acrylonitrile type (N-type)	149,858	111,695	52,812	.47
Polyisobutylene-isoprene type (Butyl)	225,392	...	...	...
Silicone elastomers	10,913	8,535	30,425	3.56
Stereo elastomers, total	502,156	410,508	91,314	.22
Stereo polybutadiene	362,278	287,090	62,158	.22
All other stereo elastomers	139,878	123,418	29,156	.24
All other acyclic elastomers	403,243	612,504	226,175	.37

[1] The 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 so stretched and the stress removed, will return with force to approximately their original length.

[2] Calculated from rounded figures.

[3] Elastomer-content basis.

[4] Partly estimated.

Note.--Statistics on the production of S-type, N-type, Butyl, neoprene, and sterco elastomers were compiled in cooperation with the U.S. Bureau of the Census.

[8] See also table 17B, pt. III, which lists these products alphabetically and identifies the manufacturers.

Plasticizers

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 resins, or (3) develop new improved properties not present in the original resins. Plasticizers reduce the viscosity of the resins and make it easier to shape and form them at high temperatures and pressures. They also impart flexibility and other desirable properties to the finished product. Statistics on production and sales of plasticizers are given in table 18A.[9]

TABLE 18A.--*Plasticizers:*[1] *U.S. production and sales, 1965*

[Listed below are all plasticizers for which reported data 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 18B in pt. III lists all plasticizers for which data on production or sales were reported and identifies the manufacturer of each]

Chemical	Production	Sales		
		Quantity	Value	Unit value[2]
	1 000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Grand total	1,073,197	1,021,623	214,392	$0.21
PLASTICIZERS, CYCLIC				
Total	798,741	764,736	133,044	.17
Phosphoric acid esters:				
Cresyl diphenyl phosphate	19,697	17,103	4,447	.26
Tricresyl phosphate	34,834	37,627	11,338	.30
Phthalic anhydride esters, total	678,679	646,366	97,772	.15
Butyl octyl phthalates (including butyl 2-ethylhexyl phthalate)	15,052	14,934	1,973	.13
Dibutyl phthalates (including diisobutyl phthalate)	20,012	16,773	3,140	.19
Dicyclohexyl phthalate	7,719	...	...	...
Diethyl phthalate	17,999	12,035	2,181	.18
Dihexyl phthalate	1,702	1,489	231	.16
Diisodecyl phthalate	89,552	89,112	12,523	.14
Di(2-methoxyethyl) phthalate	10,976	8,107	1,669	.21
Dimethyl phthalate	4,408	3,937	786	.20
Dioctyl phthalates, total	353,108	343,016	47,084	.14
Di(2-ethylhexyl) phthalate	212,360	211,466	28,438	.13
Diiso-octyl phthalate	121,589	115,945	16,255	.14
Mixed dioctyl phthalates (including dioctyl isophthalates)	19,159	15,605	2,391	.15
Ditridecyl phthalate	12,888	13,145	2,662	.20
Octyl decyl phthalates (including iso-octyl isodecyl phthalate)	25,416	25,856	4,414	.17
All other phthalic anhydride esters	119,847	117,962	21,109	.18
Trimellitic acid esters	...	1,981	801	.40
All other cyclic plasticizers[3]	65,531	61,659	18,686	.30
PLASTICIZERS, ACYCLIC[4]				
Total	274,456	256,887	81,348	.32
Adipic acid esters, total	47,760	42,950	11,145	.26
Di(2-ethylhexyl) adipate	14,704	13,205	2,989	.23
Diisodecyl adipate	9,582	8,162	2,181	.27
Diiso-octyl adipate (including di-n-octyl adipate)	10,912	...	...	...
Octyl decyl adipate (including iso-octyl isodecyl adipate)	10,065	9,978	2,335	.23
All other	2,497	11,605	3,640	.31

See footnotes at end of table.

[9] See also table 18B, pt. III, which lists these products alphabetically and identifies the manufacturers.

TABLE 18A.--*Plasticizers:*[1] *U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[2]
PLASTICIZERS, ACYCLIC--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Azelaic acid esters	13,167	15,092	4,435	$0.29
Complex linear polyesters and polymeric plasticizers	40,265	37,759	14,746	.39
Epoxidized esters, total	75,905	81,322	21,450	.26
Epoxidized soya oils	49,484	54,158	14,395	.27
2-Ethylhexyl epoxytallates	...	11,362	2,420	.21
Octyl epoxytallates	10,642	9,788	2,467	.25
All other[3]	15,779	6,014	2,168	.36
Glycerol monoricinoleate	...	258	92	.36
Isopropyl myristate	1,473	1,397	626	.45
Isopropyl palmitate	1,008	942	348	.37
Oleic acid esters, total	9,470	6,689	1,443	.22
Butyl oleate	3,106	1,681	361	.21
Glycerol trioleate (Triolein)	2,666	2,174	475	.22
Isopropyl oleate	168	139	31	.22
Methyl oleate	2,631	1,850	379	.20
n-Propyl oleate	698	664	136	.20
All other[6]	201	181	61	.34
Phosphoric acid esters	13,851	12,197	5,323	.44
Sebacic acid esters:				
Dibutyl sebacate	4,692	3,137	1,908	.61
Di(2-ethylhexyl) sebacate	5,711	5,509	2,780	.50
Stearic acid esters, total	7,696	7,318	1,749	.24
n-Butyl stearate	3,848	3,540	839	.24
All other	3,848	3,778	910	.24
Triethylene glycol di(caprylate-caprate)	1,844	1,536	503	.33
All other acyclic plasticizers[7]	51,614	40,781	14,800	.36

[1] Does not include data for clearly defined extenders or secondary plasticizers.
[2] Calculated from rounded figures.
[3] Includes data for glycol dibenzoates, phosphate esters (including triphenyl phosphate), toluenesulfonamides, tetrahydrofurfuryl oleate, trimellitic acid esters (production only), and other cyclic plasticizers.
[4] Dibutyl maleate is now published in table 21A, "Miscellaneous Chemicals."
[5] Includes several items that were included in earlier reports in "All other" oleic acid esters.
[6] Several items that were included here in earlier reports are now included in "All other" epoxidized esters.
[7] Includes data for citric and acetylcitric, lauric, myristic, palmitic, ricinoleic, sebacic, and tartaric acid esters, glycerol and glycol esters of certain fatty acids, glycerol tripropionate, and other acyclic plasticizers.

Note.--The total production and sales statistics are included in this report for some items that are not used exclusively as plasticizers.

Total U.S. production of plasticizers in 1965 amounted to 1,073 million pounds--representing an increase of 12.8 percent over the output of 951 million pounds reported for 1964. Sales in 1965 of the plasticizers covered by this report amounted to 1,022 million pounds, valued at $214 million, compared with 905 million pounds, valued at $187 million, in 1964.

Production of cyclic plasticizers in 1965, which consisted chiefly of the esters of phthalic anhydride and phosphoric acid, amounted to 799 million pounds, compared with 718 million pounds in 1964. Sales of cyclic plasticizers in 1965 amounted to 765 million pounds, valued at $133 million, compared with 690 million pounds, valued at $120 million, in the previous year.

Production of acyclic plasticizers in 1965 amounted to 274 million pounds, compared with 234 million pounds in 1964. Sales of acyclic plasticizers in 1965 amounted to 257 million pounds, valued at $81 million, compared with 215 million pounds, valued at $68 million, in 1964. Production of complex linear polyesters in 1965 amounted to 40 million pounds, and that of epoxidized esters, to 76 million pounds. Other products included in the acyclic class are the esters of adipic, azelaic, oleic, sebacic, and stearic acids.

Surface-Active Agents

The surface-active agents covered in this report include anhydrous potassium and sodium soaps, synthetic organic detergents, and dispersing, emulsifying, and wetting agents that function in either aqueous or nonaqueous systems. Waxes and plasticizers are not included. The data are reported in terms of 100-percent organic, surface-active ingredient, and thus exclude all inorganic salts, water, and other diluents. A major part of the output of surface-active agents is consumed in the form of packaged soaps and detergents for household and industrial use. The remainder is used as dispersing, emulsifying, foaming, penetrating, and wetting agents 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, paints, pharmaceuticals, and many other products.

Statistics on U.S. production and sales of surface-active agents in 1965 are given in table 19A.[10] Total production of surface-active agents in 1965 amounted to 3,170 million pounds. This

TABLE 19A.--*Surface-active agents: U.S. production and sales, 1965*

[Listed below are all 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 19B in pt. III lists all surface-active agents for which data on production or sales were reported and identifies the manufacturer of each]

Chemical	Production[1]	Sales[2]		
		Quantity[1]	Value	Unit value[3]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Grand total	3,170,478	1,697,862	300,188	$0.18
Amphoteric	5,112	4,899	2,940	.60
Anionic	2,358,173	1,077,582	133,393	.12
Cationic	148,001	123,213	50,542	.41
Nonionic	659,192	492,168	113,313	.23
BENZENOID SURFACE-ACTIVE AGENTS				
Total	1,371,320	877,202	96,153	.11
Not Sulfated or Sulfonated				
Total	246,024	211,969	43,327	.20
Amides, amines, and quaternary ammonium salts, total	8,127	7,760	6,796	.88
Benzyldimethyl(mixed alkyl)ammonium chloride	3,859	3,684	2,967	.81
Benzyldimethyloctadecylammonium chloride	378	359	312	.87
Benzyldodecyldimethylammonium chloride	662	662	533	.81
(3,4-Dichlorobenzyl)dodecyldimethylammonium chloride	46	44	28	.64
(Dodecylbenzyl)trimethylammonium chloride	187	201	129	.64
Heterocyclic compounds, total	637	608	654	1.08
1-Benzyl-2-heptadecyl-1-(2-hydroxyethyl)-2-imidazolinium chloride	53	62	24	.39
All other	584	546	630	1.15
Oxygen-containing compounds (except heterocyclic)	710	651	869	1.33
All other	1,648	1,551	1,304	.84
Carboxylic acid esters and ethers, total	232,610	200,950	35,374	.18
Dinonylphenol, ethoxylated	3,805	2,613	551	.21
Dodecylphenol, ethoxylated	19,645	12,598	1,932	.15
Iso-octylphenol, ethoxylated	1,940	...	...	...
Nonylphenol, ethoxylated	129,394	120,243	18,887	.16
Phenol, ethoxylated	6,504	...	...	...
Other carboxylic acid esters and ethers	71,322	65,496	14,004	.21
Phosphoric and polyphosphoric acid esters, total	5,287	3,259	1,157	.36
Nonylphenol, ethoxylated and phosphated	4,264	2,502	860	.34
All other	1,023	757	297	.39

See footnotes at end of table.

[10] See also table 19B, pt. III, which lists these products alphabetically and identifies the manufacturers.

TABLE 19A.--*Surface-active agents: U.S. production and sales, 1965*--Continued

Chemical	Production[1]	Sales[2]		
		Quantity[1]	Value	Unit value[3]
BENZENOID SURFACE-ACTIVE AGENTS--Continued				
Sulfated and Sulfonated	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Total	1,125,296	665,233	52,826	$0.08
Alkylphenols, ethoxylated and sulfated, total	16,729	...	...	...
Nonylphenol, ethoxylated and sulfated, and salts	4,329	...	...	...
All other	12,400	...	...	...
Benzenesulfonates, total	643,179	210,208	27,670	.13
Benzene-, cumene-, toluene-, and xylenesulfonates, total	78,458	74,093	5,153	.07
Xylenesulfonic acid, ammonium salt	24,043	23,456	1,573	.07
Xylenesulfonic acid, sodium salt	21,558	18,276	1,599	.09
All other	32,857	32,361	1,981	.06
Branched chain alkylbenzenesulfonates, total	174,650	83,170	14,645	.18
Dodecylbenzenesulfonic acid	47,441	14,382	2,152	.15
Dodecylbenzenesulfonic acid, calcium salt	11,296	8,800	2,318	.26
Dodecylbenzenesulfonic acid, isopropylamine salt	3,722	3,814	1,142	.30
Dodecylbenzenesulfonic acid (mixed alkyl)amine salt	670	279	93	.33
Dodecylbenzenesulfonic acid, sodium salt	88,424	49,069	7,409	.15
Dodecylbenzenesulfonic acid, triethanolamine salt	2,718	2,754	629	.23
All other	20,379	4,072	902	.22
Straight chain alkylbenzenesulfonates, total	390,071	52,945	7,872	.15
Dodecylbenzenesulfonic acid	...	12,606	1,799	.14
Dodecylbenzenesulfonic acid, sodium salt	261,264	37,300	5,484	.15
Dodecylbenzenesulfonic acid, triethanolamine salt	1,113	...	...	...
All other	127,694	3,039	589	.19
Lignosulfonates, total	447,207	428,055	14,985	.04
Lignosulfonic acid, calcium salt	288,165	269,728	6,020	.02
Lignosulfonic acid, sodium salt	44,015	43,902	3,391	.08
All other	115,027	114,425	5,574	.05
Naphthalenesulfonates, total	9,626	6,780	2,664	.39
Butylnaphthalenesulfonic acid, sodium salt	943	...	...	...
Diisopropylnaphthalenesulfonic acid	481	...	...	...
All other	8,202	6,780	2,664	.39
Other benzenoid surface-active agents, sulfated and sulfonated[4]	8,555	20,190	7,507	.37
NONBENZENOID SURFACE-ACTIVE AGENTS				
Total	1,799,158	820,660	204,035	.25
Not Sulfated or Sulfonated				
Total[5]	1,440,633	423,098	125,616	.30
Amides, amines, and quaternary ammonium salts, total	...	171,396	61,527	.36
Amines, amine oxides, and amine salts (except heterocyclic), total	...	59,452	20,300	.34
Amine salts of fatty acids (anionic)	944	812	561	.69
Amines, not containing oxygen, and salts thereof, total	48,478	43,291	14,105	.33
Amine salts (cationic)	1,914	1,861	626	.34
Diamines and polyamines, total	8,839	8,413	2,795	.33
N-(9-Octadecenyl)trimethylenediamine	1,201	1,280	518	.40
N-(Tallow alkyl)trimethylenediamine	4,101	4,003	1,408	.35
All other	3,537	3,130	869	.28
Primary monoamines, total[6]	24,273	21,958	6,614	.30
(Coconut oil alkyl)amine	1,544	1,299	610	.47
Dodecylamine	1,934	1,427	778	.55
(Hydrogenated tallow alkyl)amine	13,063	13,098	2,992	.23
Octadecylamine	727	660	303	.46
(Tallow alkyl)amine	4,736	3,620	1,065	.29
All other	2,269	1,854	866	.47

See footnotes at end of table.

TABLE 19A.--*Surface-active agents: U.S. production and sales, 1965*--Continued

Chemical	Production[1]	Sales[2]		
		Quantity[1]	Value	Unit value[3]
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued				
Not Sulfated or Sulfonated--Continued				
Amides, amines, and quaternary ammonium salts--Continued				
Amines, amine oxides, and amine salts (except heterocyclic)--Continued				
Amines, not containing oxygen, and salts thereof--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Secondary and tertiary monoamines[6]	13,452	11,059	4,070	$0.37
Oxygen-containing amines and amine oxides, total	...	15,349	5,634	.37
(Mixed alkyl)amine, ethoxylated	2,782	2,593	1,150	.44
(Tallow alkyl)amine, ethoxylated	1,086	1,051	746	.71
All other	(7)	11,705	3,738	.32
Fatty acid - alkanolamine condensates, total	85,912	58,531	17,831	.30
Diethanolamine condensates, total	68,147	52,493	15,997	.30
Capric acid	96	...	...	...
Coconut oil acids (amine/acid ratio=2/1)	17,194	...	...	...
Coconut oil acids (amine/acid ratio=1/1)	21,526	21,109	5,850	.28
Lauric acid	20,654	...	...	...
Oleic acid (amine/acid ratio=2/1)	1,652	1,328	424	.32
Oleic acid (amine/acid ratio=1/1)	1,262	1,231	415	.34
Stearic acid	1,877	1,609	759	.47
Tall oil acids	470	204	43	.21
All other	3,416	27,012	8,506	.31
Other alkanolamine condensates, total	17,765	6,038	1,834	.30
Coconut oil acids - ethanolamine condensate	...	2,312	552	.24
Lauric acid - ethanolamine condensate	498	...	...	...
Lauric acid - isopropanolamine condensate	662	672	223	.33
Stearic acid - ethanolamine condensate (amine/acid ratio=1/1)	113	113	41	.36
All other	16,492	2,941	1,018	.35
Fatty acid - diamine and polyamine condensates, total	17,837	17,110	6,461	.38
Oleic acid - diethylenetriamine condensate	912	767	222	.29
Oleic acid - ethylenediamine condensate (amine/acid ratio=1/2)	96	98	33	.34
All other	16,829	16,245	6,206	.38
Fatty acid - diamine and polyamine condensates, alkoxylated, total	8,531	5,519	4,597	.83
Oleic acid - ethylenediamine condensate, monoethoxylated	4,261	...	...	...
Stearic acid - ethylenediamine condensate, monoethoxylated	3,913	2,476	2,405	.97
All other	357	3,043	2,192	.72
Heterocyclic amines and quaternary ammonium salts, total	9,173	7,866	3,553	.45
Imidazoline derivatives, total	7,112	6,470	2,762	.43
2-Heptadecyl-1-(2-hydroxyethyl)-2-imidazoline	481	473	212	.45
All other	6,631	5,997	2,550	.43
Morpholine, oxazoline, and piperazine derivatives	2,061	1,396	791	.57
Quaternary ammonium salts (except heterocyclic), total	17,890	18,169	6,476	.36
Bis(coconut oil alkyl)dimethylammonium chloride	1,334	1,228	695	.57
Bis(hydrogenated tallow alkyl)dimethylammonium chloride	12,894	13,349	3,106	.23
Dimethyldioctadecylammonium chloride	164	157	86	.55
Dodecyltrimethylammonium chloride	100	124	143	1.15
Oxygen-containing compounds	1,361	1,298	939	.72
Other quaternary ammonium salts	2,037	2,013	1,513	.75
N-Substituted amino acids and polypeptides, total	5,840	3,569	1,662	.47
N-Lauroylsarcosine, sodium salt	2,663	...	...	...
All other	3,177	3,569	1,662	.47
Other amides, amines, and quaternary ammonium salts, total	...	1,180	647	.55
Hydrogenated tallow acids - ethanolamine condensate, ethoxylated	250	277	100	.36
Oleic acid - ethanolamine condensate, ethoxylated	103	108	74	.69
All other	(7)	795	473	.59

See footnotes at end of table.

TABLE 19A.--*Surface-active agents: U.S. production and sales, 1965*--Continued

Chemical	Production[1]	Sales[2]		
		Quantity[1]	Value	Unit value[3]
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued				
Not Sulfated or Sulfonated--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Carboxylic acid esters, total	146,815	112,226	37,053	$0.33
Ethylene glycol and diethylene glycol esters, total	5,179	4,531	1,485	.33
Diethylene glycol monolaurate	519	509	156	.31
Diethylene glycol mono-oleate	77	58	16	.28
Diethylene glycol monostearate	911	561	171	.30
Ethylene glycol distearate	...	255	76	.30
Ethylene glycol monostearate	804	653	251	.38
All other	2,868	2,495	815	.33
Glycerol esters, total	68,233	59,252	15,912	.27
Complex glycerol esters	4,006	3,012	1,325	.44
Glycerol esters of chemically defined acids, total	29,399	27,956	7,769	.28
Glycerol monolaurate	81	57	21	.37
Glycerol mono-oleate	3,481	3,043	726	.24
Glycerol monostearate	24,524	23,076	6,495	.28
All other	1,313	1,780	527	.30
Glycerol esters of mixed acids	34,828	28,284	6,818	.24
Polyethylene glycol esters, total	24,344	15,845	5,702	.36
Polyethylene glycol esters of chemically defined acids, total	18,464	10,567	4,187	.40
Polyethylene glycol dilaurate	1,067	818	283	.35
Polyethylene glycol dioleate	3,219	651	242	.37
Polyethylene glycol distearate	327	282	100	.35
Polyethylene glycol monolaurate	4,762	2,058	821	.40
Polyethylene glycol mono-oleate	3,205	2,283	888	.39
Polyethylene glycol monostearate	4,693	3,686	1,406	.38
All other	1,191	789	447	.57
Polyethylene glycol esters of mixed acids, total	5,880	5,278	1,515	.29
Polyethylene glycol ester of castor oil acids	999	...	...	...
Polyethylene glycol ester of coconut oil acids	461	354	105	.30
Polyethylene glycol ester of rosin acids	435	...	...	...
Polyethylene glycol ester of tall oil acids	3,686	3,243	760	.23
Polyethylene glycol ester of tallow acids	140	149	56	.38
All other	159	1,532	594	.39
Polyglycerol esters	956	885	413	.47
Other carboxylic acid esters, total	48,103	31,713	13,541	.43
Anhydrosorbitol tall oil ester	468	...	...	...
Anhydrosorbitol trioleate	563	390	152	.39
Anhydrosorbitol tristearate	375	64	23	.36
Ethoxylated anhydrosorbitol monolaurate	3,007	2,526	1,085	.43
Ethoxylated anhydrosorbitol mono-oleate	4,316	3,724	1,592	.43
Ethoxylated anhydrosorbitol monopalmitate	320	...	...	...
Ethoxylated anhydrosorbitol monostearate	2,496	2,238	982	.44
Ethoxylated anhydrosorbitol trioleate	407	393	176	.45
Ethoxylated anhydrosorbitol tristearate	775	...	...	...
1,2-Propanediol monolaurate	144	151	61	.40
1,2-Propanediol monostearate	1,122	1,047	628	.60
All other	34,110	21,180	8,842	.42
Ethers, total	189,975	117,226	21,154	.18
Castor oil, ethoxylated	3,087	2,619	881	.34
n-Dodecyl alcohol, ethoxylated	...	1,937	859	.44
Lanolin, ethoxylated	631	268	87	.32
Mixed linear alcohols, ethoxylated	101,877	75,580	9,407	.12
9-Octadecenyl alcohol, ethoxylated	3,438	2,404	1,128	.47
n-Octadecyl alcohol, ethoxylated	514	398	185	.46
Tridecyl alcohol, ethoxylated	8,029	7,293	1,638	.22
All other	72,399	26,727	6,969	.26

See footnotes at end of table.

TABLE 19A.--*Surface-active agents: U.S. production and sales, 1965*--Continued

Chemical	Production[1]	Sales[2]		
		Quantity[1]	Value	Unit value[3]
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued				
Not Sulfated or Sulfonated--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Fatty, rosin, and tall oil acids, potassium and sodium salts, total[8]	898,361	...	...	...
Coconut oil acids, potassium and sodium salts	101,505	...	...	...
Oleic acid, potassium salt	2,845	312	55	$0.18
Oleic acid, sodium salt	2,035	948	154	.16
Stearic acid, potassium and sodium salts	2,265	888	312	.35
Tall oil acids, potassium and sodium salts, total	29,775	14,916	2,117	.14
Potassium salt	14,460	...	...	...
Sodium salt	15,315	...	...	...
Tallow acids, sodium salt	473,326	...	...	...
All other	286,610	(7)	(7)	...
Phosphoric and polyphosphoric acid esters, total	6,656	5,186	3,244	.63
2-Ethylhexyl phosphate, sodium salt	249	232	72	.31
2-Ethylhexyl polyphosphate	380	380	105	.28
All other	6,027	4,574	3,067	.67
Sulfated and Sulfonated				
Total[5]	106,986	116,471	35,297	.30
Alcohols, sulfated, total	...	29,644	12,922	.44
n-Dodecyl sulfate salts, total	41,899	...	...	...
n-Dodecyl sulfate, ammonium salt	1,961	1,930	825	.43
n-Dodecyl sulfate, sodium salt	15,889	12,459	6,233	.50
n-Dodecyl sulfate, triethanolamine salt	9,712	5,467	1,755	.32
n-Dodecyl sulfate, all other salts	14,337	...	...	...
All other sulfated alcohols	(7)	9,788	4,109	.42
Amides, amines, and quaternary ammonium salts, sulfated and sulfonated, total	15,042	14,559	6,727	.46
Coconut oil acids - ethanolamine condensate, sulfated, potassium salt	30	30	31	1.03
N-Methyl-N-oleoyltaurine	3,021	2,943	1,458	.50
Quaternary ammonium sulfates	8,767	8,559	3,112	.36
Sulfosuccinamic acid derivatives	1,760	1,707	986	.58
All other	1,464	1,320	1,140	.86
Carboxylic acid esters (except natural fats and oils), sulfated and sulfonated, total	...	11,343	5,812	.51
Esters of sulfated oleic acid, total	3,701	3,147	1,013	.32
Isopropyl oleate, sulfated	1,094	550	211	.38
Propyl oleate, sulfated	508	750	186	.25
All other	2,099	1,847	616	.33
Sulfosuccinic acid esters, total	6,817	6,291	3,381	.54
Sulfosuccinic acid, bis(2-ethylhexyl)ester	4,774	4,347	2,464	.57
Sulfosuccinic acid, dihexyl ester	988	955	328	.34
Sulfosuccinic acid, ditridecyl ester, sodium salt	298	305	187	.61
All other	757	684	402	.59
Other carboxylic acid esters, sulfated and sulfonated	(7)	1,905	1,418	.74
Ethers, sulfated and sulfonated, total	...	42,531	5,859	.14
n-Dodecyl alcohol, ethoxylated and sulfated, sodium salt	2,120	1,542	499	.32
All other	(7)	40,989	5,360	.13
Natural fats and oils, sulfated, total	29,507	18,394	3,977	.22
Castor oil, sulfated	5,518	3,851	1,228	.32
Coconut oil, sulfated	2,758	805	163	.20
Cod oil, sulfated	2,224	1,625	275	.17
Grease, other than wool, sulfated	659	...	...	...
Neat's-foot oil, sulfated	1,253	589	136	.23
Peanut oil, sulfated	1,121	1,007	281	.28
Soybean oil, sulfated	279	150	58	.39
Sperm oil, sulfated	6,490	3,278	630	.19
Tallow, sulfated	8,272	6,061	947	.16
All other	933	1,028	259	.25

See footnotes at end of table.

TABLE 19A.--*Surface-active agents: U.S. production and sales, 1965*--Continued

Chemical	Production[1]	Sales[2]		
		Quantity[1]	Value	Unit value[3]
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued				
Sulfated and Sulfonated--Continued				
Other nonbenzenoid surface-active agents, sulfated and sulfonated:	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Oleic acid, sulfated	7,206	(7)	(7)	...
Tall oil, sulfated	694	(7)	(7)	...
Nonbenzenoid surface-active agents for which separate data cannot be shown				
Total[9]	251,539	281,091	43,122	$0.15

[1] All quantities are given in terms of 100-percent organic surface-active ingredient.
[2] Sales include products sold as bulk surface-active agents only.
[3] Calculated from rounded figures.
[4] Includes sales of alkylphenols, ethoxylated and sulfated.
[5] Total shown includes only those products and groups for which separate data are published below.
[6] These products were included in the "Miscellaneous Chemicals" section in previous years.
[7] Data are not separately publishable but are included in the total shown below for "Nonbenzenoid surface-active agents for which separate data cannot be shown."
[8] Includes production of approximately 884 million pounds not previously reported.
[9] Includes production of "all other" oxygen-containing amines and amine oxides, "all other" amides, amines, and quaternary ammonium salts, and "all other" sulfated and sulfonated alcohols, carboxylic acid esters, and ethers; includes sales of "all other" potassium and sodium salts of fatty, rosin, and tall oil acids, and of sulfated oleic acid and sulfated tall oil; also includes production and sales of "all other" nonbenzenoid surface-active agents, not sulfated or sulfonated, and of "all other" nonbenzenoid surface-active agents, sulfated and sulfonated.

total includes data for fatty monoamines, which in previous years were reported in the section on miscellaneous organic chemicals, and for potassium and sodium salts of fatty, rosin, and tall oil acids (soaps), which were for the most part not reported in previous years. U.S. production in 1965, exclusive of materials reported for the first time, amounted to approximately 2,248 million pounds--6.1 percent more than the 2,119 million pounds reported for 1964, and 13.5 percent more than the 1,981 million pounds reported for 1963. Sales of bulk surface-active agents in 1965 amounted to 1,698 million pounds, valued at $300 million. These figures reflect sales of bulk surface-active agents only and cannot be compared with sales data for previous years, which included surface-active agents sold as active ingredients in formulated and packaged products, as well as strictly bulk materials.

Production of anionic surface-active agents in 1965 amounted to 2,358 million pounds, or 74.4 percent of the total; sales amounted to 1,078 million pounds, valued at $133 million. Of the anionic products for which individual statistics are shown in the table, those produced in largest quantity were tallow acids, sodium salt, 473 million pounds; lignosulfonic acid, calcium salt, 288 million pounds; straight chain dodecylbenzenesulfonic acid, sodium salt, 261 million pounds; coconut oil acids, potassium and sodium salts, 102 million pounds; and branched chain dodecylbenzenesulfonic acid, sodium salt, 88 million pounds.

Production of those surface-active agents which are generally considered to be nonionic amounted to 659 million pounds, or 20.8 percent of the total output for 1965; sales amounted to 492 million pounds, valued at $113 million. The most important nonionic products, in terms of quantity, were nonylphenol, ethoxylated, 129 million pounds, and mixed linear alcohols, ethoxylated, 102 million pounds.

Production of cationic materials totaled 148 million pounds, or 4.7 percent of the total; sales amounted to 123 million pounds, valued at $51 million. Production of amphoteric materials amounted to 5 million pounds, or approximately 0.2 percent of the total; sales amounted to 5 million pounds, valued at $3 million.

Pesticides and Other Organic Agricultural Chemicals

This section of the report covers pesticides (fungicides, herbicides, insecticides, and rodenticides) and other organic agricultural chemicals, such as plant hormones, seed disinfectants, soil conditioners, and soil fumigants. The data are given in terms of 100-percent active material; they thus exclude such materials as diluents, emulsifiers, synergists, and wetting

agents. Statistics on production and sales of pesticides and other organic agricultural chemicals in 1965 are given in table 20A.[11]

Production of pesticides and other organic agricultural chemicals in 1965 amounted to 877 million pounds--about 12 percent more than the 783 million pounds reported for 1964. Sales in 1965 were 764 million pounds, valued at $497 million, compared with 692 million pounds, valued at $427 million in 1964.

The output of cyclic pesticides and other chemicals included in the cyclic group amounted to 683 million pounds in 1965--about 17 percent more than the 585 million pounds produced in 1964. Sales in 1965 were 582 million pounds, valued at $378 million, compared with 523 million pounds, valued at $317 million, in 1964.

Production of acyclic pesticides and other acyclic organic agricultural chemicals in 1965 amounted to 195 million pounds, compared with the 198 million pounds reported for 1964. Sales in 1965 were 182 million pounds, valued at $119 million, compared with 170 million pounds, valued at $111 million, in 1964. The apparent decrease in production was caused by the transfer of several chlorothiophosphates used as intermediates, to the acyclic miscellaneous chemicals section.

TABLE 20A.--*Pesticides and other organic agricultural chemicals: U.S. production and sales, 1965*

[Listed below are all pesticides and other organic agricultural 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 20B in pt. III lists all pesticides and other organic agricultural chemicals for which data on production or sales were reported and identifies the manufacturer of each]

Product	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Grand total	877,197	763,905	497,066	$0.65
PESTICIDES AND OTHER ORGANIC AGRICULTURAL CHEMICALS, CYCLIC				
Total	682,671	582,344	377,858	.65
Fungicides, total	87,378	73,328	24,208	.33
Mercury fungicides	1,602	1,367	4,265	3.12
Naphthenic acid, copper salt	3,268	3,101	902	.29
Pentachlorophenol (PCP)	39,965	33,320	4,625	.14
Pentachlorophenol, sodium salt	11,113	12,646	2,661	.21
2,4,5-Trichlorophenol and salts	12,969	...	...	...
All other[2]	18,461	22,894	11,755	.51
Herbicides and plant hormones, total	215,307	142,123	169,478	1.19
2-sec-Butyl-4,6-dinitrophenol, ammonium salt	59	56	71	1.27
Phenoxyacetic acid derivatives:				
(2,4-Dichlorophenoxy)acetic acid (2,4-D)	63,320	26,049	7,664	.29
(2,4-Dichlorophenoxy)acetic acid esters and salts, total	63,360	47,299	21,179	.45
(2,4-Dichlorophenoxy)acetic acid, n-butyl ester	12,084	10,925	4,514	.41
(2,4-Dichlorophenoxy)acetic acid, dimethylamine salt	13,872	11,435	4,743	.41
(2,4-Dichlorophenoxy)acetic acid, ethyl ester	...	628	158	.25
(2,4-Dichlorophenoxy)acetic acid, iso-octyl ester	9,580	7,948	3,007	.38
(2,4-Dichlorophenoxy)acetic acid, isopropyl ester	...	3,053	955	.31
All other	27,824	13,310	7,802	.59
(2,4,5-Trichlorophenoxy)acetic acid (2,4,5-T)	11,601	...	...	...
(2,4,5-Trichlorophenoxy)acetic acid esters and salts, total	13,516	13,176	9,674	.73
(2,4,5-Trichlorophenoxy)acetic acid, n-butyl ester	6,485	5,820	3,449	.59
(2,4,5-Trichlorophenoxy)acetic acid, iso-octyl ester	2,292	2,401	1,831	.76
All other	4,739	4,955	4,394	.89
Phenylmercury acetate (PMA)	588	375	2,615	6.97
All other[3]	62,863	55,168	128,275	2.33
Insecticides and rodenticides, total	379,986	366,893	184,172	.50
Aldrin-toxaphene group[4]	118,832	110,794	49,644	.45
Hexachlorocyclohexane (Benzene hexachloride) and lindane[5]	...	6,948	1,440	.21

See footnotes at end of table.

[11] See also table 20B, pt. III, which lists these products alphabetically and identifies the manufacturers.

TABLE 20A.--*Pesticides and other organic agricultural chemicals: U.S. production and sales, 1965*--Continued

Product	Production	Sales		
		Quantity	Value	Unit value[1]
PESTICIDES AND OTHER ORGANIC AGRICULTURAL CHEMICALS, CYCLIC--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Insecticides and rodenticides, total--Continued				
Organophosphorus insecticides, total	62,029	55,186	63,778	$1.16
O,O-Diethyl O-(p-nitrophenyl) phosphorothioate (Parathion)	16,607	14,198	10,427	.73
O,O-Dimethyl O-(p-nitrophenyl) phosphorothioate (Methyl parathion)	29,111	27,440	20,662	.75
All other[6]	16,311	13,548	32,689	2.41
1,1,1-Trichloro-2,2-bis(p-chlorophenyl)-ethane (DDT)	140,785	141,451	20,458	.14
All other[7]	58,340	52,514	48,852	.93
PESTICIDES AND OTHER ORGANIC AGRICULTURAL CHEMICALS, ACYCLIC				
Total	194,526	181,561	119,208	.66
Fungicides, total	36,456	33,014	25,943	.79
Dimethyldithiocarbamic acid, ferric salt (Ferbam)	2,384	1,745	675	.39
Ethylene bis(dithiocarbamic acid), disodium salt (Nabam)	2,489	2,141	813	.38
Ethylene bis(dithiocarbamic acid), zinc salt (Zineb)	5,075	4,468	2,012	.45
All other[8]	26,508	24,660	22,443	.91
Herbicides and plant hormones, total[9]	47,617	40,746	37,798	.93
Insecticides, rodenticides, and soil conditioners and fumigants, total	110,453	107,801	55,467	.51
Bromomethane (Methyl bromide)	14,303	15,127	6,605	.44
1,2-Dibromo-3-chloropropane	3,433	3,893	2,013	.52
Organophosphorus insecticides[10]	33,299	30,557	39,051	1.28
All other insecticides, rodenticides, and soil conditioners and fumigants[11]	59,418	58,224	7,798	.13

[1] Calculated from rounded figures.
[2] Includes captan, dichlone, glyodin, sodium pentachlorophenate, tri- and tetrachlorophenols, and others.
[3] Includes dimethylurea compounds, dinitrophenol compounds, endothal, isopropyl carbanilates (IPC and CIPC), maleic hydrazide, triazines, and others.
[4] Includes aldrin, chlordane, dieldrin, endrin, heptachlor, terpene polychlorinates, and toxaphene.
[5] Production of gamma isomer content is not publishable because publication would reveal the operations of the individual producers. Sales of gamma isomer content in benzenehexachloride and lindane totaled 2.0 million pounds.
[6] Includes carbophenothion, diazinon, other phosphorothioates and phosphorodithioates, and others.
[7] Includes DDD, endosulfan, methoxychlor, tetradifon and other chlorinated insecticides, 1-naphthyl methylcarbamate, small amounts of rodenticides and insect repellents, hexachlorocyclohexane and lindane (production only), and others.
[8] Includes dodine, mercury compounds, maneb, and others.
[9] Includes CDAA, methanearsonic acid, disodium salt, thiocarbamate and organophosphorus herbicides, sodium dichloropropionate, sodium TCA, and others.
[10] Includes DDVP, ethion, malathion, naled, phorate, TEPP, and others.
[11] Includes soil conditioners and fumigants, small quantities of rodenticides, and others.

Miscellaneous Chemicals

As used in this report, the term "miscellaneous chemicals" refers to those synthetic organic products that are not included in the use groups covered in the preceding sections of the report. These miscellaneous chemicals, which account for about three-fifths of the output of all synthetic organic chemicals, include products that are employed in a great variety of uses; the number of chemicals used exclusively for only one purpose is not large. Among the products covered are those used for gasoline and lubricating oil additives, paint driers, photographic chemicals, tanning materials, flotation reagents, refrigerants, textile polymers, sequestering agents, organic fertilizers, antifreeze chemicals, solvents, and acyclic intermediates.

Production of miscellaneous chemicals in 1965 amounted to 50.8 billion pounds, or 11.3 percent more than the output of 45.7 billion pounds reported for 1964. Sales of miscellaneous chemicals in 1965 amounted to 22.0 billion pounds, valued at $2.9 billion, compared with 20.5 billion pounds, valued at $2.7 billion, in 1964. Statistics on production and sales of miscellaneous chemicals in 1965 are given in table 21A.[12]

[12] See also table 21B, pt. III, which lists these products alphabetically and identifies the manufacturers.

TABLE 21A.-- *Miscellaneous chemicals: U.S. production and sales, 1965*

[Listed below are all miscellaneous 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 21B in pt. III lists alphabetically all miscellaneous chemicals for which data on production or sales were reported and identifies the manufacturer of each]

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
	1,000 pounds	*1,000 pounds*	*1,000 dollars*	*Per pound*
Grand total	50,835,600	22,040,070	2,890,169	$0.13
MISCELLANEOUS CHEMICALS, CYCLIC				
Total	1,138,261	624,813	244,750	.39
Benzoic acid salts: Sodium benzoate, tech. and U.S.P	9,111	7,474	2,216	.30
Benzoyl peroxide	4,835	4,734	4,580	.97
Cyclopropane	126	126	1,726	13.70
2,6-Di-tert-butyl-p-cresol:				
Food grade	7,298	6,761	3,836	.57
Tech	15,150	12,147	6,687	.55
4-Ethylmorpholine	1,086	974	1,120	1.15
Flotation reagents	5,828	...	...	...
Gasoline additives, total[2]	10,905	6,540	5,697	.87
N,N'-Di-sec-butyl-p-phenylenediamine	2,064	2,169	1,915	.88
N,N'-Disalicylidene-1,2-propanediamine	...	853	1,241	1.45
All other	8,841	3,518	2,541	.72
Hexamethylenetetramine, tech	49,344	34,318	6,064	.18
Lubricating oil and grease additives, total	354,689	210,198	50,280	.24
Oil-soluble petroleum sulfonate, barium salt	45,963	11,604	2,820	.24
Oil-soluble petroleum sulfonate, calcium salt	110,801	...	...	...
Oil-soluble petroleum sulfonate, sodium salt	73,678	47,422	9,467	.20
All other	124,247	151,172	37,993	.25
Morpholine	15,831	14,248	6,673	.47
Naphthenic acid salts, total[3] [4]	21,493	18,756	6,614	.35
Calcium naphthenate	1,887	1,399	599	.43
Cobalt naphthenate	3,364	2,780	1,909	.69
Iron naphthenate	381	252	90	.36
Lead naphthenate	12,796	11,014	2,602	.24
Manganese naphthenate	1,474	1,159	435	.38
Zinc naphthenate	1,049	992	362	.36
All other	542	1,160	617	.53
Photographic chemicals:				
Benzotriazole	42	35	170	4.86
p-Diethylaminobenzenediazonium chloride (p-Diazo-N, N-diethylaniline) - zinc chloride	127	103	254	2.47
N,N-Diethyltoluene-2,5-diamine, monohydrochloride	156	162	452	2.79
Pinene	29,852	23,612	3,000	.13
Propyl gallate	77	70	237	3.39
Tall oil salts, total[3]	8,679	8,153	2,814	.35
Calcium tallate	785	639	207	.32
Cobalt tallate	2,400	2,441	1,287	.53
Iron tallate	596	445	134	.30
Lead tallate	3,847	3,609	893	.25
Manganese tallate	851	800	227	.28
Zinc tallate	26	32	9	.28
All other	174	187	57	.30
Tanning materials, synthetic, total	34,225	33,376	7,666	.23
2-Naphthalenesulfonic acid, formaldehyde condensate and salts	29,779	28,902	5,392	.19
All other	4,446	4,474	2,274	.51

See footnotes at end of table.

TABLE 21A.--*Miscellaneous chemicals: U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
MISCELLANEOUS CHEMICALS, CYCLIC--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Textile chemicals, other than surface-active agents	2,820	1,956	1,923	$0.98
All other miscellaneous cyclic chemicals	566,587	241,070	132,741	.55
MISCELLANEOUS CHEMICALS, ACYCLIC				
Total	49,697,339	21,415,257	2,645,419	.12
Acetaldehyde	1,230,310	101,920	6,617	.06
Acetic acid, synthetic, 100%[5]	1,346,683	294,468	19,883	.07
Acetic acid salts, total	25,412	23,799	5,017	.21
Copper acetate	200	206	127	.62
Potassium acetate	3,138	3,045	596	.20
Sodium acetate	16,331	15,662	2,398	.15
Zinc acetate	524	323	183	.57
Zirconium acetate	182	...	...	...
All other	5,037	4,563	1,713	.38
Acetic anhydride, 100%, from all sources	1,531,738	179,672	18,194	.10
Acetone, total	1,124,097	741,665	33,999	.05
From cumene	...	296,305	11,908	.04
From isopropyl alcohol	746,879	417,691	20,964	.05
All other	377,218	27,669	1,127	.04
Acrylic acid	40,938	7,594	2,162	.28
Acrylonitrile	771,622	303,339	48,354	.16
Adipic acid	865,719	69,991	16,446	.23
Alcohols, monohydric, unsubstituted, total	8,295,247	4,241,634	266,120	.06
Alcohols C_9 or lower, total	7,926,726	4,095,746	242,869	.06
Butyl alcohols, total	827,568	391,484	36,041	.09
Iso (Isopropylcarbinol)	...	67,962	5,087	.07
Normal (n-Propylcarbinol)	428,807	291,711	27,383	.09
All other	398,761	31,811	3,571	.11
Ethyl alcohol, synthetic[6]	2,039,211	1,315,353	76,688	.06
2-Ethyl-1-hexanol	293,203	149,410	16,337	.11
Hexyl alcohol	8,335	2,183	366	.17
Iso-octyl alcohols	126,742	112,668	12,852	.11
Isopropyl alcohol	1,537,988	581,509	35,982	.06
Methanol, synthetic	2,868,578	1,395,137	43,881	.03
All other	225,101	148,002	20,722	.14
Alcohols C_{10} or higher, total	368,521	145,888	23,251	.16
Decyl alcohols	105,942	68,280	8,024	.12
1-Hexadecanol (Cetyl alcohol) (95%)	2,678	2,752	742	.27
1-Octadecanol (Stearyl alcohol) (95%)	...	6,912	1,202	.17
All other	259,901	67,944	13,283	.20
Amines, total[7]	694,809	163,652	49,440	.30
Butylamine	1,206	...	...	...
Dibutylamine	2,409	1,805	875	.48
Diethylamine	7,006	...	...	...
Dimethylamine	50,005	22,918	4,080	.18
Ethylamine	8,329	...	...	...
Isopropylamine	...	6,789	1,177	.17
Methylamine, mono-	30,532	26,574	3,848	.14
Trimethylamine	14,085	6,316	846	.13
All other	581,237	99,250	38,614	.39
Bis(2-chloroethyl) ether (Dichlorodiethyl ether), all grades	...	1,981	175	.09
2-Butanone (Methyl ethyl ketone)	317,500	301,161	32,376	.11
2-Butanone oxime	2,735	2,807	1,704	.61
2-Butanone peroxide	1,676	1,622	2,541	1.57
Butyl acetates, total	131,511	123,274	11,817	.10
Normal	86,116	80,430	7,781	.10
All other	45,395	42,844	4,036	.09

See footnotes at end of table.

TABLE 21A.--*Miscellaneous chemicals: U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
tert-Butyl hydroperoxide	145	144	286	$1.99
tert-Butyl peroxide (Di-tert-butyl peroxide)	1,011	1,020	1,672	1.64
Butyric acid	...	478	144	.30
Caprolactam (Hexahydro-2H-azepin-2-one)	290,005	133,612	41,900	.31
Carbon disulfide	756,512	541,605	21,691	.04
Cellulose esters and ethers, total	930,700	278,425	113,408	.39
Cellulose esters, total	839,392	193,324	66,528	.34
Cellulose acetate	669,112	...	...	...
All other	170,280	193,324	66,528	.34
Cellulose ethers, total	91,308	85,101	46,880	.55
Sodium carboxymethylcellulose, 100%	48,770	45,242	19,057	.42
All other	42,538	39,859	27,823	.70
Chloral (Trichloroacetaldehyde)	73,502	...	...	...
Chloroacetic acid, mono-	71,063	...	...	...
Chloroacetic acid, methyl ester	585	532	190	.36
2-Chloro-N,N-dimethylethylamine (Dimethylaminoethyl chloride) hydrochloride	353	239	301	1.26
Decanoyl peroxide	667	651	897	1.38
Dibutyl fumarate	6,120	5,494	1,098	.20
Dibutyl maleate	7,513	5,419	1,054	.19
2-Diethylaminoethanol	3,159	2,589	1,122	.43
Diethylene glycol	158,746	134,994	13,675	.10
Dilauryl 3,3'-thiodipropionate	1,180	1,168	1,152	.99
2-Dimethylaminoethanol	1,794	1,458	981	.67
Dioctyl maleate	494	...	...	...
Dipropylene glycol	33,904	30,602	3,652	.12
Erucamide	451	429	514	1.20
Ethanolamines, total	200,836	155,038	27,708	.18
2-Aminoethanol (Monoethanolamine)	67,474	54,108	10,667	.20
2,2'-Iminodiethanol (Diethanolamine)	77,500	52,413	8,176	.16
2,2',2''-Nitrilotriethanol (Triethanolamine)	55,862	48,517	8,865	.18
2-Ethoxyethanol (Ethylene glycol monoethyl ether)	...	46,560	7,716	.17
2-(2-Ethoxyethoxy)ethanol (Diethylene glycol monoethyl ether)	33,733	25,467	4,446	.17
2-[2-(2-Ethoxyethoxy)ethoxy]ethanol (Triethylene glycol monoethyl ether)	6,933	3,310	543	.16
Ethyl acetate, 85%	114,013	100,197	10,425	.10
Ethyl acrylate	116,796	47,407	10,901	.23
Ethylene glycol	1,797,935	1,197,846	104,237	.09
Ethylene oxide	2,189,798	255,952	25,994	.10
Ethyl ether, all grades	93,164	85,174	5,429	.06
2-Ethylhexanoic acid (α-Ethylcaproic acid) salts, total	4,404	3,261	3,173	.97
Calcium 2-ethylhexanoate	...	274	110	.40
Cobalt 2-ethylhexanoate	604	503	549	1.09
Lead 2-ethylhexanoate	227	178	68	.38
Manganese 2-ethylhexanoate	59	56	27	.48
Zinc 2-ethylhexanoate	276	259	129	.50
All other	3,238	1,991	2,290	1.15
2-Ethyl-1-hexyl acetate	...	608	169	.28
2-Ethyl-1-hexyl acrylate	25,200	20,529	5,752	.28
Formaldehyde, 37% by weight	3,106,572	1,189,434	30,199	.03
Formic acid, 90%	23,657	23,241	2,993	.13
Formic acid salts	30,518	25,023	1,233	.05
Fumaric acid	33,749	31,615	5,181	.16
Gluconic acid, tech	3,891	3,501	1,135	.32
Gluconic acid, sodium salt, tech	8,014	7,559	2,270	.30
Halogenated hydrocarbons, total	9,362,119	4,042,963	458,045	.11
1-Bromobutane (n-Butyl bromide)	69	43	32	.74
Carbon tetrachloride	593,636	509,439	37,486	.07
Chlorinated paraffins	43,750	43,635	5,698	.13
Chlorodifluoromethane	...	49,815	30,193	.61
Chloroethane (Ethyl chloride)	685,768	273,944	18,576	.07
Chloroform	152,510	123,320	9,871	.08
Chloromethane (Methyl chloride)	187,549	94,791	6,437	.07

See footnotes at end of table.

TABLE 21A.--*Miscellaneous chemicals: U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Halogenated hydrocarbons--Continued				
Dichlorodifluoromethane	271,408	254,202	72,191	$0.28
1,2-Dichloroethane (Ethylene dichloride)	2,455,907	309,033	13,932	.04
Dichloromethane (Methylene chloride)	210,830	194,504	17,207	.09
1,2-Dichloropropane (Propylene dichloride)	61,013	31,122	729	.02
Dichlorotetrafluoroethane	21,762	18,812	10,947	.58
Iodomethane (Methyl iodide)	14	9	26	2.89
Lauryl chlorides	911	...	...	...
Tetrachloroethylene (Perchloroethylene)	429,354	384,978	32,447	.08
Trichloroethylene	434,510	428,120	36,068	.08
Trichlorofluoromethane	170,461	153,953	31,318	.20
Vinyl chloride, monomer (Chloroethylene)	2,000,000	687,817	42,178	.06
All other	1,642,667	485,426	92,709	.19
4-Hydroxy-4-methyl-2-pentanone (Diacetone alcohol)	...	28,004	3,574	.13
Isoascorbic acid, sodium salt	2,835	2,386	3,288	1.38
Isopropyl acetate	45,483	38,033	4,018	.11
Isopropyl ether	...	4,199	346	.08
Lauroyl chloride	9,526	...	...	...
Lauroyl peroxide	1,333	1,345	1,401	1.04
Linoleic acid salts, total[3]	459	467	151	.32
Calcium linoleate	138	138	26	.19
Cobalt linoleate	197	...	...	...
All other	124	329	125	.38
Lubricating oil additives, total	417,817	184,798	39,937	.22
Phosphorodithioates (Dithiophosphates)	102,269	48,146	11,968	.25
Sulfurized lard oil	2,562	...	...	...
Sulfurized sperm oil	23,668	...	...	...
All other	289,318	136,652	27,969	.20
Maleic anhydride	128,226	94,411	10,976	.12
Mercaptoacetic acid (Thioglycolic acid)	...	558	525	.94
Mercaptoacetic (Thioglycolic) acid derivatives, total	5,904	5,394	6,982	1.29
2-Aminoethyl mercaptoacetate (Monoethanolamine thioglycolate)	272	234	181	.77
Ammonium mercaptoacetate	1,599	...	...	...
Iso-octyl mercaptoacetate	...	1,729	1,254	.73
All other	4,033	3,431	5,547	1.62
2-Methoxyethanol (Ethylene glycol monomethyl ether)	73,801	66,147	11,233	.17
2-(2-Methoxyethoxy)ethanol (Diethylene glycol monomethyl ether)	11,416	...	...	...
2-[2-(2-Methoxyethoxy)ethoxy]ethanol (Triethylene glycol monomethyl ether)	3,128	341	53	.16
Methyl acetate	8,887	...	...	...
Methyl ether (Dimethyl ether)	10,393	...	...	...
4-Methyl-2-pentanone (Methyl isobutyl ketone)	168,874	151,027	17,944	.12
Nylon, 6 and 6/6 polymer for fiber	980,596	...	...	...
Oleic acid salts, total[8]	282	365	262	.72
Copper oleate	35	...	...	...
All other	247	365	262	.72
Oxalic acid	19,573	20,752	3,782	.18
Oxalic acid salts	6,664	6,803	1,542	.23
Palmitic acid salts	758	...	...	...
Palmitoyl chloride	225	...	...	...
Pentaerythritol	69,338	69,396	15,415	.22
Pentaerythritol tetranitrate	4,959	2,767	2,111	.76
Phosgene (Carbonyl chloride)	284,671	...	...	...
Phosphorus acid esters, not elsewhere specified, total	26,988	23,445	9,943	.42
Tributyl phosphate	4,702	4,753	1,883	.40
All other	22,286	18,692	8,060	.43

See footnotes at end of table.

TABLE 21A.-- *Miscellaneous chemicals: U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Polyacrylic acid salts	2,492	3,326	4,030	$1.21
Polyethylene glycol	39,698	35,129	8,571	.24
Polypropoxy ethers, total	220,923	190,858	36,896	.19
Glycerol tri(polyoxypropylene) ether	161,250	134,476	25,767	.19
All other	59,673	56,382	11,129	.20
Polypropylene glycol	94,059	80,416	14,085	.18
Propionic acid	31,870	16,801	1,806	.11
Propionic acid salts:				
Calcium propionate	12,248	10,398	1,930	.19
Sodium propionate	4,369	5,168	960	.19
Propylene glycol (1,2-Propanediol)	212,756	188,933	19,709	.10
Propylene oxide	604,559	69,254	8,298	.12
Sarcosine and salt	1,698	...	...	...
Sequestering agents, total	35,764	26,662	10,668	.40
(Diethylenetrinitrilo)pentaacetic acid, sodium salt	1,869	1,734	557	.32
(Ethylenedinitrilo)tetraacetic acid (Ethylenediamine-tetraacetic acid)	3,528	1,914	999	.52
(Ethylenedinitrilo)tetraacetic acid, tetrasodium salt	19,985	13,736	4,988	.36
(Ethylenedinitrilo)tetraacetic acid, monohydrogen trisodium salt	604	582	248	.43
(N-Hydroxyethylethylenedinitrilo)triacetic acid, trisodium salt	3,721	3,266	1,468	.45
All other	6,057	5,430	2,408	.44
Sodium formaldehydesulfoxylate	5,466	5,253	1,266	.24
Sodium methoxide (Sodium methylate)	4,891	4,267	1,386	.32
Sorbitol	62,471	45,525	10,001	.22
Stearamide (Octadecanamide)	764	...	...	...
Stearic acid salts, total[9]	37,546	34,433	12,588	.37
Aluminum stearates, total	5,469	5,306	1,931	.36
Aluminum distearate	3,913	3,797	1,366	.36
Aluminum monostearate	895	883	341	.39
Aluminum tristearate	661	626	224	.36
Calcium stearate	12,674	12,324	4,188	.34
Lead stearate	421	372	146	.39
Lithium stearate	593	522	264	.51
Magnesium stearate	2,370	2,323	888	.38
Zinc stearate	12,020	12,000	4,424	.37
All other	3,999	1,586	747	.47
Tallow amide, hydrogenated	686	...	...	...
Tetraethyllead	549,176	548,177	297,480	.54
Tetramethyllead and tetra(methyl and ethyl)leads	137,609	136,038	78,001	.57
Triethylene glycol	50,667	41,733	7,024	.17
Urea in compounds or mixtures (100% basis), total	[10] 2,572,923	2,466,882	[11] 99,587	.04
In feed compounds	300,865	305,309	12,410	.04
In liquid fertilizer	943,218	915,203	36,791	.04
In solid fertilizer	1,092,818	1,085,567	43,399	.04
All other	236,022	160,803	6,987	.04

See footnotes at end of table.

TABLE 21A.--*Miscellaneous chemicals: U.S. production and sales, 1965*--Continued

Chemical	Production	Sales		
		Quantity	Value	Unit value[1]
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	*1,000 pounds*	*1,000 pounds*	*1,000 dollars*	*Per pound*
Vinyl acetate, monomer	511,951	259,099	27,837	$0.11
Zinc formaldehydesulfoxylate	1,490	1,454	657	.45
All other miscellaneous acyclic chemicals	6,349,894	1,582,690	443,025	.28

[1] Calculated from rounded figures.
[2] Statistics exclude production and sales of tricresyl phosphate. Statistics on tricresyl phosphate are given in the section "Plasticizers."
[3] Quantities are given on the basis of solid naphthenate, tallate, or linoleate content.
[4] Statistics exclude production and sales of copper naphthenate. Statistics on copper naphthenate are given in the section "Pesticides and Other Organic Agricultural Chemicals."
[5] In addition, sales of recovered acetic acid totaled 76,641 thousand pounds, valued at 4,466 thousand dollars.
[6] Statistics on production of ethyl alcohol from natural sources by fermentation are issued by the Alcohol Tax Unit, U.S. Internal Revenue Service.
[7] Statistics exclude production and sales of fatty amines. Statistics on fatty amines are given in the section "Surface-Active Agents."
[8] Statistics exclude production and sales of potassium and sodium oleates. Statistics on these oleates are included in the section "Surface-Active Agents."
[9] Statistics exclude production and sales of potassium and sodium stearates. Statistics on these stearates are included in the section "Surface-Active Agents."
[10] Production of urea in primary solution totaled 2,789,089 thousand pounds.
[11] Includes estimated values for sales of urea in nitrogen compounds.

The total output of miscellaneous cyclic chemicals in 1965 was 1.14 billion pounds, or 2.1 percent more than the output of 1.11 billion pounds reported for 1964. Sales in 1965 totaled 625 million pounds, valued at $245 million, compared with 604 million pounds, valued at $224 million, in 1964. The most important subgroup of cyclic compounds was the lubricating oil additives, the output of which was 355 million pounds in 1965.

Total production of miscellaneous acyclic chemicals in 1965 was 49.7 billion pounds--11.5 percent more than the output of 44.6 billion pounds reported for 1964. Sales in 1965 totaled 21.4 billion pounds, valued at $2.6 billion, compared with 19.9 billion pounds, valued at $2.4 billion, in 1964.

Production of alcohols and halogenated hydrocarbons in 1965 each exceeded that of any of the use groups of synthetic organic chemicals except cyclic intermediates and plastics and resin materials. Production of monohydric, unsubstituted alcohols totaled 8.3 billion pounds in 1965, or 4.5 percent more than in 1964. Alcohols are used as solvents, intermediates, and antifreeze materials, and for other purposes. Production of halogenated hydrocarbons totaled 9.4 billion pounds in 1965, or 15.4 percent more than the 8.1 billion pounds reported for 1964. Halogenated hydrocarbons are used as solvents, intermediates, refrigerants, and aerosol propellants, and for other purposes.

Individual chemicals the output of which exceeded 1 billion pounds in 1965 were formaldehyde (3.1 billion pounds, compared with 2.8 billion pounds in 1964); synthetic methanol (2.9 billion pounds, compared with 2.6 billion pounds in 1964); urea (2.6 billion pounds, compared with 2.4 billion pounds); dichloroethane (2.5 billion pounds, compared with 2.2 billion pounds); ethylene oxide (2.2 billion pounds, in each year); ethyl alcohol (2.04 billion pounds, compared with 2.07 billion pounds); vinyl chloride (2.0 billion pounds, compared with 1.6 billion pounds); ethylene glycol (1.8 billion pounds, in each year); isopropyl alcohol (1.5 billion pounds, in each year); and acetic anhydride (1.5 billion pounds, compared with 1.4 billion pounds).

PART III. ALPHABETICAL LIST OF INDIVIDUAL PRODUCTS, BY GROUPS, AND NAMES OF MANUFACTURERS

This section of the report consists of (1) a series of tables that supplement the statistical information given in parts I and II, and (2) a Directory of Manufacturers. The tables with numbers that include the letter "B" supplement the tables in part I or part II with numbers that include the letter "A"; for example, table 8B in part III supplements table 8A in part II.

Each table in part III lists alphabetically the individual items in each group for which data on production or sales were reported for 1965. The tables include data on only those chemicals for which the volume of production or sales in 1965 exceeded 1,000 pounds or for which the value of sales exceeded $1,000. Where separate statistics for an item are given in the tables in part I or part II, an asterisk (*) precedes the name of the item in the tables in part III. The manufacturers of each product are indicated by identification codes which are listed in the Directory of Manufacturers (table 22). A few companies, however, have specifically requested that they not be identified as having produced or sold certain items. These manufacturers are indicated by a small letter "x" in the tables.

Tar Crudes

TABLE 4B. --*Tar crudes for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Tar crudes for which separate statistics are given in table 4A are marked below with an asterisk (*); products not so marked do not appear in table 4A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. Table 22 identifies all U.S. producers of tar crudes (except producers that report to the Division of Bituminous Coal, U.S. Bureau of Mines)]

Product	Manufacturers' identification codes (according to list in table 22)[1]
*Crude light oil	CBT.[2]
Light-oil distillates:	
*Benzene, specification and industrial grades	ACY, KPP.
*Toluene, specification and other grades	ACY, KPP.
*Xylene, all grades	ACY, KPP.
*Solvent naphtha	ACY, KPT, NEV, PAI.
*All other light-oil distillates	ACP, PAI.
Pyridine crude bases	ACP, KPT.
*Naphthalene, crude, solidifying at--	
*Less than 74° C	COP.
*74° C. to less than 76° C	KPT.
*76° C. to less than 79° C	ACP, KPT, PRD, RIL.
Crude tar-acid oils having a tar-acid content of--	
5% to less than 24%	ACP, RIL.
24% to 51%	ACP, KPT, RIL.
Cresylic acid, crude	ACP, KPT, PRD.
*Creosote oil (Dead oil):	
*Distillate as such	ACP, CBT, COP, HUS, KPT, RIL, WTC.
*Creosote in coal-tar solution	ACP, JEN, KPT, RIL.
All other distillate products	ACP, KPT, PAI.
*Tar, road	ACP, KPT, RIL, WTC.
*Tar for other uses:	
Crude	KPT, RIL.
Refined	ACP, KPT, RIL, RUR.
Pitch of tar:	
Soft and medium (water softening points less than 110° F., and 110° F. to 160° F.).	ACP, CBT, COP, JEN, KPT, RIL.
*Hard (water softening point above 160° F.)	ACP, COP, HUS, KPT, RIL.
Pitch-of-tar coke and pitch emulsion	JEN, RIL.

[1] Does not include manufacturers' identification codes for producers that report to the Division of Bituminous Coal, U.S. Bureau of Mines. These producers are listed in the U.S. Bureau of Mines Mineral Industry Survey, Aug. 10, 1966, entitled "Coke Producers in the U.S. in 1965."

[2] Crude light oil production and sales of this company are not included with the U.S. Bureau of Mines figures given in table 4A.

Crude Products From Petroleum and Natural Gas for Chemical Conversion

TABLE 5B.--*Crude products from petroleum and natural gas for chemical conversion for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Crude products from petroleum and natural gas for chemical conversion for which separate statistics are given in table 5A are marked below with an asterisk (*); products not so marked do not appear in table 5A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Product	Manufacturers' identification codes (according to list in table 22)
AROMATICS AND NAPHTHENES	
*Alkyl aromatics, distillates, and solvents	ACC, DUP, ENJ, FG, GOC, JCC, MOC, MON, OMC, PLC, SHC, SM, SOC, SOG, USI, VPT.
*Benzene (except motor grade):	
*Benzene, 1°	ACU, APR, ASH, ATR, CCP, COR, CSD, DLH, DXS, ENJ, GOC, GRS, MOC, MON, PLC, PRO, RIC, SHO, SKO, SM, SNT, SUN, TOC, TX, VPT.
*Benzene, 2°	ACC, AMO, CO, DOW, SHO, SOC, UCC.
Cresylic acid, crude	ATR, PRD, RIC, SHO.
*Naphthalene, all grades	ASH, COL, MON, SUN, TID.
*Naphthenic acids:	
Acid number lower than 150	RIC, SUN, TX.
Acid number 150-199	PRD, RIC, SM, SOC, SUN.
Acid number 200-224	PRD, RIC, SM, SOC.
Acid number 225-249	PRD, RIC, SM, SOC.
Sodium carbolate and phenate, crude	ATR, GOC, SIN.
*Toluene:	
*Nitration grade, 1°	ASH, ATR, COR, CSD, DLH, ENJ, GOC, LEN, MOC, MON, PLC, PRO, SHC, SHO, SIN, SNT, SOG, SUN, TOC, TX, UCC, VPT.
*Pure commercial grade, 2°	DOW, MON, RIC.
Solvent grade	CO, FG, SKO.
All other	ACC, CSD, CSO, DXS, ELP, GRS, RIC, SHO, SM, SOC, TOC, TX, VPT.
*Xylenes, mixed:	
Aviation grade	CSD, CSO, SOG.
*3°	ASH, ATR, COR, DLH, MON, PRO, SNT.
5°	SIN, SUN, TX.
All other	AMO, CCP, CSD, ENJ, GRS, LEN, MOC, RIC, SHO, SM, SOC, SOG, SUN, TOC, VEL, VPT.
All other aromatics and naphthenes	COR, ELP, ENJ, JCC, LEN, PAS, PLC, SM, SOI.
ALIPHATIC HYDROCARBONS	
C_1 hydrocarbon: Methane	CCP, MOC, MON, PAN.
*C_2 hydrocarbons:	
*Acetylene	ACY, DOW, DUP, MNO, MON, UCC, x.
*Ethane	ACU, CCP, ENJ, MOC, MON, PAN, PLC, SHC, SHO, SM, SOI, TX, UCC, USI.
*Ethylene	CCP, DOW, DUP, EKX, ELP, ENJ, GOC, JCC, KPP, MOC, MON, OMC, PET, PLC, RIC, SHC, SM, SNO, TX, UCC, USI.
C_2 and C_3 hydrocarbons, mixed	COR, GYR, MON, PLC.
*C_3 hydrocarbons:	
*Propane	AMO, ASH, CCP, CSD, DXS, ENJ, GRS, MOC, OMC, PAN, PLC, SHM, SHO, SIN, SM, SNT, SOG, SOI, SPI, UCC, UOC, USI.
Propane-propylene mixture	GOC, TX.
*Propylene	AMO, ASH, CCP, DOW, EKX, ELP, ENJ, GOC, JCC, MOC, MON, PET, PLC, RIC, SHC, SHO, SIN, SM, SOG, SOI, SPI, SUN, UCC, UOC.
*C_4 hydrocarbons:	
*1,3-Butadiene, grade for rubbers (elastomers)	CPY, DOW, ELP, ENJ, FRS, GGC, ILC, MON, PET, PLC, PTT, SHC, SM, SOC, SPI, TID, TUS, UCC.
*Butadiene and butylene fractions	DOW, GYR, PLC, PTT, SHC, SHO, SIN, SOC.

TABLE 5B.--*Crude products from petroleum and natural gas for chemical conversion for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Product	Manufacturers' identification codes (according to list in table 22)
ALIPHATIC HYDROCARBONS--Continued	
*C_4 hydrocarbons--Continued	
*n-Butane	COR, CSD, DXS, ELP, GRS, MOC, OMC, PAN, PLC, SHO, SM, SNT, SOC, SOG, SOI, UCC, USI.
1-Butene	PLC, PTT.
2-Butene	MON, PLC, PTT.
*1-Butene and 2-butene mixture	AMO, ENJ, GOC, PLC, PRO, PTT, SHO, SOC, SPI, TX.
*Isobutane	CCP, DXS, ELP, ENJ, GRS, MOC, OMC, PAN, PLC, SHO, SOI, UCC, USI.
*Isobutylene	CCP, ENJ, PLC, PRO, PTT, SIN.
All other	APR, JCC, MOC, MON, PLC, SM, SOI, UCC, USI.
*C_5 hydrocarbons:	
Isopentane (2-Methylbutane)	CCP, CSD, PLC, SHO, SM, SOI, UCC.
Isoprene (2-Methyl-1,3-butadiene)	ENJ, GYR, SHC.
n-Pentane	APR, PLC.
All other	ENJ, GYR, MOC, MON, PAS, PET, PLC, USI.
C_6 hydrocarbons:	
Diisopropyl (2,3-Dimethylbutane)	PLC.
Hexane	ENJ, PLC, PRO.
Neohexane (2,2-Dimethylbutane)	PLC.
All other	APR, PLC, SOG.
C_7 hydrocarbons:	
n-Heptane	EKX, ENJ, PLC, PRO.
*Heptenes, mixed	CSD, ENJ, GOC, HOU, SIN, SOG, SOI, TID.
All other	PLC.
C_8 hydrocarbons:	
*Diisobutylene (Diisobutene)	ATR, ENJ, PTT, TX.
n-Octane	ENJ, PLC.
2,2,4-Trimethylpentane (Iso-octane)	ENJ.
All other	PLC.
Hydrocarbons, C_9 and above:	
Eicosane	ATR.
*Nonene (Tripropylene)	AMO, ATR, CO, ENJ, GOC, PAS, PRO, RIC.
Pentadecene	CO.
*Polybutene	ACC, CSD, SOC, SOI.
*Tetrapropylene	CO, DXS, ENJ, GOC, MOC, PRO, RIC, SNT, SOC, SUN, TX.
Tridecene concentrate	ENJ.
Triisobutylene	ATR.
All other	CO, ENJ, GOC, HOU, KEN, PLC, SOC, SUN, TID, UCC, x.
*Hydrocarbon derivatives:	
1-Butanethiol	PAS.
tert-Butyl mercaptan (2-Methyl-2-propanethiol)	PAS, PLC.
Di-tert-butyl disulfide	PAS, PLC.
Ethyl mercaptan (Ethanethiol)	CSD, PAS, SOC, x.
Isopropyl mercaptan	PAS, SOC.
Methyl mercaptan (Methanethiol)	ACC, PAS.
tert-Octyl mercaptan	PAS, PLC.
n-Propyl mercaptan (1-Propanethiol)	PAS, PLC.
All other	EKX, PAS, PLC, SOC.
*All other aliphatic hydrocarbons: Alpha olefins, molecular weight ranges:	
C_6-C_7	GOC, GYR, PLC, SOC.
C_8-C_{10}	ENJ, GOC, SOC.
C_{11}-C_{15}	ENJ, GOC, SOC.
C_{16}-C_{20}	GOC.
All other	EKX, SOC.

Cyclic Intermediates

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Cyclic intermediates for which separate statistics are given in table 7A are marked below with an asterisk (*); cyclic intermediates not so marked do not appear in table 7A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Chemical	Manufacturers' identification codes (according to list in table 22)
Aceanthryleno[2,1-a]aceanthrylene-5,13-dione	ICI.
8-Acetamido-1-(4-acetamido-2-hydroxy-5-nitrophenylazo)-2-naphthol.	TRC.
4-Acetamido-2-aminobenzenesulfonic acid	G.
p-Acetamidobenzoic acid	DUP.
2-Acetamido-3-chloroanthraquinone	G.
*Acetanilide, tech	CTN, EKT, MRK, SAL, SW.
Acetic acid, phenyl ester	UCC.
Acetoacetanilide	FMP, UCC.
o-Acetoacetanisidide	FMP, UCC.
o-Acetoacetotoluidide	FMP, UCC.
2',4'-Acetoacetoxylidide	FMP, UCC.
p-Acetoanisidide	AAP.
1'-Acetonaphthone	GIV.
Acetone phenylhydrazone	DUP.
p-Acetophenetidide	AAP.
Acetophenone, tech	ACP, UCC.
p-Acetotoluidide	ACY.
N-Acetylanthranilic acid	DUP.
p-Acetylbenzenesulfonamide	LIL.
p-Acetylbenzenesulfonic acid, sodium salt	LIL.
p-Acetylbenzenesulfonylurethane	LIL.
1-(N-Acetyl)methylamino-4-bromoanthraquinone	AAP.
N-Acetylsulfanilic acid, sodium salt	ALL.
*N-Acetylsulfanilyl chloride	ACY, CTN, MRK, SAL.
Adenine	ARA.
*Alkylbenzenes:	
Dodecylbenzene (including tridecylbenzene):	
Straight chain	CO, MON, NAC, PLC, SOC, UCC, WCC.
Other	ATR, CO, NAC.
Other alkylbenzenes:	
Straight chain	CO, SOC.
Other	ATR.
Alkylphenols, mixed	G, ORO.
Alkylpiperazines, mixed	HOU.
Alkylpyridine	UCC.
α-dl-5-Allyl-6-imino-1-methyl-5-(1-methyl-2-pentynyl)-barbituric acid.	LIL.
α-dl-5-Allyl-5-(1-methyl-2-pentynyl)-1-methyl barbituric acid.	LIL.
Aminoaceanthryleno[2,1-a]aceanthrylene-5,13-dione	ICI.
*4'-Aminoacetanilide (Acetyl-p-phenylenediamine)	DUP, G, NAC, TRC.
3'-Aminoacetophenone	CTN, SDH, SDW.
*5-Amino-2-(p-aminoanilino)benzenesulfonic acid	AAP, CMG, DUP, G, TRC, YAW.
1-Amino-4-(3-amino-4-sulfoanilino)-9,10-dihydro-9,10-dioxo-2-anthracenesulfonic acid.	TRC.
1-Amino-4-(4-amino-3-sulfoanilino)-9,10-dihydro-9,10-dioxo-2-anthracenesulfonic acid.	TRC.
5-Amino-2-anilinobenzenesulfonic acid	NAC.
*2-(p-Aminoanilino)-5-nitrobenzenesulfonic acid	CMG, DUP, NAC, TRC.
3-Amino-p-anisanilide	PCW.
5-Amino-2-o-anisidinobenzenesulfonic acid	TRC.
*1-Aminoanthraquinone and salt	AAP, ACY, DUP, G, ICI, MAY, NAC, TRC.
*2-Aminoanthraquinone and salt	ACY, DUP, G, NAC, TRC.
N-(4-Amino-1-anthraquinonyl)anthranilic acid	G.
N-(5-Amino-1-anthraquinonyl)anthranilic acid	DUP.
N-(8-Amino-1-anthraquinonyl)anthranilic acid	DUP.
4-Aminoantipyrine	SDW.
*6-Amino-3,4'-azodibenzenesulfonic acid (C.I. Acid Yellow 9).	AAP, CMG, DUP, NAC, TRC.
8-Aminobenz[α]acridan-12-one	NAC.
p-Aminobenzamide	SDH.
*1-Amino-4-benzamidoanthraquinone	ACY, MAY, NAC, TRC.
*1-Amino-5-benzamidoanthraquinone	G, ICI, NAC, TRC.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
7-[p-(p-Aminobenzamido)benzamido]-4-hydroxy-2-naphthalenesulfonic acid.	CMG, DUP.
7-(m-Aminobenzamido)-4-hydroxy-2-naphthalenesulfonic acid---	TRC.
*7-(p-Aminobenzamido)-4-hydroxy-2-naphthalenesulfonic acid---	CMG, DUP, G, NAC.
7-(p-Aminobenzamido)-5-hydroxy-3-naphthalenesulfonic acid---	VPC.
3'-Aminobenzanilide----------	DUP.
4'-Aminobenzanilide----------	G, TRC.
*2-Amino-p-benzenedisulfonic acid [$SO_3H=1$]----------	DUP, G, NAC, TRC.
o-Aminobenzenethiol----------	FMT.
2-Aminobenzimidazole----------	EK.
5-Amino-2-benzimidazolinone----------	DUP.
p-Aminobenzoic acid, tech----------	DUP, G.
p-Aminobenzoic acid, 2-(diethylamino)ethyl ester (Procaine)-	LEM.
p-Aminobenzoic acid, 2-(dimethylamino)ethyl ester----------	SDW.
2-Amino-6-benzothiazolecarboxylic acid----------	DUP.
2-(m-Aminobenzoyl)-o-acetanisidide----------	G.
1-Amino-4-bromo-2-chloroanthraquinone----------	AAP.
2-Amino-1-bromo-3-chloroanthraquinone----------	ICI, MAY.
5(and 8)-Amino-8(and 5)-bromo-9,10-dihydro-9,10-dioxo-1,6(and 1,7)-anthracenedisulfonic acid.	TRC.
*1-Amino-4-bromo-9,10-dihydro-9,10-dioxo-2-anthracenesulfonic acid and sodium salt.	AAP, DUP, G, ICI, NAC, TRC.
*1-Amino-2-bromo-4-hydroxyanthraquinone----------	AAP, DUP, ICC, TRC.
1-Amino-4-bromo-2-methylanthraquinone----------	ICI.
*1-Amino-2-bromo-4-p-toluidinoanthraquinone----------	G, ICI, TRC.
1-Amino-2-chloroanthraquinone----------	AAP.
*1-Amino-5-chloroanthraquinone----------	ACY, DUP, ICI, MAY, NAC, TRC.
1-Amino-8-chloroanthraquinone----------	DUP, NAC.
2-Amino-1-chloroanthraquinone----------	DUP, G.
2-Amino-3-chloroanthraquinone----------	G, ICI.
4-Amino-6-chloro-m-benzenedisulfonamide----------	ABB.
4-Amino-6-chloro-m-benzenedisulfonamide hydrochloride-------	ABB.
5-Amino-2-chlorobenzoic acid----------	TRC.
2-Amino-5-chlorobenzophenone----------	COK, ICI, TBK.
2-Amino-6-chlorobenzothiazole hydrochloride----------	DUP.
*o-(3-Amino-4-chlorobenzoyl)benzoic acid----------	AAP, G, ICI.
2-Amino-5-chloro-p-cumenesulfonic acid----------	SW.
2-Amino-5-chloro-4-ethylbenzenesulfonic acid----------	ACY, SW.
1-Amino-2-chloro-4-hydroxyanthraquinone----------	AAP.
*3-Amino-5-chloro-2-hydroxybenzenesulfonic acid----------	CMG, NAC, TRC.
2-Amino-4-chlorophenol----------	G, MEE.
2-Amino-6-chloropyrazine----------	ACY.
3-Amino-6-chloropyridazine----------	ACY.
*2-Amino-5-chloro-p-toluenesulfonic acid [$SO_3H=1$]----------	ACY, HSC, SW.
*6-Amino-4-chloro-m-toluenesulfonic acid [$SO_3H=1$]----------	ACY, DUP, HSC, NAC, SW.
2-Amino-p-cresol----------	TRC, x.
*1-Amino-2,4-dibromoanthraquinone----------	AAP, DUP, ICC, ICI, NAC, TRC.
5(and 8)-Amino-6,8(and 5,7)-dibromo-9,10-dihydro-9,10-dioxo-1-anthracenesulfonic acid.	ICI.
1-Amino-5,8-dichloroanthraquinone----------	TRC.
4'-Amino-2',5'-diethoxybenzanilide----------	ALL.
3-Amino-7-(diethylamino)-5-phenylphenazinium chloride-------	DUP.
1-Amino-9,10-dihydro-9,10-dioxo-2-anthracenesulfonic acid---	G.
5(and 8)-Amino-9,10-dihydro-9,10-dioxo-1-anthracenesulfonic acid.	ICI, TRC.
*1-Amino-9,10-dihydro-9,10-dioxo-4-p-toluenesulfonamido-2-anthracenesulfonic acid, sodium salt.	AAP, DUP, G.
4-Amino-1,3-dihydroxyanthraquinone----------	G.
5-Amino-4,5'-dihydroxy-3,4'-[(2-methoxy-5-methyl-p-phenylene)bis(azo)]-di-2,7-naphthalenedisulfonic acid, 5'-benzenesulfonate.	TRC.
2-Amino-4-(α,α-dimethylbenzyl)phenol----------	TRC.
2-Amino-N,N-dimethyl-p-toluenesulfonamide----------	G.
2-Amino-4,6-dinitrophenol and salt----------	DUP, G.
3-Amino-4-ethoxyacetanilide----------	AAP.
3-Amino-9-ethylcarbazole----------	AAP.
p-Amino-N-ethyl-N-1-naphthylbenzamide----------	G.
Aminoethylpiperazine----------	UCC.
1-Amino-4-hydroxyanthraquinone----------	G.
2-Amino-3-hydroxyanthraquinone----------	G, NAC.
5-Amino-4-hydroxy-m-benzenedisulfonic acid----------	TRC.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
1-Amino-4-[(m-2-hydroxyethylsulfonyl)anilino]-9,10-dihydro-9,10-dioxo-2-anthracenesulfonic acid.	DUP.
1-Amino-4-hydroxy-2-methoxyanthraquinone	TRC.
4-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid, benzenesulfonate.	TRC.
3-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid (2R acid), monosodium salt.	DUP, NAC.
4-Amino-5-hydroxy-1,3-naphthalenedisulfonic acid (Chicago acid), monosodium salt.	DUP, NAC.
*4-Amino-5-hydroxy-2,7-naphthalenedisulfonic acid (H acid), monosodium salt.	DUP, MON, NAC.
*4-Amino-3-hydroxy-1-naphthalenesulfonic acid (1,2,4 acid)	ACY, G, NAC, TRC, VPC.
4-Amino-5-hydroxy-1-naphthalenesulfonic acid (S acid), sodium salt.	NAC.
*6-Amino-4-hydroxy-2-naphthalenesulfonic acid (Gamma acid), sodium salt.	DUP, G, NAC, TRC.
*7-Amino-4-hydroxy-2-naphthalenesulfonic acid (J acid), sodium salt.	BKS, CMG, DUP, G, NAC, TRC.
3-Amino-1-hydroxy-2-naphthanilide	G.
3'-Amino-2'-hydroxy-5'-nitroacetanilide	TRC.
6-Amino-5-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenesulfonic acid.	TRC.
2-(2-Amino-5-hydroxy-7-sulfo-1-naphthylazo)-5-nitrobenzoic acid.	TRC.
1-(6-Amino-1-hydroxy-3-sulfo-2-naphthylazo)-6-nitro-2-naphthol-4-sulfonic acid.	TRC.
5-Aminoisophthalic acid	G.
4-Amino-3-(β-methanesulfanamidoethyl)-N,N-diethylaniline hydrochloride.	EKT.
3-Amino-4-methoxyacetanilide	AAP.
*N-(4-Amino-3-methoxy-1-anthraquinonyl)-p-toluenesulfonamide.	AAP, DUP, G.
5-Amino-6-methoxy-2-naphthalenesulfonic acid	NAC, TRC.
m-[(4-Amino-3-methoxyphenyl)azo]benzenesulfonic acid	DUP, TRC.
8-Amino-6-methoxyquinoline	SDW.
4-[(4-Amino-5-methoxy-o-tolyl)azo]-4-hydroxy-2,7-naphthalenedisulfonic acid, benzenesulfonate.	TRC.
3-[(4-Amino-5-methoxy-o-tolyl)azo]-1,5-naphthalenedisulfonic acid.	TRC.
7-[(4-Amino-5-methoxy-o-tolyl)azo]-1,3-naphthalenedisulfonic acid.	TRC.
*4'-Amino-N-methylacetanilide	CMG, G, NAC.
1-Amino-2-methylanthraquinone	DUP, ICI.
2-Amino-5-(6-methyl-2-benzothiazolyl)benzenesulfonic acid	G.
4-Amino-4'-(3-methyl-5-oxo-2-pyrazolin-1-yl)-2,2'-stilbenedisulfonic acid.	TRC.
8-Amino-7-methyl-1-phenazinol (Tolazine base)	NAC.
8-Amino-7-methyl-2-phenazinol	DUP.
2-Amino-3-methylpyridine	RIL.
2-Amino-5-methylpyridine	RIL.
2-Amino-6-methylpyridine	NEP, RIL.
2-Amino-4-methylpyrimidine (2-Amino-4-methyl-1,3-diazine)	ACY.
2-Amino-4-(methylsulfonyl)phenol	NAC, TRC.
2-Amino-5-methyl-1,3,4-thiadiazole	ACY.
1-Amino-2-methyl-4-p-toluidinoanthraquinone	ICI.
1-Aminonaphth[2,3-c]acridan-5,8,14-trione	DUP.
1(and 4)-Aminonaphth[2,3-c]acridan-5,8,14-trione	NAC.
4-Aminonaphth[2,3-c]acridan-5,8,14-trione	DUP.
6-Aminonaphth[2,3-c]acridan-5,8,14-trione	G.
*2-Amino-1,5-naphthalenedisulfonic acid	ACY, SDH, SW.
*3-Amino-1,5-naphthalenedisulfonic acid (C acid)	G, NAC, TRC.
3-Amino-2,7-naphthalenedisulfonic acid	TRC.
4-Amino-1,5-naphthalenedisulfonic acid	NAC.
4-Amino-1,6-naphthalenedisulfonic acid	DUP.
*6-Amino-1,3-naphthalenedisulfonic acid (Amino I acid)	ACY, DUP, G, NAC, TRC.
*7-Amino-1,3-naphthalenedisulfonic acid (Amino G acid)	ACY, DUP, G, NAC, TRC.
6-Amino-1-naphthalenesulfonamide	VPC.
1-Amino-2-naphthalenesulfonic acid (o-Naphthionic acid)	DUP.
2-Amino-1-naphthalenesulfonic acid (Tobias acid)	ACY, HSC, IMP, SW.
*4-Amino-1-naphthalenesulfonic acid (Naphthionic acid)	ACY, DUP, NAC.
4-Amino-1-naphthalenesulfonic acid, sodium salt	DUP, NAC.

TABLE 7B. --*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
4(and 5)-Amino-1-naphthalenesulfonic acid	ACY, TRC.
5-Amino-1-naphthalenesulfonic acid (Laurent's acid)	DUP, NAC.
*5-Amino-2-naphthalenesulfonic acid (1,6-Cleve's acid)	DUP, G, NAC, TRC.
*5(and 8)-Amino-2-naphthalenesulfonic acid (Cleve's acid, mixed).	ALL, DUP, G, NAC.
*6-Amino-2-naphthalenesulfonic acid (Broenner's acid)	ALL, KLS, NAC, SNA, TRC.
6(and 7)-Amino-1-naphthalenesulfonic acid	VPC.
*8-Amino-1-naphthalenesulfonic acid (Peri acid)	DUP, NAC, SDC, TRC.
*8-Amino-2-naphthalenesulfonic acid (1,7-Cleve's acid)	DUP, G, NAC, TRC.
7-Amino-1,3,6-naphthalenetrisulfonic acid	DUP.
8-Amino-1,3,6-naphthalenetrisulfonic acid (Koch's acid)	DUP, NAC.
5(and 8)-Amino-2-naphthol	G.
*8-Amino-2-naphthol	CMG, G, TRC, VPC.
3-Amino-5-(m-nitrobenzamido)-p-toluenesulfonic acid	G.
*2-Amino-5-nitrobenzenesulfonic acid [SO_3H=1]	ACY, DUP, G, NAC, TRC.
4-Amino-3-nitrobenzoic acid	DUP.
*2-Amino-4-nitrophenol	DUP, G, NAC, TRC.
2-Amino-5-nitrophenol	NAC.
4-Amino-2-nitrophenol	ACY, VPC.
2-Amino-1-(p-nitrophenyl)-1,3-propanediol	PD.
4-Amino-4'-nitro-2,2'-stilbenedisulfonic acid	G, NAC, TRC.
2-Amino-5-nitrothiazole	ACY.
*3'-Aminooxanilic acid	CMG, DUP, TRC, VPC.
4'-Aminooxanilic acid	DUP.
3-Amino-2-oxazolidinone	NOR.
5-Amino-2-[(2-oxo-5-benzimidazolinyl)amino]benzenesulfonic acid.	DUP.
p-Aminophenethyl alcohol	EKT.
5-Amino-2-o-phenetidinobenzenesulfonic acid	NAC.
o-Aminophenol	FMT.
p-Aminophenol	ABB, DUP, SDC.
m-[(p-Aminophenyl)azo]benzenesulfonic acid	AAP, DUP, TRC.
*p-[(p-Aminophenyl)azo]benzenesulfonic acid	ACY, CMG, DUP, G, NAC, TRC.
7-[(4-Aminophenyl)azo]-1,3-naphthalenedisulfonic acid	TRC.
5-Amino-8-(phenylazo)-2-naphthol	ALL.
8-Amino-5-(phenylazo)-2-naphthol	ALL.
5-[(p-Aminophenyl)azo]salicylic acid	TRC, VPC.
2-(p-Aminophenyl)-6-methylbenzothiazole	DUP, NAC.
2-(p-Aminophenyl)-6-methyl-7-benzothiazolesulfonic acid and salt.	DUP, TRC.
1-(m-Aminophenyl)-5-oxo-2-pyrazoline-3-carboxylic acid	TRC, VPC.
2-Aminopyridine	NEP, RIL.
4-Aminopyridine	RIL.
2-Aminopyrimidine	ACY.
5-Aminosalicylic acid	AAP, TRC.
N-(4-Amino-3-sulfo-1-anthraquinonyl)anthranilic acid	G.
3'-(3-Amino-4-sulfophenylsulfamoyl)-3''-sulfamoyl-3-phthalocyaninesulfonic acid, copper derivative.	DUP.
1-Amino-2,3,6,7-tetrahydro-4,5,8-trihydroxyanthraquinone	DUP.
2-Aminothiazole	ACY, MRK.
3-Amino-p-toluamide	SDH.
5-Amino-o-toluenesulfonanilide	G.
*4-Amino-m-toluenesulfonic acid [SO_3H=1]	ACY, DUP, G, SNA.
*6-Amino-m-toluenesulfonic acid [SO_3H=1]	DUP, HSC, NAC, SW.
*5-Amino-2-p-toluidinobenzenesulfonic acid	DUP, NAC, TRC.
3-[(4-Amino-o-tolyl)azo]-1,5-naphthalenedisulfonic acid	TRC.
7-[(4-Amino-o-tolyl)azo]-1,3-naphthalenedisulfonic acid	TRC.
16-Aminoviolanthrone	ACY, G.
2-Amino-3,5-xylenesulfonic acid [SO_3H=1]	DUP.
5-Amino-2,4-xylenesulfonic acid	DUP.
*Aniline (Aniline oil)	ACY, DOW, DUP, NAC.
Aniline hydrochloride	ACY.
1-Anilino-9,10-dihydro-9,10-dioxo-2-anthroic acid	NAC.
1-Anilino-4-hydroxyanthraquinone	AAP.
6-Anilino-4-hydroxy-2-naphthalenesulfonic acid (Phenyl gamma acid).	DUP, NAC.
*7-Anilino-4-hydroxy-2-naphthalenesulfonic acid (Phenyl J acid).	ALT, CMG, DUP, NAC, TRC.
*Anilinomethanesulfonic acid and salt	AAP, ACY, DUP, NAC, TRC, VPC.
*8-Anilino-1-naphthalenesulfonic acid (Phenyl peri acid)	CMG, DUP, NAC, SDC.
m-Anilinophenol	G.
p-Anisic acid	HN, ICO.

TABLE 7B. --*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
m-Anisidine	EK.
*o-Anisidine	AAP, ALL, DUP, KLS, MON.
p-Anisidine	DUP, MON.
1-p-Anisidino-4-hydroxyanthraquinone	AAP.
*o-Anisidinomethanesulfonic acid	AAP, DUP, G, NAC, TRC, VPC.
2-o-Anisidino-5-nitrobenzenesulfonic acid	TRC.
p-Anisoin	CTN.
Anisole, tech	DUP, GIV, LIL.
4-(o-Anisylazo)-o-anisidine	AAP.
Anthracene, refined	ACP.
*Anthranilic acid (o-Aminobenzoic acid)	DUP, LEM, MEE, NAC.
*Anthra[1,9-cd]pyrazol-6(2H)-one (Pyrazoleanthrone)	DUP, G, TRC.
Anthraquinone, 100%	ACY, DUP, G, TRC.
1,1'-[1,5(and 1,8)-Anthraquinonylenediamino]bisnaphth-[2,3-c]acridan-5,8,14-trione.	DUP.
*N,N'-(1,5-Anthraquinonylene)dianthranilic acid	DUP, ICI, TRC.
N,N'-(1,5-Anthraquinonylene)dioxamic acid	G, MEE.
N,N'-1,5(and 1,8)-Anthraquinonylene dioxamic acid	G.
(1-Anthraquinonyl)-1,2-hydrazinedisulfonic acid, disodium salt.	DUP, G.
Anthrone	ICI.
Arsanilic acid and salt, tech	ABB, FLM.
Aryldiamines, mixed	DA.
*4',4'''-Azobis[4-biphenylcarboxylic acid]	DUP, G, TRC.
4',4'''-Azobis[N-(1-chloro-2-anthraquinonyl)-4-biphenyl-carboxamide].	G.
Barbituric acid	KF, LIL.
Barbituric acid, sodium derivative	ABB, KF.
*Benzaldehyde, tech	BPC, HN, VEL.
4-[(4-Benzamido-1-anthraquinonyl)amino]naphth[2,3-c]-acridan-5,8,14-trione.	DUP.
N-(5-Benzamido-1-anthraquinonyl)-p-toluenesulfonamide	ICI, NAC.
1-Benzamido-4-bromoanthraquinone	AAP.
1-Benzamido-4-chloroanthraquinone	DUP, G.
*1-Benzamido-5-chloroanthraquinone	ACY, DUP, G, ICI, MAY, NAC, TRC.
1-Benzamido-5,8-dichloroanthraquinone	TRC.
4-Benzamido-5-hydroxy-2,7-naphthalenedisulfonic acid	TRC.
7-Benzamido-4-hydroxy-2-naphthalenesulfonic acid	AAP, TRC.
N-(4-Benzamido-6-methoxy-m-tolyl)-N-(methylazo)glycine	G.
Benzanilide	DUP, PCW.
*7H-Benz[de]anthracen-7-one (Benzanthrone)	AAP, ACY, ATL, CMG, DUP, G, ICI, MAY, NAC, SDC, TRC.
Benzeneboronic acid	EDC.
m-Benzenedisulfonic acid	KPT.
Benzenesulfonamide	NES.
Benzenesulfonic acid	NES, UPF.
Benzenesulfonyl chloride	NES.
1,2,4,5-Benzenetetracarboxylic acid	DUP.
1,2,4,5-Benzenetetracarboxylic-1,2:4,5-dianhydride	DUP, HEX.
1,3,5-Benzenetricarboxylic acid	ACC.
1,2,4-Benzenetricarboxylic acid, 1,2-anhydride	ACC.
Benzhydrol (Diphenylmethanol)	TBK.
*Benzidine hydrochloride and sulfate	CWN, FIN, LAK, NAC, x.
Benzil (Bibenzoyl)	LEM.
Benzilic acid	BPC, LEM.
2-Benzofuranacetonitrile	EK.
*Benzoic acid, tech	FRO, HK, HN, MON, VEL.
Benzoic anhydride	EK.
Benzoin	BPC, LEM.
Benzonitrile	VEL.
Benzophenonetetracarboxylic dianhydride	GOC.
2-Benzothiazolethiol (2-Mercaptobenzothiazole), sodium salt.	ACY, GYR, MON.
Benzo[b]thiophen-3(2H)-one	G.
1H-Benzotriazole	MEE.
2H-3,1-Benzoxazine-2,4(1H)-dione	MEE.
2-Benzoxazolinone	G.
Benzoylacetic acid, ethyl ester	FMP.
*o-Benzoylbenzoic acid	ACY, DUP, G, NAC.
Benzoyl chloride	HK, HN, VEL.
4-Benzoyl-3-hydroxyphenyl methacrylate	x.
2-Benzoyl-4-sulfobenzoic acid	DUP.

TABLE 7B. --*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
2-Benzoyl-4′-(p-toluenesulfonamido)acetanilide	EK.
Benzylamine	ICO, MLS.
4-(Benzylamino)-6-chloro-m-benzenedisulfonic acid	ABB.
2-(Benzylamino)ethanol	MLS.
4-Benzyl-6-chloro-3-keto-2-methyl-7-sulfamyl-1,2,4-benzothiadiazine-1,1-dioxide.	ABB.
4-Benzyl-6-chloro-3-keto-7-sulfamyl-1,2,4-benzylthiadiazine-1,1-dioxide.	ABB.
Benzyl disulfide	CCW.
Benzyl ether (Dibenzyl ether)	BPC, TBK.
5-(Benzylethylamino)-o-toluenesulfonic acid	NAC.
N-Benzyl-N-ethyl-m-toluidine	DUP, NAC.
4-(Benzylideneamino)antipyrine	SDW.
4,4′-Benzylidenedi-o-toluidine	ACY.
Benzylidene phthalide	LIL.
p-(Benzyloxy)phenol	EK, ICO.
4-Benzylpiperidine	RIL.
Benzyl polysulfide	HK.
4-Benzylpyridine	RIL.
Benzyl sulfide	BPC.
Benzyltrimethylammonium chloride	MLS.
Benzyltrimethylammonium hydroxide	MLS.
Benzyltrimethylammonium methoxide	MLS.
4′,4′′′-Biacetophenone	DUP.
*[3,3′-Bianthra[1,9-cd]pyrazole]-6,6′-(2H,2′H)dione (Pyrazoleanthrone yellow).	DUP, G, TRC.
[3,3′-Bi-7H-benz[de]anthracene]-7,7′-dione	DUP, NAC.
*[4,4′-Bi-7H-benz[de]anthracene]-7,7′-dione	ACY, DUP, ICI, MAY, NAC.
[1,1′-Binaphthalene]-8,8′-dicarboxylic acid	DUP, NAC.
Biphenyl	DOW, MON.
3,3′,4,4′-Biphenyltetramine	AAP.
2,2′,4,4′-Biphenyltetrol	FMT, IDC.
2,2′-Biquinoline	EK.
*1,4-Bis[1-anthraquinonylamino]anthraquinone	ACY, DUP, G, ICI, MAY, NAC.
1,4-Bis[1-anthraquinonylamino]anthraquinone and 1,4-Bis-[5-chloro-1-anthraquinonylamino]anthraquinone (mixed).	TRC.
1,5-Bis[1-anthraquinonylamino]anthraquinone	DUP, NAC.
1,4-Bis(anthraquinonylamino)anthraquinone carbazole	ICI.
Bis[1-anthraquinonylamino]violanthrene	G.
1,4-Bis[(5-benzamido-1-anthraquinonyl)amino]anthraquinone	ICI.
α^2,α^6-Bis[5-tert-butyl-6-hydroxy-m-tolyl]mesitol	ACY.
Bis(chlorosulfonyl)phthalocyaninedisulfonic acid, copper derivative.	TRC.
4,4′-Bis[diethylamino]benzhydrol	G.
4,4′-Bis[diethylamino]benzhydrol, 2,6-naphthalenedisulfonate.	G.
4,4′-Bis[diethylamino]benzhydrol salt, 2,7-naphthalenedisulfonic acid mixture.	TRC.
4,4′-Bis[diethylamino]benzophenone (Ethyl ketone base)	DSC, SDH.
4-Bis[(p-diethylaminophenyl)methyl]-2,7-naphthalenedisulfonic acid, leuco form.	TRC.
4,4′-Bis[dimethylamino]benzhydrol (Michler's hydrol)	SDH.
*4,4′-Bis[dimethylamino]benzophenone (Michler's ketone)	DSC, DUP, G, NAC, SDH.
Bis[p-(dimethylamino)phenyl]methanesulfonic acid and salt	NAC.
1,5-Bis[2,4-dinitrophenoxy]-4,8-dinitroanthraquinone	DUP.
1,5(and 1,8)-Bis[2,4-dinitrophenoxy]-4,8(end 4,5)-dinitroanthraquinone.	DUP.
Bis(2,3-epoxycyclopentyl)ether (Epoxide 205)	UCC.
4,4′-Bis[(p-hydroxyphenyl)azo]-2,2′-stilbenedisulfonic acid (C.I. Direct Yellow 4).	TRC.
4,4-Bis[p-hydroxyphenyl]valeric acid	JNS.
4,4-Bis(p-methoxyphenyl)-3-hexanone	LIL.
Bis(2-methyl-1-aziridinyl)phenylphosphine oxide	ICO.
2,4-Bis(1-methylbutyl)phenol	PAS.
1,4-Bis[2-(4-methyl-5-phenyloxazolyl)]benzene (Dimethyl-POPOP).	ARA.
Bis(o-nitrophenyl)sulfide	x.
m-Bis(m-phenoxyphenoxy)benzene	EK.
1,4-Bis[2-(5-phenyloxazolyl)]benzene (POPOP)	ARA.
2-Bromoacetophenone	EK.
p-Bromoaniline	EK.
p-Bromoanisole	EK, ICO.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*3-Bromo-7H-benz[de]anthracen-7-one (3-Bromobenzanthrone)	ACY, DUP, G, ICI, MAY, NAC.
Bromobenzene, mono-	DOW.
p-Bromobenzenesulfonyl chloride	EK.
4-Bromobenzophenone	ICO.
Bromochlorobenzene	DOW.
o-Bromochlorobenzene	PIC.
6-Bromo-5-chlorobenzoxazolone	MEE.
2-Bromo-6-chloro-4-nitroaniline	AAP.
2-Bromodibenzofuran	G.
2-Bromo-4,6-dinitroaniline	AAP, TRC.
Bromoethylbenzene	DOW.
2-Bromo-3'-hydroxyacetophenone benzoate	SDH.
*1-Bromo-4-(methylamino)anthraquinone	AAP, DUP, G, ICI.
6-Bromo-3-methyl-7H-dibenz[f,ij]isoquinoline-2,7(3H)dione	AAP.
1-Bromonaphthalene	EK.
2-Bromo-4'-nitroacetophenone	G.
1-[(9-Bromo-7-oxo-7H-benz[de]anthracen-3-yl)amino]anthraquinone.	NAC.
m-Bromophenol	EK.
o-Bromophenol	EK.
(p-Bromophenyl)acetonitrile	BPC.
p-Bromophenylhydrazine hydrochloride	EK.
2-Bromopyridine	FMT, NEP, RIL.
o-Bromotoluene	EK, RSA.
p-Bromotoluene	BPC, PIC.
α-Bromotoluene	BPC, EK.
2-Bromo-1,3,5-triethylbenzene	DUP.
p-Butoxyphenol	ABB.
4-[3-(p-Butoxyphenoxy)propyl] morpholine	ABB.
4'-Butoxy-2-piperidinopropiophenone hydrochloride	ICO.
N-Butylacetanilide	UCC.
1-(Butylamino)anthraquinone	AAP.
p-(Butylamino)benzoic acid, ethyl ester	ICO.
p-Butylaniline	DUP, UCC.
2-tert-Butylanthraquinone	DUP.
p-tert-Butylbenzaldehyde	GIV.
n-Butylbenzene	PLC.
sec-Butylbenzene	PLC.
tert-Butylbenzene	PLC.
p-tert-Butylbenzoic acid	SHC.
o-(p-tert-Butylbenzoyl)benzoic acid	DUP.
6-tert-Butyl-m-cresol	KPT, PRD.
2-tert-Butyl-p-cresol	ACY.
2'-tert-Butyl-4',6'-dimethylacetophenone	GIV.
4-Butyl-α-(dimethylamino)-o-cresol	RH.
2-tert-Butyl-4-ethylphenol	ACY.
N^1-Butyl-4-methoxymetanilamide	ALL, KLS, PCW.
2-tert-Butyl-5-methylanisole	GIV.
o-sec-Butylphenol	DOW, TNA, UCC.
p-sec-Butylphenol	DOW.
o-tert-Butylphenol	TNA.
*p-tert-Butylphenol	DOW, PRD, UCP.
Butylphenols, mixed	DOW.
p-tert-Butyltoluene	GIV, SHC.
5-tert-Butyl-1,2,3-trimethylbenzene	GIV.
5-tert-Butyl-m-xylene	GIV.
6-tert-Butyl-2,4-xylenol	KPT.
Camphoric acid	FIN, OTC.
Camphoric anhydride	FIN.
Camphosulfonic acid	OTC, PYL.
Carbamic acid, 2-hydroxy-2-phenylbutyl ester (Hydroxyphenamate).	ARA.
Carbazole, refined	SDC.
N,N'-Carbonylbis[4-methoxymetanilic acid]	G.
N,N'-Carbonylbis[4-methoxy-6-nitrometanilic acid]	G.
2,4'-Carbonyldibenzoic acid	ACY.
5'-(o-Carboxybenzoyl)-2'-chlorooxanilic acid	G.
N-[(3-Carboxy-4-chlorophenyl)-sulfonyl]anthranilic acid	TRC.
3-Carboxy-2(and 4)-hydroxybenzenediazonium sulfate	NAC.
o-[(Carboxymethyl)thio]benzoic acid	G.
[(o-Carboxyphenyl)thio]ethylmercury	LIL.
Cedrene	GIV.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
2'-Chloroacetoacetanilide	FMP, UCC.
2'-Chloroacetophenone	EK.
4'-Chloroacetophenone	LIL, NES.
4'-(Chloroacetyl)acetanilide	DUP.
m-Chloroaniline	DUP, G.
o-Chloroaniline	DUP, MON, NAC.
p-Chloroaniline	DUP, MON.
2-(o-Chloroanilino)ethanol	EKT.
3-(o-Chloroanilino)propionitrile	DUP.
5-Chloro-o-anisidine [NH_2 = 1] (4-Chloro-o-anisidine [OCH_3 = 1]).	ALL, BUC, KLS.
5-Chloro-o-anisidine hydrochloride	BUC, G.
4-Chloroanthranilic acid	DUP.
*1-Chloroanthraquinone	ACY, DUP, G, ICI, MAY, NAC.
*2-Chloroanthraquinone	ACY, G, NAC, TRC.
N-(5-Chloro-1-anthraquinonyl)-p-toluenesulfonamide	ICI.
o-Chlorobenzaldehyde	HN.
p-Chlorobenzaldehyde	HN.
4-(p-Chlorobenzamido)anthraquinone-1,2-acridone	G.
Chloro-7H-benz[de]anthracen-7-one (Chlorobenzanthrone)	ACY, TRC.
*Chlorobenzene, mono-	ACS, DOW, DUP, DVC, GGY, HK, HKD, MON, MTO, OMC, PPG, WOI.
p-Chlorobenzenesulfinic acid	TRC.
p-Chlorobenzenesulfonamide	ACY, NES.
p-Chlorobenzenesulfonic acid	G.
o-Chlorobenzoic acid	HN.
p-Chlorobenzoic acid	HN.
p-Chlorobenzonitrile	EK.
*o-(p-Chlorobenzoyl)benzoic acid	ACY, DUP, G, ICI, NAC.
o(and p)-Chlorobenzoyl chloride	HN.
p-Chlorobenzoyl chloride	HN.
4,4'-(o-Chlorobenzylidene)di-2,5-xylidine	G.
α-(p-Chlorobenzyl)-α-phenyl-1-pyrrolidine propanol	LIL.
Chloro(p-chlorophenyl)phenylmethane	OPC, TBK.
Chlorocyclohexane	ACY.
1-Chloro-2,5-diethoxy-4-nitrobenzene	ALL, FMT, G.
2-Chloro-N,N-diethyl-4-nitroaniline	DUP.
2-Chloro-3',4'-dihydroxyacetophenone	AAP, SDW.
2-Chloro-1,4-dihydroxyanthraquinone	NAC.
N-(3-Chloro-9,10-dihydroxy-2-anthryl)acetamidebis[hydrogen sulfate].	G.
4'-Chloro-2',5'-dimethoxyacetoacetanilide	PCW.
4-Chloro-2,5-dimethoxyaniline	PCW.
5-Chloro-2,4-dimethoxyaniline	G, PCW.
5-Chloro-4,7-dimethylbenzo[b]thiophen-3(2H)-one	NAC.
4-Chloro-N,N-dimethyl-3-nitrobenzenesulfonamide	EKT, G.
*1-Chloro-2,4-dinitrobenzene (Dinitrochlorobenzene)	AAP, DUP, NAC, SDC.
1-Chloro-2,4-dinitrobenzene and 2-chloro-1,3-dinitrobenzene mixture.	DUP.
3-Chloro-4,6-dinitrobenzenesulfonic acid	TRC.
4-Chloro-3,5-dinitrobenzoic acid	G.
3-Chlorodiphenylamine	SK.
Chlorodiphenylmethane	TBK.
α-Chloro-o(and/or p)-dodecyltoluene [CH_3 = 1]	ORO.
p-[(2-Chloroethyl)methylamino]benzaldehyde	G, NAC.
Chloroformic acid, benzyl ester	RSA.
Chloroformic acid, phenyl ester	EK.
1-Chloro-4-hydroxyanthraquinone	ICI.
4-Chloro-5-hydroxy-1,7-naphthalenedisulfonic acid	G.
5'-Chloro-3-hydroxy-2-naphth-o-anisidide	PCW.
3-Chloro-4-hydroxyquinoline-3,4-carbonic acid	SDH.
6-Chloroisatoic anhydride	MEE.
4-Chloro-N-isopropyl-3-nitrobenzenesulfonamide	TRC.
4-Chlorometanilic acid	DUP.
5-Chlorometanilic acid	NAC.
*6-Chlorometanilic acid	AAP, DUP, G, SW.
5-Chloro-2-methoxybenzenediazonium chloride	G.
N-[(5-Chloro-2-methoxyphenyl)azo]sarcosine	ATL.
*1-Chloro-2-methylanthraquinone	AAP, ACY, CMG, G, ICI, NAC, TRC.
4-(Chloromethyl)-1,2-dimethylbenzene	BPC.
4-(Chloromethyl)-1,3-dimethylbenzene	BPC.
1-(Chloromethyl)naphthalene	BPC.
4-Chloro-N-methyl-3-nitrobenzenesulfonamide	TRC.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
2-Chloro-5-(N-methylsulfamoyl)sulfanilamide	ABB.
5-Chloro-2-(N-methylsulfamyl)-4-sulfamyl-N-benzylaniline	ABB.
Chloronaphthalenes	G, KPS, KPT.
*2-Chloro-4-nitroaniline (o-Chloro-p-nitroaniline)	ACY, DOW, DUP, HSC.
*4-Chloro-2-nitroaniline (p-Chloro-o-nitroaniline)	AAP, DOW, DUP, VPC.
4-Chloro-2-nitroanisole	ALL.
*1-Chloro-5-nitroanthraquinone	ACY, DUP, MAY, NAC, TRC.
*1-Chloro-8-nitroanthraquinone	DUP, MAY, NAC.
*1-Chloro-2-nitrobenzene (Chloro-o-nitrobenzene)	AAP, DUP, MON, UPM.
1-Chloro-2(and 4)-nitrobenzene (Chloronitrobenzenes, o- and p-).	SDC.
1-Chloro-3-nitrobenzene (Chloro-m-nitrobenzene)	DUP, G, UPM.
*1-Chloro-4-nitrobenzene (Chloro-p-nitrobenzene)	AAP, DUP, MON, UPM.
*4-Chloro-3-nitrobenzenesulfonamide	AAP, CMG, DUP, EKT, ICC, TRC.
4-Chloro-3-nitrobenzenesulfonanilide	TRC.
*2-Chloro-5-nitrobenzenesulfonic acid	AAP, CMG, NAC, TRC.
2-Chloro-5-nitrobenzenesulfonic acid, sodium salt	DUP.
4-Chloro-3-nitrobenzenesulfonic acid	G, NAC, TRC.
*4-Chloro-3-nitrobenzenesulfonyl chloride	AAP, DUP, EKT.
2-Chloro-4-nitrobenzoic acid	SAL.
2-Chloro-5-nitrobenzoic acid	TRC.
*o-(4-Chloro-3-nitrobenzoyl)benzoic acid	AAP, G, ICI, NAC.
4-Chloro-2-nitrophenol	DUP.
4-Chloro-3-nitrophenyl methyl sulfone	TRC.
2-Chloro-4-nitrotoluene	DUP.
2-Chloro-6-nitrotoluene	DUP.
4-Chloro-2-nitrotoluene	BUC, DUP.
4-Chloro-3-nitrotoluene	AAP, BUC.
m-Chlorophenol	EK.
o-Chlorophenol	DOW, MON.
p-Chlorophenol	DOW, MON.
2-Chlorophenothiazine	SK.
(m-Chlorophenyl)acetonitrile	BPC.
*(p-Chlorophenyl)acetonitrile	ICO, OPC, TBK.
1-(p-Chloro-α-phenylbenzyl)-4-methylpiperazine	ABB.
4-Chloro-α-phenyl-o-cresol	MON.
4-Chloro-o-phenylenediamine	FMT.
3-(o-Chlorophenyl)-5-methyl-4-isoxazolecarbonyl chloride	ICO, OTC.
3-(o-Chlorophenyl)-5-methyl-4-isoxazolecarboxylic acid	ICO.
1-(m-Chlorophenyl)-3-methyl-2-pyrazolin-5-one	TRC.
p-Chlorophenyl methyl sulfone	TRC.
2-Chloro-4-phenylphenol	DOW.
1-[4-(p-Chlorophenyl)-3-phenyl-3-butenyl]pyrrolidine hydrobromide.	LIL.
4-Chlorophthalic acid	SW.
Chlorophthalic anhydride	HK.
1-(3-Chloropropyl)-4-methylpiperazine	SK.
N^1-(6-Chloro-3-pyridazinyl)sulfanilamide	ACY.
2-Chloropyridine	FMT.
dl-2-[p-Chloro-d-(2-pyridyl)benzyl]oxy-N,N-dimethylethylamine maleate.	x.
7-Chloro-4-quinolinol	SDW.
2-(6-Chloro-2-quinoyl)-1,3-indandione	DUP.
4-Chlororesorcinol	AAP, G.
8-Chlorotheophylline	MAL.
2-Chlorothiaxanthen-9-one	KF.
2-Chlorothiophene	GAM.
m-Chlorotoluene	HK.
o-Chlorotoluene	HN.
p-Chlorotoluene	HN.
*α-Chlorotoluene (Benzyl chloride)	BPC, GRH, HK, HN, MON, TBK, VEL.
Chlorotoluenes, mixed	BPC.
6-Chloro-m-toluidine	BUC.
6-Chloro-m-toluidine hydrochloride	BUC.
3-Chloro-o-toluidine [$NH_2 = 1$]	DUP.
*4-Chloro-o-toluidine [$NH_2 = 1$] and hydrochloride	AAP, ACY, PCW.
*5-Chloro-o-toluidine [$NH_2 = 1$] (4-Chloro-o-toluidine [$CH_3 = 1$]).	ATL, BUC, DUP.
*5-Chloro-o-toluidine hydrochloride [$NH_2 = 1$]	DUP, SDH.
3-Chloro-p-toluidine [$NH_2 = 1$]	DUP.
*N-[(5-Chloro-o-tolyl)azo]sarcosine	ALL, ATL, BUC, G.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
1-(6-Chloro-o-tolyl)-3-methyl-2-pyrazolin-5-one	TRC.
*[(4-Chloro-o-tolyl)thio]acetic acid	ACY, ALL, NAC, PCW.
4-Chloro-α,α,α-trifluoro-3-nitrotoluene	AAP, G, MEE.
5-Chloro-α,α,α-trifluoro-2-nitrotoluene	MEE.
p-Chloro-α,α,α-trifluorotoluene	HK.
6-Chloro-α,α,α-trifluoro-m-toluidine	AAP.
2-Chloro-1,3,5-trinitrobenzene	EK, PIC.
Chlorotriphenylmethane	ARA, EK.
2-Chloro-p-xylene	DUP.
4-Chloro-2,5-xylenesulfonyl chloride	G, NAC.
4-Chloro-3,5-xylenol	OTA.
[(4-Chloro-2,5-xylyl)thio]acetic acid	G, NAC.
5α-Cholestan-3β-ol	SDW.
Cholic acid	SRL, WIL.
Cinnamoyl chloride	BPC, TBK, x.
*Cresols:[1]	
m-Cresol	KPT, PRD.
o-Cresol:	
From coal tar	KPT, PRD.
From petroleum	MER, NPC, PRD, SW.
p-Cresol	ACY, HPC, SW.
Cresols, mixed:[1]	
*(m,p)-Cresol:	
From coal tar	ACP, KPT, PRD.
From petroleum	MER, NPC, PIT, PRD.
*(o,m,p)-Cresol:	
From coal tar	ACP, KPT.
From petroleum	NPC, PIT, PRD.
2,3-Cresotic acid	DOW.
*Cresylic acid, refined:[1]	
*From coal tar	ACP, KPT.
*From petroleum	MER, NPC, PIT, PRD, SHO.
*Cumene	ACC, CLK, DOW, GOC, HPC, MON, SHC, SKO, SOC, TX.
N-(β-Cyanoethyl)-N-(β-acetoxyethyl)aniline	EKT.
4-[(2-Cyanoethyl)ethylamino]-o-tolualdehyde	DUP, G.
p-[(2-Cyanoethyl)methylamino]benzaldehyde	DUP, G.
8-Cyano-1-naphthalenesulfonic acid	DUP, G.
*Cyclohexane	ASH, CO, CSD, DUP, EK, EKX, ENJ, GOC, GRS, PLC, PRO, RIC, SOG.
1,2-Cyclohexanedicarboxylic acid, diallyl ester	ICO.
1,4-Cyclohexanedicarboxylic acid, dimethyl ester	x.
1,2-Cyclohexanedicarboxylic anhydride	NAC.
*Cyclohexanol	DUP, MON, NAC.
*Cyclohexanone	DBC, DUP, MON, NAC.
Cyclohexanone oxime	NAC, x.
Cyclohexene	KF, PLC.
4-Cyclohexene-1,2-dicarboximide	CHO.
4-Cyclohexene-1,2-dicarboxylic anhydride	NAC, PTT.
*Cyclohexylamine	ABB, JCC, MON, PAS, VGC, x.
Cyclohexyl-2-propanone	GIV.
N-Cyclohexyltaurine, sodium salt	G.
Cyclopentanepropionic acid	ARA.
Cyclopentanol	ARA, LIL.
Cyclopentanone	ARA.
Cyclopentene	PLC.
Cyclopentylphenylglycolic acid, methyl ester	ARA.
Cyclopropylcarboxamide	ABB.
Cyclopropylcarboxylic acid	ABB.
p-Cymene	HNW, HPC, NAC.
Deoxycholic acid	MRK, WIL.
1,5(and 1,8)-Diacetamidoanthraquinone	AAP.
3'-[Di(2-acetoxyethyl)amino]-p-acetophenetidide	TRC.
N,N-Diacetyl-4,4'-diaminobiphenyl	AAP.
3-(Diallylcarbamoyl)-1,2,2-trimethylcyclopentanecarboxylic acid.	WYT.
N^2,N^2-Diallylmelamine	ACY.
*1,4-Diaminoanthraquinone	CMG, DUP, G, NAC, TRC.
*1,5-Diaminoanthraquinone	DUP, MEE, TRC.
1,5(and 1,8)-Diaminoanthraquinone	AAP, G, ICI, TRC.
*2,6-Diaminoanthraquinone	AAP, DUP, G, ICI, NAC, TRC, VPC.
3,4-Diaminobenzanilide	AAP, DUP.
2,4-Diaminobenzenesulfonic acid [SO_3H=1]	DUP, NAC, TRC.

See footnote at end of table.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
2,5-Diaminobenzenesulfonic acid [SO_3H=1]	TRC.
4,4′-Diamino-2,2′-biphenyldisulfonic acid	AAP, ACY, NAC.
3,7-Diamino-4,6-dibenzothiophenedisulfonic acid, 5,5-dioxide, disodium salt.	ACY.
1,5-Diamino-2,6-dibromo-4,8-di-p-toluidinoanthraquinone	ICI.
1,4-Diamino-2,3-dichloroanthraquinone	CMG, DUP.
*1,4-Diamino-2,3-dihydroanthraquinone	ACY, ATL, DUP, G, HSH, ICC, ICI, MAY, TRC.
4,8-Diamino-9,10-dihydro-1,5-dihydroxy-9,10-dioxo-2,6-anthracenedisulfonic acid.	TRC.
1,4-Diamino-9,10-dihydro-9,10-dioxo-2,3-anthracenedicarbonitrile.	DUP.
1,4-Diamino-9,10-dihydro-9,10-dioxo-2,3-anthracenedicarboximide.	DUP.
1,5-Diamino-4,8-dihydroxyanthraquinone	DUP, G, ICC, VPC.
1,5(and 1,8)-Diamino-4,8(and 4,5)-dihydroxyanthraquinone	DUP.
4,5-Diamino-1,8-dihydroxyanthraquinone	ICI.
3,6-Diamino-2,7-dimethylacridine	DUP.
3,6-Diamino-2,7-dimethylacridine sulfate	DUP.
4,4′-Diamino-5,5′-dimethyl-2,2′-biphenyldisulfonic acid	AAP.
1,4-Diamino-5-nitroanthraquinone	G.
4,6-Diamino-5-nitroso-2-phenylpyrimidine	ARA.
2,4-Diamino-6-phenyl-s-triazine	RH, VEL.
2,6-Diaminopyridine	NEP, RIL.
*4,4′-Diamino-2,2′-stilbenedisulfonic acid	ACY, DUP, G, GGY, NAC, SDH, TRC, VPC.
1,5-Diamino-2,4,6,8-tetrabromoanthraquinone	ICI.
2,5-Diaminotoluene sulfate	EK.
4,6-Diamino-m-toluenesulfonic acid [SO_3H=1]	NAC.
N-(4,6-Diamino-m-tolyl)-p-benzoquinoneimine	DUP.
1,5-Dianilino-9,10-dihydro-9,10-dioxo-2,6-anthracenedicarboxylic acid.	G, NAC.
2,4-Dianilino-1-hydroxyanthraquinone	G.
6,8-Dianilino-1-naphthalenesulfonic acid	NAC.
Diarylguanidine	DUP.
p-Diazo-N,N-dimethylaniline-1-amino-8-naphthol-3-sulfonate-6-sulfonic acid, sodium salt.	IDC.
5(and 3)-Diazo-6-oxo-1,3(and 1,4)-cyclohexadiene-1-carboxylic acid.	DUP.
1,5-Dibenzamidoanthraquinone	G, TRC.
6,11-Dibenzamido-16H-dinaphtho[2,3-α,2′,3′-l]-carbazole-5,10,15,17-tetrone.	ICI.
*4,5′-Dibenzamido-1,1′-iminodianthraquinone	ACY, DUP, G, ICI, MAY, NAC, TRC.
Dibenzo[b,def]chrysene-7,14-dione	ATL, ICI.
*1,5-Dibenzoylnaphthalene	ACY, DUP, G, HST, ICI, TRC, VPC.
N,N′-Dibenzylethylenediamine	ICO, WYT.
N,N′-Dibenzylethylenediamine diacetate	WYT.
N,N-Dibenzylsulfanilic acid	ICI.
2,4′-Dibromoacetophenone	EK.
*3,9-Dibromo-7H-benz[de]anthracen-7-one	DUP, G, MAY, NAC, TRC.
m-Dibromobenzene	EK.
p-Dibromobenzene	DOW.
2,2′-Dibromobiphenyl	EDC.
Dibromodibenzo[b,def]chrysene-7,14-dione	ICI.
ar-Dibromoethylbenzene	DOW.
2,6-Dibromo-1,5-naphthalenediol	EK.
2,6-Dibromo-4-nitrophenol	MEE.
5,13-Dibromo-8,16-pyranthrenedione	DUP, ICI.
Dibromoviolanthrone	G.
2,5-Dibutoxyaniline	EKT.
p-Dibutoxybenzene	ALL.
1,4-Dibutoxy-2-chloro-5-nitrobenzene	ALL.
2,5-Dibutoxy-4-morpholinobenzenediazonium sulfate	ALL.
4-(2,5-Dibutoxy-4-nitrophenyl)morpholine	ALL.
2,4-Di-tert-butylphenol	DOW, KPT.
Dibutyltin bis(cyclohexyl maleate)	x.
3,4-Dichloroaniline	DUP, MON.
*2,5-Dichloroaniline and hydrochloride [NH_2=1]	AAP, DUP, KLS, NAC, SDH.
3,4-Dichloroaniline-6-sulfonic acid	SW.
3-(2,4-Dichloroanilino)-1-(2,4,6-trichlorophenyl)-2-pyrazolin-5-one.	EK.
*1,5-Dichloroanthraquinone	DUP, G, ICI, NAC.
1,5(and 1,8)-Dichloroanthraquinone	DUP, NAC.
1,8-Dichloroanthraquinone	ICI, TRC.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
4,5-Dichloro-1,8-anthraquinonedisulfonic acid	G.
2,6-Dichlorobenzaldehyde	DUP.
2,6-Dichlorobenzaldehyde oxime	OTC.
3-(3,4-Dichlorobenzamido)-1-phenyl-2-pyrazolin-5-one	EK.
Dichlorobenzanthrone	ACY.
m-Dichlorobenzene	CPD, EK, G.
*o-Dichlorobenzene	ACS, CPD, DOW, DUP, DVC, MON, QMC, PPG, SCC, SVT, WOI.
o(and p)-Dichlorobenzene	GGY, HKD, MTO.
*p-Dichlorobenzene	ACS, CPD, DOW, DUP, DVC, HK, MON, PPG, SCC, SVT, WOI.
4,6-Dichloro-m-benzenedisulfonamide	ABB.
4,6-Dichloro-m-benzenedisulfonyl chloride	ABB.
*3,3'-Dichlorobenzidine base and salts	ALL, CWN, IMP, LAK, NAC, UPJ.
2,4-Dichlorobenzoic acid	HN.
2,6-Dichlorobenzonitrile	x.
2,4-Dichlorobenzoyl chloride	HN.
2,5-Dichlorobenzoyl chloride	G.
8,18-Dichloro-5,15-diethyl-5,15-dihydrodiindolo-(3,2-b: 3',2'-m)triphenodioxazine.	AAP, TRC.
7,16-Dichloro-6,15-dihydro-5,9,14,18-anthrazinetetrone	ICI.
4,8(and 4,5)-Dichloro-9,10-dihydro-9,10-dioxo-1,5(and 1,8)-anthracenedisulfonic acid.	G.
1,5-Dichloro-4,8-dihydroxyanthraquinone	DUP.
1,5(and 1,8)-Dichloro-4,8(and 4,5)-dihydroxyanthraquinone	DUP.
6,6'-Dichloro-2,2'-dimethoxybenzidine	ALL.
4,5-Dichloro-3,6-dioxo-1,4-cyclohexadiene-1,2-dicarbonitrile.	ARA.
Dichlorodiphenylsilane	DCC, UCS.
2',7'-Dichlorofluorescein	EK.
2,5-Dichloro-4-hydrazinobenzenesulfonic acid	G.
2-(5,8-Dichloro-1-hydroxy-2-naphthylazo)-1-phenol-4-sulfonamide.	TRC.
N-(6,8-Dichloro-5-hydroxy-1-naphthyl)-p-toluenesulfonamide	EK.
5,14-Dichloroisoviolanthrone	ICI.
*2,5-Dichloro-4-(3-methyl-5-oxo-2-pyrazolin-1-yl)benzenesulfonic acid.	ACY, CMG, DUP, G, KLS, PCW, TRC, VPC.
2,3-Dichloro-6-methylquinoxaline	x.
*2,6-Dichloro-4-nitroaniline	AAP, DUP, EKT, G, MEE, TRC.
1,2-Dichloro-4-nitrobenzene	DUP, MON.
*1,4-Dichloro-2-nitrobenzene (Nitro-p-dichlorobenzene)	AAP, DUP, NAC, PCW, VPC.
2,4-Dichlorophenol	DOW, MON.
N-[(2,5-Dichlorophenyl)azo]-N-ethyl-5-sulfoanthranilic acid	G.
3-(2',6'-Dichlorophenyl)-5-methyl-4-isoxazolecarbonyl chloride.	ICO, OTC.
3-(2',6'-Dichlorophenyl)-5-methyl-4-isoxazolecarboxylic acid.	ICO.
1-(2,5-Dichlorophenyl)-3-triazenecarbonitrile	G.
2,6-Dichloropyrazine	ACY.
2,5-Dichloro-3,6-di(1-pyrenamino)-p-benzoquinone	TRC.
3,6-Dichloropyridazine	ACY.
4,7-Dichloroquinoline	SDW.
3,5-Dichlorosalicylic acid	ICO.
*2,5-Dichlorosulfanilic acid [$SO_3H=1$]	CMG, DUP, G, VPC.
2,5-Dichloro-4-sulfobenzenediazonium sulfate	TRC.
p,α-Dichlorotoluene	HN.
2,6-Dichlorotoluene	DUP, G.
α,α'-Dichloroxylene	BPC.
2,4-Dichloro-3,5-xylenol	CTA.
Dicyclodiepoxycarboxylate (Epoxide 221)	UCC.
Dicyclohexylamine	ABB, MON, VGC.
Dicyclohexylcarbodiimide	G.
Dicyclopentadiene (includes cyclopentadiene)	ENJ, GOC, UCC.
Dicyclopentadiene dioxide	UCC.
2,5-Diethoxyaniline	ALL.
2',5'-Diethoxybenzanilide	ALL.
p-Diethoxybenzene	ALL, G.
2,5-Diethoxy-morpholinobenzenediazonium chloride, zinc chloride.	ALL.
2',5'-Diethoxy-4'-nitrobenzanilide	ALL.
1,4-Diethoxy-2-nitrobenzene	ALL, G.
4-(2,5-Diethoxy-4-nitrophenyl)morpholine	ALL.
*p-(Diethylamino)benzaldehyde	DUP, G, NAC.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
α-[(2-Diethylamino)ethyl]-α-phenylcyclohexanemethanol, hydrochloride.	ACY.
m-(Diethylamino)phenol (N,N-Diethyl-3-aminophenol)----------	ACY, DUP, MON.
3-[(p-Diethylamino)phenylazo]-1H-1,2,4-triazole------------	TRC.
3-(Diethylamino)propiophenone------------------------------	ACY.
4-(Diethylamino)-o-tolualdehyde----------------------------	DUP.
*N,N-Diethylaniline--	ACY, DSC, DUP, NAC, SDH.
N,N-Diethyl-m-anisidine------------------------------------	DUP.
Diethylbenzene---	DOW, KPP.
Diethyl-[3,3′-bianthra[1,9-cd]pyrazole]-6,6′-dione----------	G.
1,1′-Diethyl-4,4′-carbocyanine iodide (Cryptocyanine)-------	EK.
N,N-Diethylcyclohexylamine---------------------------------	DUP.
α,α′-Diethyl-4,4′-dimethoxystilbene------------------------	LIL.
N,N-Diethylmetanilic acid----------------------------------	DUP.
N^1,N^1-Diethyl-4-methoxymetanilamide-------------------	PCW.
Diethyl-N-methyl-N-piperazine acetate----------------------	ABB.
N,N-Diethyl-p-nitrosoaniline-------------------------------	G.
N,N-Diethyl-4-nitroso-m-anisidine hydrochloride------------	DUP.
N,N-Diethyl-4-nitroso-m-phenetidine------------------------	G.
N,N-Diethyl-p-phenylenediamine-----------------------------	FMT.
N,N-Diethyl-m-toluidine------------------------------------	DUP.
6,15-Dihydro-5,9,14,18-anthrazinetetrone--------------------	TRC.
10,11-Dihydro-5H-dibenzo[a,d]cyclohepten-5-one-------------	LIL.
2,3-Dihydro-1,8-dihydroxyanthraquinone----------------------	DUP.
9,10-Dihydro-1,5-dihydroxy-4,8-dinitro-9,10-dioxo-2,6-anthracenedisulfonic acid.	VPC.
*9,10-Dihydro-1,4-dihydroxy-9,10-dioxo-2-anthracenesulfonic acid (2-Quinizarinsulfonic acid).	AAP, HSH, PAT.
N-(5,13-Dihydro-5,13-dioxoaceanthryleno[2,1-a]-aceanthrylen-7-yl)-9,10-dihydro-1-nitro-9,10-dioxo-2-anthramide.	ICI, NAC.
*9,10-Dihydro-9,10-dioxo-1,5-anthracenedisulfonic acid-------	ACY, DUP, TRC.
*9,10-Dihydro-9,10-dioxo-1,5-anthracenedisulfonic acid, disodium salt.	DUP, G, ICI, TRC.
9,10-Dihydro-9,10-dioxo-1,5(and 1,8)-anthracenedisulfonic acid and salt.	DUP, TRC.
9,10-Dihydro-9,10-dioxo-1,8-anthracenedisulfonic acid-------	DUP.
*9,10-Dihydro-9,10-dioxo-1,8-anthracenedisulfonic acid, potassium salt.	G, ICI, NAC, TRC.
*9,10-Dihydro-9,10-dioxo-2,6-anthracenedisulfonic acid and salt.	AAP, DUP, G, ICI, NAC, TRC, VPC.
*9,10-Dihydro-9,10-dioxo-1-anthracenesulfonic acid and salt (Gold salt).	AAR, ACY, DUP, G, ICI, MAY, NAC, TRC.
9,10-Dihydro-9,10-dioxo-2-anthracenesulfonic acid and salt (Silver salt).	DUP, NAC.
9,10-Dihydro-9,10-dioxo-2-anthroic acid---------------------	ACY, NAC.
3,4-Dihydro-3,4-dioxo-1-naphthalenesulfonic acid, sodium salt.	EK.
10,11-Dihydro-5-[3-(methylaminopropyl)]-5H-dibenzo[a,d]-cycloheptene-5-ol.	LIL.
*9,10-Dihydro-5-nitro-9,10-dioxo-1-anthracenesulfonic acid---	DUP, MAY, NAC, TRC.
9,10-Dihydro-5(and 8)-nitro-9,10-dioxo-1-anthracenesulfonic acid.	ICI, TRC.
9,10-Dihydro-8-nitro-9,10-dioxo-1-anthracenesulfonic acid---	MAY, NAC.
9,10-Dihydro-8-nitro-9,10-dioxo-1-anthracenesulfonic acid, sodium salt.	DUP.
*9,10-Dihydro-1-nitro-9,10-dioxo-2-anthroic acid------------	DUP, G, NAC, TRC.
1,4-Dihydro-4-oxo-2,6-pyridinecarboxylic acid---------------	SDW.
2,3-Dihydro-4H-pyran---------------------------------------	QKO.
*1,4-Dihydroxyanthraquinone (Quinizarin)--------------------	AAP, ACY, CMG, DUP, EKT, G, HSH, ICC, ICI, JTC, MAY, NAC, TRC.
*1,5-Dihydroxyanthraquinone (Anthrarufin)-------------------	ACY, CMG, DUP, G, NAC, TRC.
1,5(and 1,8)-Dihydroxyanthraquinone------------------------	AAP, DUP, TRC.
*1,8-Dihydroxyanthraquinone (Chrysazin)---------------------	DUP, G, ICI.
*2,6-Dihydroxyanthraquinone (Anthraflavic acid)-------------	DUP, G, NAC, TRC.
2,5-Dihydroxybenzenesulfonic acid (Hydroquinone sulfonic acid).	NES.
2,4-Dihydroxybenzophenone----------------------------------	DUP, G.
1,5-Dihydroxy-4,8-dinitroanthraquinone----------------------	AAP, ICC, ICI, VPC.
1,5(and 1,8)-Dihydroxy-4,8(and 4,5)-dinitroanthraquinone----	TRC.
*1,8-Dihydroxy-4,5-dinitroanthraquinone (4,5-Dinitrochrysazin).	DUP, EKT, G, ICC, ICI.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
10,10′-(Dihydroxyethanediylidene)dianthrone	ICI.
4,5-Dihydroxy-2,7-naphthalenedisulfonic acid (Chromotropic acid).	HSH, NAC.
6,7-Dihydroxy-2-naphthalenesulfonic acid	FMT, G, IDC, NAC.
3,5-Dihydroxy-2-naphthoic acid	G.
11β,21-Dihydroxypregna-4,17(20)-cis-dien-3-one	UPJ.
11β,21-Dihydroxypregna-1,4,17(20)-cis-trien-3-one	UPJ.
4,5-Dihydroxy-3-(p-sulfophenylazo)-2,7-naphthalenedisulfonic acid, trisodium salt.	EK.
*16,17-Dihydroxyviolanthrone (Dihydroxydibenzanthrone)	ACY, DUP, G, ICI, MAY, NAC.
m-Diiodobenzene	EK.
2,5-Diiodobenzoic acid, 2-(2-methoxyethoxy)ethyl ester	SDW.
3,5-Diiodo-4-oxo-1(4H)pyridineacetic acid	SDW.
3,5-Diiodo-L-tyrosine	EK.
N,N′-Diisopropyl-p-phenylenediamine	DUP.
2,5-Dimethoxyaniline	ALL, EKT, KLS.
1,5(and 1,8)-Dimethoxyanthraquinone	TRC.
2,5-Dimethoxybenzaldehyde	CWN.
*m-Dimethoxybenzene	ACY, ICO, TBK.
*3,3′-Dimethoxybenzidine	ALL, BUC, CWN, DUP, LAK, SDH.
3,3′-Dimethoxybenzidine hydrochloride	ALL, CWN.
2,4-Dimethoxybenzoic acid	ACY.
2,6-Dimethoxybenzoyl chloride	ICO.
N,N′-[(3,3′-Dimethoxy-4,4′-biphenylylene)bis-(azo)]bis-(N-methyltaurine).	ALL, BUC, G.
2,5-Dimethoxy-β-methyl-β-nitrostyrene	x.
N-(3,4-Dimethoxy-α-methylphenethyl)-2-(4-ethoxy-3-methoxyphenyl)acetamide.	LIL.
2,5-Dimethoxy-α-methylphenylamine	x.
1,4-Dimethoxy-2-nitrobenzene	EKT.
2,5-Dimethoxy-4′-nitrostilbene	x.
3,4-Dimethoxyphenethylamine (Homoveratrylamine)	LIL.
4-(2′,5′-Dimethoxyphenethyl)aniline hydrochloride	x.
N-(3,4-Dimethoxyphenethyl)-2-(3,4-dimethoxyphenyl)-acetamide	LIL.
3,4-Dimethoxyphenisopropylamine	LIL.
(3,4-Dimethoxyphenyl)acetic acid	LIL.
(3,4-Dimethoxyphenyl)acetonitrile	LIL.
1-(3,4-Dimethoxyphenyl)-2-nitro-1-propene	LIL.
*16,17-Dimethoxyviolanthrone	G, ICI, MAY.
1,5-(Dimethylamino)anthraquinone	AAP.
m-(Dimethylamino)benzoic acid	SDH.
α-(Dimethylamino)-p-cresol	TKL.
6-Dimethylamino-2-[2-(2,5-dimethyl-1-phenyl-3-pyrryl)-vinyl]-1-methyl-1-quinolinium methyl sulfate.	x.
6-(Dimethylaminoethyl)-2-methoxy-4-nitrophenol	MEE.
2-[[2-(Dimethylamino)ethyl]-2-thenylamino]-pyridine (non-medicinal grade).	ABB.
m-(Dimethylamino)phenol	ACY, NAC.
1-(Dimethylamino)phenylbutyronitrile	ICO.
N-(p-Dimethylaminophenyl)-1,4-naphthoquinoneimine	NAC.
*N,N-Dimethylaniline	ACY, DSC, DUP, NAC, SDH.
7,12-Dimethylbenz[a]anthracene	EK.
3,3′-Dimethylbenzidine (o-Tolidine)	CWN, DUP.
3,3′-Dimethylbenzidine hydrochloride	AAP, DUP, EK.
*N,N-Dimethylbenzylamine	ICO, MLS, RH.
α,α-Dimethylbenzyl hydroperoxide	ACP.
4-(α,α-Dimethylbenzyl)-2-phenylazophenol	TRC.
*2,2′-Dimethyl-1,1′-bianthraquinone	AAP, ACY, CMG, DUP, G, ICI, TRC.
Dimethyl-6,12-ceroxenol acetate	WLM.
5,5-Dimethyl-1,3-cyclohexanedione	EKT.
N,N-Dimethylcyclohexylamine	DUP, EKT.
N,α-Dimethylcyclopentaneethylamine	LIL.
N,N-Dimethyl-2,2-diphenylacetamide	ARA, UPJ.
2′,7′-Dimethylfluoran	WLM.
5,5-Dimethylhydantoin	GLY.
2,3-Dimethylindole	DUP.
2,5-Dimethyl-4(2)-morpholinylmethylphenol hydrochloride	IDC.
*N,N-Dimethyl-p-nitrosoaniline	ACY, DUP, NAC.
N,N-Dimethyl-3-nitro-p-toluenesulfonamide	G.
N,N-Dimethyl-p-phenylenediamine	EKT, NAC.
N,N-Dimethyl-p-phenylenediamine hydrochloride	EK.
1,4-Dimethylpiperazine	COK, JCC, SEL.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
N-[[4-(Dimethylsulfamoyl)-o-tolyl]azo]-N-methyl-5-sulfoanthranilic acid.	G.
N,N-Dimethylsulfanilic acid	G.
N,N-Dimethyl-p-toluidine	EK, RSA, SEL.
2,4-Dinitroaniline	AAP, ACY.
*p-(2,4-Dinitroanilino)phenol	DUP, G, NAC.
1,5(and 1,8)-Dinitroanthraquinone	AAP, ICI, TRC.
N,N'-(2,4-Dinitro-1,5-anthraquinonylene)dioxamic acid	TRC.
3',4-Dinitrobenzanilide	DUP.
m-Dinitrobenzene	DUP, NAC.
2,4-Dinitrobenzenesulfonic acid	TRC.
3,5-Dinitrobenzoic acid	DUP, GAM, SAL.
3,5-Dinitrobenzoyl chloride	EK.
10,10'-Dinitro[3,3'-bi-7H-benz[de]anthracene]-7,7'-dione	DUP, MAY.
Dinitrocaprylphenol	RH.
2,4-Dinitrocumene	DUP.
3,3'-Dinitro-N,N'-diacetylbenzidine	AAP.
3',5'-Dinitro-2'-hydroxyacetanilide	TRC.
1-(3,5-Dinitro-2-hydroxyphenylazo)-2-naphthol	TRC.
*2,4-Dinitrophenol, tech	AAP, DUP, NAC, SDC, VPC.
(2,4-Dinitrophenyl)hydrazine	EK.
3,5-Dinitrosalicylic acid	EK.
*4,4'-Dinitrostilbene-2,2'-disulfonic acid	ACY, DUP, G, GGY, NAC, SDH, TRC.
2,4-Dinitrotoluene	DUP, NAC.
2,4(and 2,6)-Dinitrotoluene	DUP, MOB.
3,5-Dinitro-p-toluenesulfonic acid	NAC.
2,4-Di-tert-pentylphenol	PAS.
1,5-Diphenoxyanthraquinone	DUP, ICI, VPC.
1,5(and 1,8)-Diphenoxyanthraquinone	AAP, DUP.
1,8-Diphenoxyanthraquinone	EKT, ICI.
Diphenylacetaldehyde	ARA.
Diphenylacetic acid	ARA, BPC.
Diphenylamine	ACY, DOW, DUP, ORO.
2,8-Diphenylanthra[1,2-d:6,5-d']bisthiazole-6,12-dione	ICI.
α-d-1,2-Diphenyl-4-dimethylamino-2-hydroxy-3-methylbutane, camphor sulfonate.	LIL.
N,N'-Diphenylethylenediamine	DOW, RPC.
Diphenylmethane	ARA.
2-(Diphenylmethoxy)-N,N-dimethylethylamine (Diphenhydramine base).	ARA.
2,5-Diphenyloxazole	ARA.
1,3-Diphenyl-1,3-propanedione	EK.
1,3-Diphenyltriazene	NAC.
2,2'-Dithiodibenzoic acid	LIL, MEE.
*1,4-Di-p-toluidinoanthraquinone	ATL, CMG, G, ICI, NAC, TRC, VPC.
1,5-Di-p-toluidinoanthraquinone	ICI.
1,8-Di-p-toluidinoanthraquinone	ICI.
1,4-Di(p-toluidine)-5,8-dihydroxyanthraquinone	ICI.
*Divinylbenzene	DOW, FG, KPP.
Dixylylguanidines, mixed	ACY.
Dodecylbenzene. (See Alkylbenzenes.)	
Dodecylbenzyl chloride	CO.
Dodecylmethylbenzyl chloride	x.
*p-Dodecylphenol	G, MON, UCC, x.
Eosin (2',4',5',7'-Tetrabromofluorescein)	ICC.
Epoxycyclohexyladipate (Epoxide 289)	UCC.
3-(Epoxyethyl)-7-oxabicyclo[4.1.0]heptane (Epoxide 206)	UCC.
o-Ethoxybenzoic acid	ACY.
6-Ethoxy-2-benzothiazolethiol	ARA, DUP.
4-Ethoxy-3-methoxybenzaldehyde	LIL.
4-Ethoxy-3-methoxybenzyl alcohol	LIL.
1-(4-Ethoxy-3-methoxybenzyl)-6,7-dimethoxy-3-methylisoquinoline.	LIL.
(4-Ethoxy-3-methoxyphenyl)acetic acid	LIL.
2-Ethoxy-1-naphthaldehyde	ICO.
2-Ethoxynaphthalene	ICO, NAC.
2-Ethoxy-1-naphthoic acid	ICO.
2-Ethoxy-1-naphthoyl chloride	ICO, OPC.
4-Ethoxy-o-phenylenediamine	TRC.
3-(Ethylamino)-p-cresol	DUP.
3-(Ethylamino)-p-toluenesulfonic acid [SO_3H=1]	DUP.
*N-Ethylaniline, refined	ACY, DUP, NAC, SDH.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
2-(N-Ethylanilino)ethanol	DUP, EKT.
[2-(N-Ethylanilino)ethyl]trimethylammonium chloride	DUP.
3-(N-Ethylanilino)propionitrile	EKT.
α-(N-Ethylanilino)-m-toluenesulfonic acid	G.
α-(N-Ethylanilino)-p-toluenesulfonic acid	NAC, SDH, TRC, WJ.
N-Ethyl-p-anisidine	EKT.
2-Ethylanthraquinone	G, NAC.
*Ethylbenzene	DOW, ENJ, FG, KPP, KPT, MON, SHC, SIN, SNT, TOC, UCC.
o-(p-Ethylbenzoyl)benzoic acid	G, NAC.
Ethylbenzyl chloride	BPC.
9-Ethylcarbazole	AAP, ICC.
N-Ethyl-N-(2-chloroethyl)aniline	DUP.
N-Ethyl-1-cyclohexen-1-ylamine	UCC, x.
3,3′-Ethylenedioxydiphenol	IDC.
Ethylenimine	DOW.
2-[N-Ethyl-p-[(6-methoxy-2-benzo-thiazolyl)azo]anilino]-ethanol.	TRC.
N-Ethyl-1-naphthylamine	DSC, DUP.
9-Ethyl-3-nitrocarbazole	AAP, ICI.
p-Ethylphenol	ACY.
*N-Ethyl-N-phenylbenzylamine	DUP, NAC, SDH.
N-Ethyl-N-phenylbenzylamine sulfonic acid	VPC.
Ethylphenylmalonic acid, diethyl ester	BPC, MAL.
1-(o-Ethylphenyl)-3-methyl-2-pyrazolin-5-one	TRC.
5-Ethyl-2-picoline (2-Methyl-5-ethylpyridine) (MEP)	UCC.
1-Ethylpiperidine	RIL.
2-Ethylpyridine	RIL.
N-Ethyl-5-sulfoanthranilic acid	G.
6-Ethyl-1,2,3,4-tetrahydro-1,1,4,4-tetramethylnaphthalene	GIV.
N-Ethyl-m-toluidine	DUP.
N-Ethyl-o-toluidine	DUP.
2-(N-Ethyl-m-toluidino)ethanol	G.
3-(N-Ethyl-m-toluidino)-1,2-propanediol	EKT.
3-(N-Ethyl-m-toluidino)propionitrile	DUP, EKT, G.
1-Ethynyl-1-cyclohexanol	CUC, EKT, NAC.
Fluorescein (3′,6′-Dihydroxyflucran)	ICC.
1-Fluoro-2,4-dinitrobenzene	EK.
o-Fluorotoluene	EK, PIC.
4-Formyl-m-benzenedisulfonic acid	G, SDH.
m-Formylbenzenesulfonic acid, sodium salt	G.
*o-Formylbenzenesulfonic acid (o-Sulfobenzaldehyde)	G, NAC. SDH, VPC.
Furan	DUP.
Furfuryl alcohol	QKO.
Furfurylamine	MLS.
Gentisic acid (2,5-Dimethoxybenzoic acid), methyl ester	ICO.
Hexachlorobenzene	KPS, KPT, SCC.
Hexachlorocyclopentadiene	HK, VEL.
1,4,5,6,7,7-Hexachloro-5-norbornene-2,3-dicarboxylic acid	HK.
Hexachlorophenyl ether	DOW.
Hexadecachlorophthalocyanine	ICC.
Hexa(2-methyl-1-aziridinyl)-1,3,5-phosphotriazine	ICO.
Hippuric acid	BPC.
*p-Hydrazinobenzenesulfonic acid	G, STG, WJ.
4-Hydrazino-m-toluenesulfonic acid	G.
Hydroquinone, tech	CRS, EKT, MAN.
2′-Hydroxyacetophenone	OTC.
3′-Hydroxyacetophenone	SDH.
4′-Hydroxyacetophenone	OTC.
3′-Hydroxyacetophenone benzoate	SDH.
6′-Hydroxy-m-acetotoluidide	TRC.
p-Hydroxybenzaldehyde	DOW.
*p-Hydroxybenzenesulfonic acid	DOW, MON, UPF.
2-Hydroxy-11H-benzo[a]carbazole-3-carboxylic acid	G.
p-Hydroxybenzoic acid	HN, WSN.
p-Hydroxybenzoic acid, butyl ester	HN, WSN.
p-Hydroxybenzoic acid, ethyl ester	HN, WSN.
p-Hydroxybenzoic acid, n-heptyl ester	WSN.
*p-Hydroxybenzoic acid, methyl ester	HN, ICO, SEL, WSN.
*p-Hydroxybenzoic acid, propyl ester	HN, ICO, WSN.
4-Hydroxycoumarin	ABB.
13b-Hydroxy-2,8-dimethylnaphtho[3.2.1-kl]xanthen-9(13bH)-one.	WLM.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
3-[N-(2-Hydroxyethyl)anilino]propionitrile	DUP, ICC.
N-β-Hydroxyethyl-2,4-dihydroxybenzamide	IDC.
3-Hydroxy-N-(2-hydroxyethyl)-2-naphthamide	IDC.
N-[7-Hydroxy-8-[2-hydroxy-5-(methylsulfamoylphenyl)azo]-1-naphthyl]acetamide.	TRC.
N-[7-Hydroxy-8-[(2-hydroxy-5-nitrophenyl)azo]-1-naphthyl]-acetamide.	TRC.
7-Hydroxy-8-[[4′-[(p-hydroxyphenyl)azo]-4-biphenylyl]azo]-1,3-naphthalenedisulfonic acid.	TRC.
7-Hydroxy-8-[[4′-[(p-hydroxyphenyl)azo]-3,3-dimethyl-4-biphenylyl]azo]-1,3-naphthalenedisulfonic acid.	TRC.
4-Hydroxy-N^1-isopropylmetanilamide	TRC.
2-Hydroxy-α^1,α^3-mesitylenediol	ACY.
*4-Hydroxymetanilamide	CMG, DUP, NAC, TRC, VPC.
4-Hydroxymetanilanilide	TRC.
*4-Hydroxymetanilic acid	CWN, DUP, NAC, TRC.
N-(4-Hydroxymetanilyl)anthranilic acid	TRC.
4-Hydroxy-1-methycarbostyril	ICC.
3-Hydroxy-2-methylcinchoninic acid	DUP, ICC, TRC.
4-Hydroxy-N^1-methylmetanilamide	TRC.
N-(Hydroxymethyl)phthalamide	ACY.
Hydroxynaphthaldehyde	ICO.
7-Hydroxy-1-naphthalenecarbamic acid, methyl ester	TRC.
3-Hydroxy-2,7-naphthalenedisulfonic acid	ATL.
*3-Hydroxy-2,7-naphthalenedisulfonic acid, disodium salt	ACY, G, NAC, TRC, WJ.
7-Hydroxy-1,3-naphthalenedisulfonic acid	DUP, TRC.
7-Hydroxy-1,3-naphthalenedisulfonic acid, dipotassium salt	G.
7-Hydroxy-1,3-naphthalenedisulfonic acid, disodium salt	ACY, NAC.
4-Hydroxy-2-naphthalenesulfonamide	G.
1-Hydroxy-2-naphthalenesulfonic acid, potassium salt	EK.
4-Hydroxy-1-naphthalenesulfonic acid	DUP, NAC.
5-Hydroxy-1-naphthalenesulfonic acid	NAC, TRC.
*6-Hydroxy-2-naphthalenesulfonic acid	NAC, SNA, TMS.
*6-Hydroxy-2-naphthalenesulfonic acid, sodium salt	ACY, TRC, WJ.
7-Hydroxy-2-naphthalenesulfonic acid (Cassella's acid)	DUP.
8-Hydroxy-1-naphthalenesulfonic acid	G, VPC.
8-Hydroxy-1-naphthalenesulfonic acid, γ-sultone	ACY, TRC.
4-Hydroxy-2-naphthalenesulfonic acid benzenesulfonate, sodium salt.	G.
3-Hydroxy-2-naphthanilide (Naphthol AS)	ATL, PCW.
1-Hydroxy-2-naphthoic acid	NAC.
1-Hydroxy-2-naphthoic acid, phenyl ester	EK.
*3-Hydroxy-2-naphthoic acid (B.O.N.)	AUG, DUP, HN, PCW.
3-Hydroxy-2-naphthoic acid, methyl ester	PCW.
3-Hydroxy-2-naphtho-o-toluidide	ATL, PCW.
N-(2-Hydroxy-1-naphthyl)acetamide	ACY.
*N-(7-Hydroxy-1-naphthyl)acetamide	CMG, G, TRC.
1-(2-Hydroxy-1-naphthylazo)-6-nitro-2-naphthol-4-sulfonic acid.	TRC.
N-(7-Hydroxy-1-naphthyl)benzamide	TRC.
3′-[(7-Hydroxy-1-naphthyl)carbamoyl]acetanilide	TRC.
4-Hydroxy-7-[p-(p-nitrobenzamido)benzamido]-2-naphthalenesulfonic acid.	DUP.
4-Hydroxy-7-(p-nitrobenzamido)-2-naphthalenesulfonic acid	DUP, G.
2-Hydroxy-5-nitrometanilic acid	ALL, G, TRC.
1-(2-Hydroxy-4-nitrophenylazo)-2-naphthol	TRC.
3-Hydroxy-4-(phenylazo)-2-naphthoic acid	ICC.
11α-Hydroxypregn-4-ene-3,20-dione	UPJ.
4-Hydroxypropiophenone	MLS.
α,α′-[(α-Hydroxy-p-sulfobenzylidene)bis[(3-methyl-p-phenylene)(ethylimino)]]di-m-toluenesulfonic acid.	TRC.
2-Hydroxy-4-sulfo-1-naphthalenediazonium hydroxide, inner salt.	ACY.
1-Hydroxy-4-p-toluidinoanthraquinone	G, ICI.
2-Imidazolidinone modifications	RH.
*1,1′-Iminobis[4-aminoanthraquinone]	ACY, CMG, DUP, G, ICI, MAY, NAC, TRC.
1,1′-Iminobis[4-benzamidoanthraquinone]	ACY, MAY.
*1,1′-Iminobis[5-benzamidoanthraquinone]	G, ICI, TRC.
*7,7′-Iminobis[4-hydroxy-2-naphthalenesulfonic acid]	CMG, DUP, NAC, TRC.
*1,1′-Iminobis[4-nitroanthraquinone]	ACY, DUP, ICI, MAY, TRC.
*1,1′-Iminodianthraquinone (1,1′-Dianthrimide)	ACY, DUP, G, ICI, MAY, NAC, TRC.

TABLE 7B. -- *Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
1,3-Indandione	PIC.
Indole-3-acetic acid	SDW.
Indole-2,3-dione	NAC.
1-Iodonaphthalene	EK.
Isobutylbenzene	PLC.
*Isocyanic acid derivatives:	
Bitolylene diisocyanate (TODI)	UPJ.
Cyclohexyl isocyanate	CWN, OTC.
Dianisidine diisocyanate (DADI)	CWN, UPJ.
3,4-Dichlorophenyl ester	DUP.
*Diphenylmethane 4,4'-diisocyanate (MDI)	DUP, MOB, NAC, UPJ.
Phenylisocyanate	CWN, MOB, OTC.
Polymethylene polyphenylisocyanate	MOB, UPJ.
Toluene 2,4-diisocyanate	DUP, MOB.
Toluene 2,4- and 2,6-diisocyanate (65/35 mixture)	DUP, MOB, NAC.
*Toluene 2,4- and 2,6-diisocyanate (80/20 mixture)	DUP, MOB, NAC, OMC, UCC.
Other isocyanic acid derivatives	DUP, EK, MOB, OTC.
Isonicotinic acid, methyl ester	RIL.
Isonicotinonitrile	RIL.
Isooctylphenol	G, PRD.
Isophthalic acid (Benzene-1,3-dicarboxylic acid)	ACC, SOC.
Isophthalic acid, diallyl ester	FMP.
Isophthalic acid, dimethyl ester	MTR.
Isophthalic acid, diphenyl ester	BJL.
N-Isopropylaniline	ACY, EKT.
Isopropylbenzyl chloride	BPC.
4,4'-Isopropylidenebis[2,6-dibromophenol] (Tetrabromobisphenol A).	DOW.
4,4'-Isopropylidenebis[2,6-dichlorophenol] (Tetrachlorobisphenol A).	DVC.
5,5'-Isopropylidenebis(2-hydroxy-m-xylene-α,α'-diol)	ARK.
*4,4'-Isopropylidenediphenol (Bisphenol A)	DOW, MON, SHC, UCP.
4,4'-Isopropylidenediphenol, ethoxylated	APD.
4,4'-Isopropylidenediphenol, propoxylated	APD.
o-Isopropylphenol	TNA.
4-Isopropyl-m-phenylenediamine	DUP.
Isothiocyanic acid, phenyl ester	TNC.
*Isoviolanthrone (Isodibenzanthrone)	DUP, G, MAY.
*Leuco quinizarin (1,4,9,10-Anthratetrol)	AAP, ACY, BL, EKT, HSH, ICC, NAC, TRC.
2,4-Lutidine	ACP, KPT.
3,4-Lutidine	RIL.
Mandelonitrile	KF.
*Melamine	ACN, ACY, FIS, RCI.
dl-p-Mentha-1,8-diene (Limonene)	GIV, HNW.
p-Mentha-1,4(8)-diene	GIV.
*o-Mercaptobenzoic acid	EVN, LIL, MED.
Metanilamide	CMG, VPC.
*Metanilic acid (m-Aminobenzenesulfonic acid)	DUP, NAC, TRC.
1-Methoxyanthraquinone	AAP, G.
4-Methoxymetanilic acid	ACY, CMG.
6-Methoxymetanilic acid	G.
4'-Methoxy-2-(p-methoxyphenyl)acetophenone	CTN.
4-Methoxy-1-naphthol	SDH.
N-(2-Methoxy-1-naphthyl)acetamide	TRC.
2-Methoxy-4-nitrophenol	MEE.
6-Methoxy-8-nitroquinoline	GAM.
m-Methoxyphenol	EK.
Methoxyphenylacetic acid	SDW.
4'-Methoxypropiophenone	LIL.
6-Methoxytetralone	GAM.
*1-(Methylamino)anthraquinone	AAP, ACY, DUP, G, NAC, TRC.
1-(Methylamino)-4-p-toluidinoanthraquinone	G.
N-Methylaniline	ACY, DUP.
2-(N-Methylanilino)ethanol	G.
3-(N-Methylanilino)propionitrile	DUP.
5-Methyl-o-anisidine [NH_2=1]	DUP.
m-Methylanisole	GIV.
N-Methylanthranilic acid	ICC.
2-Methylanthraquinone	ACY, NAC.
3-Methylbenzo[f]quinoline	ACY, G.
2-Methylbenzothiazole	FMT.
α-Methylbenzyl alcohol	UCC.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
N-Methylbenzylamine	ICO, MLS.
Methyl benzyl ether	UCC.
5-(1-Methylbutyl)barbituric acid	LIL.
3-Methylcholanthrene	EK.
Methylcyclohexane	PLC.
Methylcyclohexenecarboxaldehyde	UCC.
N-Methylcyclohexylamine	DUP.
4-Methyl-α,α-diphenyl-1-piperazineethanol dihydrochloride	ABB.
N-Methyleneaniline	DUP.
4,4'-Methylenebis[2-chloroaniline]	DUP.
4,4'-Methylenebis[N,N-diethylaniline]	ACY, G.
*4,4'-Methylenebis[N,N-dimethylaniline] (Methane base)	ACY, DSC, DUP, G, NAC, SDH, x.
4,4'-Methylenebis[N,N-dimethyl-3-nitroaniline]	G.
5,5'-Methylenebis[toluene-2,4-diamine]	DUP, NAC.
*4,4'-Methylenedianiline	DOW, DUP, NAC.
5,5'-Methylenedisalicylic acid	HN.
5-Methylene-2-norbornene	DOW.
Methylhydroquinone	EKT.
6-Methyl-2-(2-methyl-6-quinolyl)-7-benzothiazolesulfonic acid.	DUP.
Methylnaphthalene, crude	KPT, VEL.
N-Methyl-4'-nitroacetanilide	G, NAC.
N-Methyl-p-nitroaniline	G.
5-Methyl-4-nitro-o-anisidine	PCW.
4-Methyl-2-nitroanisole	DUP.
2-Methyl-1-nitroanthraquinone	DUP, G, ICI, TRC.
2-Methyl-5-nitroimidazole	RDA.
N-Methyl-N-nitroso-p-toluenesulfonamide	EK.
Methylnorbornene-2,3-dicarboxylic anhydride, isomers	NAC.
4-Methyl-7-oxabicyclo[4.1.0]heptane-3-carboxylic acid, (4-methyl-7-oxabicyclo[4.1.0]hept-3-yl)methyl ester (Epoxide 201).	UCC.
m-(3-Methyl-5-oxo-2-pyrazolin-1-yl)benzenesulfonamide	CMG, VPC.
m-(3-Methyl-5-oxo-2-pyrazolin-1-yl)benzenesulfonic acid	G, TRC, VPC.
*p-(3-Methyl-5-oxo-2-pyrazolin-1-yl)benzenesulfonic acid	AAP, ACY, CMG, DUP, G, TRC, VPC.
3-(3-Methyl-5-oxo-2-pyrazolin-1-yl)-1,5-naphthalenedisulfonic acid.	TRC.
*4-(3-Methyl-5-oxo-2-pyrazolin-1-yl)-m-toluenesulfonic acid [SO_3H=1].	CMG, G, VPC.
2-Methyl-5-phenylbenzoxazole	EK.
1-Methyl-1-phenylhydrazine	EK.
5-Methyl-3-phenyl-4-isoxazolecarboxylic acid	ICO.
5-Methyl-3-phenyl-4-isoxazolecarboxylic acid hydrochloride	ICO.
*3-Methyl-1-phenyl-2-pyrazolin-5-one (Developer Z)	DOW, DUP, NAC, SDH, SDW, VPC.
Methyl phenyl sulfide (Thioanisole)	PIT.
1-Methylpiperazine	UCC.
2-Methyl-1-piperidinepropanol	LIL.
1-Methyl-4-piperidinol	ARA.
1-Methylpyrrole	DUP.
*α-Methylstyrene	ACP, CLK, DOW, HPC, SKL.
N-Methyl-5-sulfoanthranilic acid	G.
2-(Methylsulfonyl)-4-nitroaniline	EKT.
p-(Methylthio)aniline hydrochloride	EVN.
4-(Methylthio)-m-cresol	CRZ.
3-Methylthiophene	SDW.
p-(Methylthio)phenol	CRZ.
3-Methyl-6-p-toluidino-7H-dibenz[f,ij]isoquinoline-2,7(3H)-dione.	G.
3-Methyl-1-p-tolyl-2-pyrazolin-5-one	VPC.
1-Naphthaldehyde	COK.
*Naphthalene, solidifying at 79° C. or above (refined flake) (from domestic crude).	KPT, NAC, RIL.
1,5-Naphthalenediol (1,5-Dihydroxynaphthalene)	NAC.
1,5-Naphthalenedisulfonic acid	AUG, DUP, NAC.
2,7-Naphthalenedisulfonic acid	DUP, TRC.
1-Naphthalenesulfonic acid	TRC.
1-Naphthalenesulfonic acid, sodium salt	ICO, TRC.
2-Naphthalenesulfonic acid	ACY, FIN, NAC.
2-Naphthalenesulfonic acid, sodium salt	ACY.
2-Naphthalenesulfonyl chloride	DUP.
*1,4,5,8-Naphthalenetetracarboxylic acid	AAP, G, HST, TRC.

TABLE 7B. -- *Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
1,3,6-Naphthalenetrisulfonic acid	G.
Naphthalic anhydride	DUP.
Naphthalimide	DUP, G, NAC.
2H-Naphth[1,8-cd]isothiazole-3,5-disulfonic acid, 1,1-dicxide, trisodium salt.	DUP.
1-Naphthoic acid	COK.
*1-Naphthol (α-Naphthol)	DUP, NAC, UCC.
2-Naphthol, tech. (β-Naphthol)	ACY, NAC, SW.
p-Naphtholbenzein	EK.
1,4-Naphthoquinone	EKT.
Naphthostyril	DUP, NAC.
*Naphth[1,2-d][1,2,3]oxadiazole-5-sulfonic acid	CMG, G, NAC, TRC, VPC.
1-Naphthylamine (α-Naphthylamine)	DUP, NAC.
2-Naphthylamine (β-Naphthylamine)	x.
p-(2-Naphthylamino)phenol (N-(p-Hydroxyphenol)-2-naphthyl-amine).	G.
α-Naphthylphenyloxazole	ARA.
2-(Naphthylthio)acetic acid	ACY.
Nicotinonitrile (3-Cyanopyridine)	NEP, RIL.
Nitro-aceanthra[2,1-a]aceanthrylene-5,13-dione	ICI.
4'-Nitroacetanilide	G, TRC.
2'-Nitro-p-acetanisidide	DUP, SDH.
3'-Nitro-p-acetanisidide	AAP.
4'-Nitro-o-acetanisidide	DUP.
2'-Nitro-p-acetophenetidide	AAP.
3'-Nitroacetophenone	SDH.
5'-Nitro-o-acetotoluidide	DUP.
m-Nitroaniline	ACY, DUP, TRC.
o-Nitroaniline	AAP, MON.
*p-Nitroaniline	AAP, MON, SDC, UPM.
2-Nitro-p-anisidine [NH_2=1]	DUP, SDH.
*4-Nitro-o-anisidine [NH_2=1]	AAP, DUP, SDH.
*5-Nitro-o-anisidine [NH_2=1]	ACY, ALL, DUP, KLS.
o-Nitroanisole	AAP, DUP, MON.
p-Nitroanisole	DUP.
4-Nitroanthranilic acid	DUP.
4(and 5)-Nitroanthranilic acid	DUP.
5-Nitroanthranilic acid	MEE, TRC.
1-Nitroanthraquinone	ACY.
2-(4-Nitro-2-anthraquinonyl)anthra[2,3-d]-oxazole-5,10-dione.	G.
m-Nitrobenzaldehyde	NAC, SDH.
3'-Nitrobenzanilide	DUP.
4'-Nitrobenzanilide	G.
*Nitrobenzene	ACY, DUP, MON, NAC.
*m-Nitrobenzenesulfonic acid	ACY, DUP, NAC.
*m-Nitrobenzenesulfonic acid, sodium salt	AAP, G, MAY, MON, MRA.
5'-Nitrobenzenesulfono-o-toluidide	RBC.
m-Nitrobenzenesulfonyl chloride	G.
p-Nitrobehzenesulfonyl chloride	EK.
5-Nitro-2-benzimidazolinone	DUP.
m-Nitrobenzoic acid	SDH, WAY.
m-Nitrobenzoic acid, sodium salt	WAY.
p-Nitrobenzoic acid	DUP.
2-(m-Nitrobenzoyl)-o-acetanisidide	G.
m-Nitrobenzoyl chloride	HK.
p-Nitrobenzoyl chloride	DUP, HK.
4'-Nitro-4-biphenylcarboxylic acid	DUP, TRC.
2-Nitro-p-cresol	SW.
Nitrocyclohexane	DUP.
5-Nitro-4,6-diaminopyrimidine	KF.
Nitrodiphenylamine	ACY.
5-Nitro-2-furaldehydesemioxamazone	NOR.
5-Nitro-2-furanmethanediol, diacetate	NOR.
5-Nitroisatoic anhydride	MEE.
5-Nitroisophthalic acid	G, GAM.
1-Nitronaphthalene	DUP, NAC.
*3-Nitro-1,5-naphthalenedisulfonic acid	G, NAC, TRC.
8(and 5)-Nitro-1(and 2)-naphthalenesulfonic acid	G.
4-Nitronaphthalic anhydride	G, NAC.
*7(and 8)-Nitronaphth[1,2-d][1,2,3]oxadiazole-5-sulfonic acid	G, NAC, TRC, VPC.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
4'-Nitrooxanilic acid	DUP.
o-Nitrophenol	DUP.
*p-Nitrophenol	DUP, MON, SDC, UPM.
*p-Nitrophenol, sodium salt	MON, UPM.
4'-(p-Nitrophenyl)acetophenone	DUP, G.
4-[(p-Nitrophenyl)azo]-o-anisidine	AAP.
2-Nitro-p-phenylenediamine	WAY.
4-Nitro-o-phenylenediamine	DUP, FMT.
(p-Nitrophenyl)hydrazine	EK.
(p-Nitrophenyl)hydrazine hydrochloride	EK.
2-(p-Nitrophenyl)-2H-naphtho[1,2-d]triazole-6,8-disulfonic acid.	TRC.
1-(m-Nitrophenyl)-5-oxo-2-pyrazoline-3-carboxylic acid	DUP, VPC.
3-Nitrophthalic acid	EK.
4-Nitrophthalic acid	EK.
3-Nitrophthalic anhydride	EK.
4-Nitrophthalimide	DUP.
5-Nitrosalicylaldehyde	EK.
3(and 5)-Nitrosalicylic acid	G.
p-Nitrosophenol	ACY, DUP, NAC.
β-Nitrostyrene	CWN, UPJ.
4-Nitro-4'-(5-sulfo-2H-naphthol[1,2-d]triazol-2-yl)-2,2'-stilbenedisulfonic acid.	TRC.
m-Nitrotoluene	DUP, NAC.
o-Nitrotoluene	DUP, NAC.
p-Nitrotoluene	DUP, NAC.
Nitrotoluene mixtures	DUP, NAC.
p-Nitrotoluenesulfonic acid	GGY.
*3-Nitro-p-toluenesulfonic acid [SO_3H=1]	AAP, CMG, G, TRC.
*5-Nitro-o-toluenesulfonic acid [SO_3H=1]	ACY, DUP, G, NAC, SDH, TRC.
4'-Nitro-p-toluenesulfono-o-toluidide	G.
3-Nitrotoluic acid chloride	x.
3-Nitro-p-toluic acid, methyl ester	SDH.
*2-Nitro-p-toluidine [NH_2=1]	ACY, DUP, NAC, SDH, SW.
4-Nitro-o-toluidine [NH_2=1]	ABB, G.
5-Nitro-o-toluidine [NH_2=1]	BUC, DUP, KLS, PCW.
5-Nitro-2-p-toluidinobenzenesulfonic acid	TRC.
*16-Nitroviolanthrone	ACY, ATL, G, ICI, MAY.
4-Nitro-m-xylene	DUP.
Nitroxylenes, mixed	DUP, NAC.
2-tert-Nonyl-p-cresol	USR.
Nonyl-dinonylphenol, mixture	JCC.
*Nonylphenol	G, JCC, MON, PRD, RH, STP, UCP, USR.
5-Norbornene-2,3-dicarboxylic anhydride	NAC.
Octylphenol	G, RH.
7-Oxabicyclo[4.1.0]heptane	ARA.
Oxalacetic acid, diethyl ester, (p-sulfophenyl)hydrazone	TRC.
Oxanilide	WSN.
*1-[(7-Oxo-7H-benz[de]anthracen-3-yl)amino]anthraquinone	ACY, DUP, G, ICI, MAY, TRC.
*1,1'-[(7-Oxo-7H-benz[de]anthracen-3,9-ylene)diimino]di-anthraquinone.	ACY, DUP, G, ICI, MAY, NAC, TRC.
2-Oxocyclohexanecarboxylic acid, ethyl ester	ARA.
2-Oxocyclopentanecarboxylic acid, ethyl ester	ARA.
5-Oxo-1-phenyl-2-pyrazoline-3-carboxylic acid	NAC.
*5-Oxo-1-phenyl-2-pyrazoline-3-carboxylic acid, ethyl ester	G, SDW, VPC.
*5-Oxo-1-(p-sulfophenyl)-2-pyrazoline-3-carboxylic acid (Pyrazolone T).	AAP, G, ICI, VPC.
5-Oxo-1-(p-sulfotolyl)-2-pyrazoline-3-carboxylic acid	VPC.
4,4'-Oxydianiline	OTC, x.
4,4'-Oxydiphenol	EK.
Penicillin, N-ethylpiperidine salt	MRK.
1,1,3,3,5-Pentamethylindan	GIV.
Pentylnaphthalenes (Amylnaphthalenes)	PAS.
o-Pentylphenol (o-Amylphenol)	PAS.
p-tert-Pentylphenol	PAS, UCP.
3,4,9,10-Perylenetetracarboxylic acid	DUP, G, NAC.
3,4,9,10-Perylenetetracarboxylic 3,4:9,10-diimide	DUP, G, NAC.
Phenethylamine	ICO, MLS.
Phenethylamine sulfate	MLS.
o-Phenethylbenzoic acid	LIL.
o-Phenetidine	MON.
p-Phenetidine	DOW, MON.

TABLE 7B. --*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Phenol:	
*Natural:	
*From coal tar:[1]	
39° C., m.p	KPT, PRD.
82%-84%	ACP, KPT.
All other	ACP, KPT.
*From petroleum	MER, NPC, PIT, PRD, SW.
*Synthetic:	
By caustic fusion: U.S.P	MAL, MON, RCI.
From chlorobenzene by liquid-phase hydrolysis: U.S.P	DOW.
From chlorobenzene by vapor-phase hydrolysis: U.S.P	HKD, UCP.
*From cumene by oxidation: U.S.P	ACP, CLK, HPC, MON, SHC, SKO, SOC.
Phenolsulfonaphthalein, sodium salt	EK.
Phenothiazin-2-yl-1-propanone	WYT.
Phenoxyacetic acid, sodium salt	BPC.
2-Phenoxypropanol	ICO.
2-Phenoxypropionic acid	ICO.
2-Phenoxypropionyl chloride	ICO, OPC.
*Phenylacetic acid (α-Toluic acid)	BPC, GIV, MAL, TBK.
Phenylacetic acid, ethyl ester, tech	BPC.
Phenylacetic acid, methyl ester	BPC.
*Phenylacetic acid, potassium salt	BPC, OPC, TBK.
*Phenylacetic acid, sodium salt	BPC, OPC.
Phenylacetonitrile (α-Tolunitrile)	BPC, OPC, SDW.
4'-Phenylacetophenone	DUP, G, NES.
Phenylacetyl chloride	ICO.
2-Phenylanthra[2,3-d]oxazole-5,10-dione	G.
*p-Phenylazoaniline (C.I. Solvent Yellow 1) and hydrochloride	AAP, ACY, DUP, G, NAC.
p-Phenylazoaniline sulfate	DUP.
4-(Phenylazo)diphenylamine	EK.
4-(Phenylazo)-1-naphthylamine	DUP.
4-(Phenylazo)-m-phenylenediamine (C.I. Basic Orange 2)	DUP.
5-(Phenylazo)salicylic acid	TRC.
N^1-Phenyl-1,2,4-benzenetriamine	RBC.
1-Phenyl-1,3-butanedione	EK.
2-Phenylbutyric acid	BPC.
α-Phenyl-o-cresol	RBC.
1-Phenyldecane (Decylbenzene)	NAC.
N,N'-p-Phenylenebis[acetamide]	ACY.
m-Phenylenediamine	ACY, DUP, G. NAC.
o-Phenylenediamine	FMT, MEE, TRC.
p-Phenylenediamine	ACY, BFG.
Phenyl ether (Diphenyl oxide)	DOW.
d-2-Phenylglycine	BPC.
d-(-)-2-Phenylglycine and derivatives	KF.
dl-2-Phenylglycine (racemic)	KF.
Phenylglycine, sodium salt	NAC, OTC.
d-(-)-2-Phenylglycyl hydrochloride	OTC.
5-Phenylhydantoin	ABB, x.
Phenylhydrazine	DOW.
Phenylhydrazine hydrochloride	EK, VPC.
2,2'-[(Phenyl)imino]diethanol (N-Phenyldiethanolamine)	AAP, DUP, EKT.
3,3'-[(Phenyl)imino]dipropionitrile	DUP.
Phenylmagnesium bromide	ARA.
Phenylmalonic acid, diethyl ester	BPC.
o-Phenylphenol	DOW, RCI.
o-Phenylphenol, chlorinated	DOW.
o-Phenylphenol, sodium salt	DOW.
p-Phenylphenol	DOW.
N-Phenyl-p-phenylenediamine	DUP, USR.
Phenylphosphinic acid	SF.
Phenylphosphonic dichloride	SF.
Phenylphosphonothioic dichloride	SF.
Phenylphosphonous acid	SF.
Phenylphosphonous acid, sodium salt	SF.
Phenylphosphorous dichloride	SF.
1-Phenylpiperazine	RSA.
*1-Phenyl-1,2-propanedione, 2-oxime	ICC, NEP, ORT, x.
Phenyl-2-propanone	ORT, SK.
N-3-Phenylpropyl-p-toluidine	EK.

See footnote at end of table.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
Phenyl 2-pyridyl ketone	NEP, RIL.
Phenyl 4-pyridyl ketone	RIL.
Phenyl sulfone	NES.
1-Phenyl-2-thiourea	ICO.
Phloroglucinol	MRT.
1(2H)-Phthalazinone	KPT, NAC, SDH.
Phthalic acid	EK, KF.
Phthalic acid, diallyl ester	FMP.
Phthalic acid, disodium salt	TNC.
*Phthalic anhydride	ACP, GRH, HN, KPS, MON, PCC, RCI, SOC, STP, SW, THC, UCC, WTC.
Phthalide	FMT, NAC.
Phthalimide	DUP, MEE, NAC.
Phthalimide, potassium salt	EK.
[Phthalocyaninato(2-)]copper	ICC, ICI.
[Phthalocyaninato(2-)]iron	DUP.
Phthalocyaninetetrasulfonyl chloride, copper derivative	DUP.
Phthalcyl chloride (Phthalyl chloride)	MON.
*Picolines:[1]	
*2-Picoline (α-Picoline)	ACP, KPT, RIL, UCC.
3-Picoline (β-Picoline)	NEP, RIL.
4-Picoline (γ-Picoline)	RIL, UCC.
Picoline (3,4-mixture)	ACP, KPT.
Picolinic acid	NEP.
Picolinonitrile (2-Cyanopyridine)	NEP, RIL.
3-Picolylamine	RIL.
Picric acid (Trinitrophenol)	DUP, NAC, SDC.
2-Pipecoline	LIL.
4-Pipecoline	RIL.
Piperazine mixture, crude	FLM, JCC, x.
*Piperidine	ABB, DUP, RIL.
3-Piperidinopropiophenone hydrochloride	ACY.
Polychlorobiphenyl	MON.
Primuline base	DUP, NAC.
Primulinesulfonic acid	ATL.
*Propiophenone	LIL, OPC, TBK.
2-Propylpyridine	RIL.
*8,16-Pyranthrenedione	CMC, ICI, TRC.
Pyridine, refined:[1]	
*2° Pyridine	ACP, KPT, NEP, RIL.
Other grades	KPT.
Pyridine hydrochloride	EK.
2-Pyridineethanol	RIL.
3-Pyridinemethanol	RIL.
Pyridinium bromide perbromide	ARA.
3-Pyridinol	NEP.
2(1H)-Pyridone	FMT.
2-Pyrimidinol	GGY.
2-Pyrrolidinone	G.
3-(1-Pyrrolidinyl)propiophenone hydrochloride	LIL.
1H-Pyrrolo[2,3-6]pyridine	SDW.
*Quinaldine	ACY, DUP, NAC.
Quinoline:	
1° and 2° Quinoline	ACP, KPT.
Other grades	EK.
2,4-Quinolinediol	DUP.
8-Quinolinol (8-Hydroxyquinoline, tech.)	GAM.
Quinophthalone (Quinoline yellow, base)	DUP, NAC.
Resorcinol, monoacetate (nonmedicinal grade)	AAP.
Resorcinol, tech	KPT.
Resorcinol, mono-β-hydroxyethyl ether	BJL.
β-Resorcylaldehyde	G.
β-Resorcylic acid	ACY, KPT.
β-Resorcylic acid, lead salt	ACY.
*Salicylaldehyde	DOW, HN, MTR, RDA.
*Salicylic acid, tech	CFC, DOW, HN, MON, SDH.
Salicylic acid, ammonium chromium complex	TRC.
Salicylic acid, sodium chromium complex	TRC.
Salicylic acid, sodium salt (crude)	DOW.
Salicylideneaminoguanidine oleate	DUP.

See footnote at end of table.

TABLE 7B. --*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
Sitosterols, nonmedicinal	UPJ.
Sodium phenoxide	DUP.
*Styrene, all grades	ACC, CSD, DOW, ELP, FG, KPP, MCB, MON, SHC, SKC, SNT, UCC.
β-Styrenesulfonic acid, sodium salt	BKL.
4'-Sulfamoylacetanilide	ACY, CTN.
Sulfanilic acid (p-Aminobenzenesulfonic acid) and salt	ACY, CTN, NAC.
4-Sulfoanthranilic acid	CMG, TRC.
α,α-[(p-Sulfobenzylidene)bis[(3-methyl-p-phenylene)(ethylimino)]]di-m-toluenesulfonic acid.	TRC.
5-Sulfoisophthalic acid, 1,3-dimethyl ester	x.
3,3'-Sulfonyldianiline	G.
4,4'-Sulfonyldianiline	RSA.
N,5'-Sulfonyldianthranilic acid	TRC.
3,3'-Sulfonyldinitrobenzene	G.
4,4'-Sulfonyldiphenol (4,4'-Dihydroxydiphenylsulfone)	G, MON, UPF.
4-Sulfophthalic acid	CWN, UPJ.
Terephthalic acid	ACC, DUP, EKT, SOC.
Terephthalic acid, dihydrazide	DUP.
*Terephthalic acid, dimethyl ester	ACC, DUP, EKT, HPC.
Terephthalic acid, diphenyl ester	BJL.
Terephthaloyldiacetic acid, diethyl ester	G, PCW.
Terphenyl (Phenylbiphenyl)	ARA, MON.
1,2,4,5-Tetraaminobenzene	BJL.
[4,4',4'',4'''-Tetraaminophthalocyaninato(2-)]copper	DUP.
3',3'',5',5''-Tetrabromophenolphthalein, ethyl ester	EK.
Tetrabromophthalic anhydride	MCH.
Tetrabromo-8,16-pyranthrenedione	G, NAC.
1,3,6,8-Tetrabromopyrene	G.
*1,4,5,8-Tetrachloroanthraquinone	DUP, G, ICI, NAC.
1,2,4,5-Tetrachlorobenzene	DOW, HK.
1,2,4,5-Tetrachloro-3-nitrobenzene	SDH.
α,α,2,6-Tetrachlorotoluene	DUP.
Tetrachloroviolanthrone	G, ICI.
Tetrahydrofuran	DUP, QKO.
Tetrahydro-2-methylfuran	DUP, QKO.
*1,4,5,8-Tetrahydroxyanthraquinone, leuco derivative	G, ICC, NAC, TRC.
1,4,5,8-Tetrakis(1-anthraquinonylamino)anthraquinone (Pentanthrimide).	ICI, NAC.
2-(1,1,3,3-Tetramethylbutyl)-p-cresol	ACY.
p-(1,1,3,3-Tetramethylbutyl)phenol	G.
3,3',5,5'-Tetramethyldiphenoquinone	DUP.
N,N,N',N'-Tetramethyl-p-phenylenediamine dihydrochloride	EK.
[4,4',4'',4'''-Tetranitrophthalocyaninato(2-)]copper	DUP.
1,1,4,4-Tetraphenylbutadiene	ARA.
2-(2-Thenylamino)pyridine	ABB.
3,3'-Thiobis[7H-benz[de]anthracen-7-one]	DUP, G, ICI.
4,4'-Thiodianiline	ACY, NAC.
6,6'-Thiodimetanilic acid	NAC.
2-Thiopheneacetyl chloride	LIL.
2-Thiophenecarboxaldehyde	ABB.
sym-Thymol	GIV.
*Toluene-2,4-diamine (4-m-Tolylenediamine)	ACY, DUP, G, NAC, OMC, SDC, TRC, UCC.
Toluene-2,4-disulfonic acid	G.
o-Toluenesulfonamide	MON.
p-Toluenesulfonamide	MON.
*o(and p)-Toluenesulfonic acid	MON, NAC, NES, SW, UPF.
p-Toluenesulfonic acid	ACY, TEN.
Toluenesulfonic acid, aniline salt	NES.
p-Toluenesulfonic acid, 2-chloroethyl ester	G.
p-Toluenesulfonic acid, ethyl ester	NAC.
p-Toluenesulfonic acid, methyl ester	ICI.
p-Toluenesulfonic acid monohydrate	NES, UPF.
p-Toluenesulfono-o-toluidide	G.
p-Toluenesulfonyl chloride	MON.
m-Toluic acid	CWL.
o-Toluic acid	CWL.
p-Toluic acid	CWL, EK.
m-Toluidine	DUP, NAC.
o-Toluidine	DUP, NAC.
o-Toluidine hydrochloride	ACY.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
p-Toluidine	DUP, NAC.
p-Toluidine hydrochloride	EK.
N-(p-Toluidine)methyltaurine	BUC.
Toluidines, mixed	DUP.
m-Toluidinomethanesulfonic acid	TRC, VPC.
8-p-Toluidino-1-naphthalenesulfonic acid	NAC.
o-(p-Toluoyl)benzoic acid	ACY, NAC.
N-(p-Tolylazo)sarcosine	G.
*4-(o-Tolylazo)-o-toluidine (C.I. Solvent Yellow 3)	ACY, ALL, DUP, G, KLS, NAC, SDH.
4-(o-Tolylazo)-o-toluidine hydrochloride	G.
1-p-Tolyldodecane	x.
2,2'-(m-Tolylimino)diethanol	EKT.
N,N,N-Tribenzylamine	MLS.
1,2,3(and 1,2,4)-Trichlorobenzene	PPG.
1,2,4-Trichlorobenzene	DOW, HK, SVT.
N,2,6-Trichloro-p-benzoquinoneimine	EK.
1,2,4-Trichloro-5-nitrobenzene	PCW.
Trichlorophenylsilane	DCC, UCS.
α,α,α-Trichlorotoluene (Benzotrichloride)	HK, VEL.
α,2,4-Trichlorotoluene	HN.
α,2,4(and6,2,6)-Trichlorotoluene	BPC.
2,4,6-Trichloro-s-triazine	ACY, GGY, NIL.
1,3,5-Triethylbenzene	DUP.
N,N,N'-Triethyl-N'-phenylethylenediamine	DUP.
2-(Trifluoromethyl)phenothiazine	SK.
α,α,α-Trifluoro-4-nitro-m-cresol	MEE.
α,α,α-Trifluoro-m-nitrotoluene	MEE.
α,α,α-Trifluoro-N-phenyl-m-toluidine (3-(Trifluoromethyl)-diphenylamine).	SK.
α,α,α-Trifluorotoluene	HK.
α,α,α-Trifluoro-m-toluidine	MEE.
1,2,4-Trihydroxyanthraquinone	G.
3,4,5-Trimethoxybenzoic acid	ICO, KF.
2,4,5-Trimethylaniline (Pseudocumidine)	NAC.
1,2,4-Trimethylbenzene (Pseudocumene)	ENJ.
2,3,3-Trimethyl-3H-indole	G.
*1,3,3-Trimethyl-$\Delta^{2,\alpha}$-indolineacetaldehyde	DUP, G, VPC.
*1,3,3-Trimethyl-2-methyleneindoline (Trimethyl base)	DUP, G, NAC, VPC.
Trimethylphenylammonium iodide	EK.
α,α',2-Trimethyl-1,4-piperazinediethanol	WYN.
2,4,6-Trimethylpyridine	KPT, RIL.
1,3,5-Trinitrobenzene	EK.
2,4,7-Trinitrofluoren-9-one	EK.
2,4,6-Trinitroresorcinol, lead derivative	REM.
Triphenylmethanol	EK.
Triphenylsulfonium chloride	GAM.
α,α',α''-Tris(dimethylamino)mesitol	RH, TKL.
Tris(2-methyl-1-aziridinyl)phosphine oxide	ICO.
2,4,6-Tris(2-methyl-1-aziridinyl)-s-triazine	ICO.
Tropine	CTN.
m-Ureidoaniline	ICI.
*7,7'-Ureylenebis[4-hydroxy-2-naphthalenesulfonic acid] (J acid urea).	ACY, ATL, BKS, BL, CMG, G, NAC, TRC, VPC.
Veratraldehyde (3,4-Dimethoxybenzaldehyde)	GIV, LIL, SLV.
Veratryl alcohol (3,4-Dimethoxybenzyl alcohol)	LIL.
p-Vinylbenzenesulfonic acid, sodium salt	DUP.
2-Vinylcyclohexene	UCC.
4-Vinylcyclohexene	PLC.
2,2'-Vinylenebis[benzimidazole]	TRC.
5-Vinyl-2-picoline (MVP)	PLC.
2-Vinylpyridine	RIL.
4-Vinylpyridine	RIL.
*Violanthrone (Dibenzanthrone)	ACY, ATL, DUP, G, ICI, MAY, TRC.
Xanthene-9-carboxylic acid	MAL.
m-Xylene	PLC, SNT, SOC.
*o-Xylene	ASH, CCP, COR, CSD, CSO, DLH, ENJ, SIN, SNT, SOC, TOC.
*p-Xylene	CSD, ENJ, SIN, SNT, SOC.
Xylenesulfonic acid	NES.
2,5-Xylenesulfonic acid	EK.
2,4-Xylenol	EK.
Xylenol crystals	ACP, KPT.

TABLE 7B.--*Cyclic intermediates for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Xylenols:	
Low b.p	NPC, PIT, PRD.
Medium b.p	KPT, NPC, PIT.
Not classified as to b.p	KPT, NPC, PRD.
Xylidines:	
2,4-Xylidine (m-4-Xylidine)	DUP, NAC.
2,5-Xylidine (p-Xylidine)	DUP, NAC.
2,6-Xylidine	DUP.
Original mixture	DUP, NAC.
4-(2,4-Xylylazo)-o-toluidine	NAC.
4-(2,5-Xylylazo)-o-toluidine	ACY.
4-(Xylylazo)xylidine	G.
4-(2,4-Xylylazo)-2,5-xylidine	NAC.
All other cyclic intermediates	ARA, G, HPC, ICC, IDC, LIL, UPJ, VPC, x, x, x.

[1] Does not include manufacturers' identification codes for producers that report to the Division of Bituminous Coal, U.S. Bureau of Mines. These producers are listed in the U.S. Bureau of Mines Mineral Industry Survey *Coke Producers in the United States in 1964*, May 17, 1965.

Dyes

TABLE 8B.--*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Dyes for which separate statistics are given in table 8A are marked below with an asterisk (*); dyes not so marked do not appear in table 8A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Dye	Manufacturers' identification codes (according to list in table 22)
ACID DYES	
*Acid yellow dyes:	
Acid Yellow 1	ACY.
Acid Yellow 2	DUP.
*Acid Yellow 3	ACY, DUP, NAC.
Acid Yellow 4	SDH.
Acid Yellow 7	NAC.
Acid Yellow 9	ACY.
*Acid Yellow 11	CMG, DUP, VPC.
Acid Yellow 14	BDO, TRC.
*Acid Yellow 17	ACY, ATL, BDO, BKS, CMG, DUP, G, NAC, PDC, SDH, TRC, VPC.
*Acid Yellow 23	AAP, ACY, G, MRX, NAC, SDH, TRC, VPC.
Acid Yellow 25	G.
Acid Yellow 29	G, TRC.
Acid Yellow 34	NAC.
Acid Yellow 35	VPC.
*Acid Yellow 36	DUP, G, NAC, TRC.
Acid Yellow 38	NAC.
*Acid Yellow 40	ACY, DUP, G, NAC, TRC, VPC.
*Acid Yellow 42	AAP, ACY, G, VPC.
Acid Yellow 43	NAC.
*Acid Yellow 44	AAP, G, NAC, VPC.
*Acid Yellow 54	ACY, BKS, CMG, G, NAC, TRC, VPC.
Acid Yellow 59	VPC.
Acid Yellow 60	NAC.
Acid Yellow 63	AAP, NAC.
Acid Yellow 65	TRC.
*Acid Yellow 73	G, NAC, NYC, SDH.
Acid Yellow 76	TRC.
Acid Yellow 79	VPC.
Acid Yellow 90	NAC.
Acid Yellow 95	CMG.
*Acid Yellow 99	CMG, G, NAC, TRC, VPC.
Acid Yellow 113	TRC.
Acid Yellow 114	CMG, TRC.
Acid Yellow 121	G.
Acid Yellow 124	BKS, DUP, NAC.
Acid Yellow 127	TRC.
Acid Yellow 128	TRC.
Acid Yellow 129	TRC.
Acid Yellow 151	ACY, BKS.
Acid Yellow 152	ACY.
Acid Yellow 159	TRC.
Other acid yellow dyes	ACY, ALT, CMG, DUP, G, VPC.
*Acid orange dyes:	
*Acid Orange 1	ALT, BKS, G, NAC.
Acid Orange 2	NAC.
Acid Orange 5	ACY.
Acid Orange 6	NAC.
*Acid Orange 7	AAP, ACY, ATL, BKS, CPC, G, NAC, PDC, TRC, YAW.
*Acid Orange 8	ACY, ATL, BKS, DUP, G, NAC, TRC.
*Acid Orange 10	ACY, ATL, DUP, G, NAC, TRC, YAW.
Acid Orange 12	NAC.
Acid Orange 19	G.
*Acid Orange 24	ACY, DUP, G, NAC, TRC, YAW.
Acid Orange 28	NAC.
Acid Orange 31	AAP.
Acid Orange 34	ACY.
Acid Orange 45	NAC, TRC.
Acid Orange 49	TRC.
Acid Orange 50	AAP.
Acid Orange 51	CMG, NAC, TRC.
Acid Orange 52	NAC.
Acid Orange 56	G.
*Acid Orange 60	BKS, CMG, DUP, G.

TABLE 8B.--*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
ACID DYES--Continued	
*Acid orange dyes--Continued	
Acid Orange 62	TRC.
Acid Orange 63	G, TRC.
*Acid Orange 64	ACY, DUP, NAC.
Acid Orange 69	ACY.
Acid Orange 72	G.
Acid Orange 74	CMG, G, NAC, TRC.
Acid Orange 76	NAC, TRC.
Acid Orange 85	NAC.
Acid Orange 86	NAC, TRC.
Acid Orange 114	ACY.
Acid Orange 116	ATL, TRC.
Acid Orange 119	TRC.
Other acid orange dyes	ALT, G, VPC.
*Acid red dyes:	
*Acid Red 1	AAP, ACY, BDO, BKS, BL, DUP, G, NAC, SDH, TRC, VPC, YAW.
*Acid Red 4	ATL, BDO, CMG, DUP, G, TRC, VPC, YAW.
Acid Red 12	G, NAC.
*Acid Red 14	ATL, BDO, DUP, G, NAC, PDC.
Acid Red 17	ATL, NAC, TRC.
*Acid Red 18	ACY, ATL, BDO, G, NAC, TRC.
*Acid Red 26	ACY, ATL, CPC, G, NAC.
Acid Red 27	NAC.
Acid Red 29	NAC.
Acid Red 32	G, NAC.
Acid Red 33	NAC, YAW.
Acid Red 34	NAC.
Acid Red 35	AAP, G.
*Acid Red 37	CMG, DUP, G, NAC, TRC.
Acid Red 42	G.
Acid Red 52	G.
Acid Red 57	TRC.
Acid Red 60	TRC.
Acid Red 66	AAP, NAC.
*Acid Red 73	ACY, DUP, G, NAC, PSC, TRC.
Acid Red 76	NAC.
Acid Red 80	G, ICI.
*Acid Red 85	ACY, ALT, ATL, BKS, CMG, DUP, G, NAC, PDC, TRC, VPC, YAW.
*Acid Red 87	AMS, NYC, SDH.
*Acid Red 88	ACY, ATL, DUP, G, NAC, SDH, TRC, YAW.
*Acid Red 89	AAP, G, TRC, VPC.
Acid Red 94	NYC.
Acid Red 97	ATL, G.
*Acid Red 99	BKS, CMG, NAC, TRC, VPC.
Acid Red 100	VPC.
Acid Red 106	YAW.
Acid Red 113	DUP.
*Acid Red 114	ATL, DUP, G.
*Acid Red 115	G, NAC, TRC.
Acid Red 119	NAC.
Acid Red 133	G.
Acid Red 134	TRC.
*Acid Red 137	ATL, DUP, G, NAC, TRC.
*Acid Red 151	AAP, ACY, BKS, TRC, YAW.
Acid Red 153	YAW.
Acid Red 167	NAC, TRC.
Acid Red 172	VPC.
Acid Red 175	DUP.
Acid Red 178	DUP.
Acid Red 179	CMG, TRC.
*Acid Red 182	ACY, BKS, CMG, DUP, G, NAC.
Acid Red 183	CMG, TRC.
Acid Red 184	TRC.
*Acid Red 186	ACY, BKS, CMG, DUP, G, TRC, VPC.
Acid Red 190	ACY.
Acid Red 191	TRC.
Acid Red 194	TRC.
Acid Red 207	NAC.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
ACID DYES--Continued	
*Acid red dyes--Continued	
Acid Red 212	TRC.
Acid Red 213	TRC.
Acid Red 218	NAC.
Acid Red 273	G.
Acid Red 292	ACY.
Acid Red 299	ATL, TRC.
Acid Red 309	TRC.
Other acid red dyes	ACY, ALT, ATL, G, TRC, VPC.
*Acid violet dyes:	
*Acid Violet 1	CMG, G, NAC.
*Acid Violet 3	ACY, DUP, NAC, TRC, YAW.
Acid Violet 6	NAC.
*Acid Violet 7	AAP, BDO, CMG, DUP, G, NAC, TRC, VPC.
Acid Violet 11	G.
*Acid Violet 12	CMG, DUP, G.
Acid Violet 13	DUP.
Acid Violet 17	DUP, G, SDH.
Acid Violet 29	HSH.
Acid Violet 34	ICI.
Acid Violet 41	CMG.
Acid Violet 43	HSH, ICI, NAC.
*Acid Violet 49	ACY, NAC, TRC.
Acid Violet 56	CMG, G.
Acid Violet 76	NAC.
Acid Violet 78	NAC.
Other acid violet dyes	ALT, DUP, TRC.
*Acid blue dyes:	
Acid Blue 1	G, NAC, SDH.
*Acid Blue 7	ACY, G, NAC, SDH.
*Acid Blue 9	G, NAC, SDH, VPC.
Acid Blue 10	AAP, NAC.
Acid Blue 13	DUP.
Acid Blue 15	G.
Acid Blue 20	ACY, NAC.
Acid Blue 22	ACY, NYC.
Acid Blue 23	NAC, TRC.
*Acid Blue 25	ATL, BDO, CMG, DUP, G, NAC, TRC.
Acid Blue 26	NAC.
Acid Blue 27	CMG, G.
Acid Blue 29	YAW.
Acid Blue 34	NAC.
Acid Blue 35	NAC.
*Acid Blue 40	ATL, G, ICI, NAC.
*Acid Blue 41	BDO, CMG, G, NAC.
*Acid Blue 43	ACY, G, NAC, TRC.
*Acid Blue 45	ACY, CMG, DUP, G, NAC, TRC, VPC.
Acid Blue 47	ICI.
Acid Blue 48	HSC.
Acid Blue 58	DUP.
Acid Blue 59	NAC.
*Acid Blue 62	BDO, G, VPC.
Acid Blue 63	CMG, NAC.
Acid Blue 67	CMG, NAC.
Acid Blue 69	DUP, G.
Acid Blue 74	DUP, NAC.
*Acid Blue 78	DUP, G, ICI, NAC, TRC.
Acid Blud 80	NAC, TRC.
Acid Blue 81	ICI.
Acid Blue 83	G.
Acid Blue 89	NAC.
*Acid Blue 90	G, NAC, TRC.
Acid Blue 92	NAC.
Acid Blue 93	HSC.
Acid Blue 102	NAC, TRC.
Acid Blue 104	G, NAC.
*Acid Blue 113	BDO, BKS, CMG, DUP, G.
*Acid Blue 118	BKS, G, NAC.
Acid Blue 120	G, NAC.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
ACID DYES--Continued	
*Acid blue dyes--Continued	
Acid Blue 122	DUP.
Acid Blue 137	NAC.
Acid Blue 145	DUP.
*Acid Blue 158 and 158A	ACY, BKS, G, NAC, TRC, VPC.
Acid Blue 165	DUP.
Acid Blue 179	G.
Acid Blue 203	VPC.
Acid Blue 230	DUP, TRC.
Acid Blue 231	TRC.
Other acid blue dyes	ACY, ALT, CMG, DUP, TRC, VPC.
*Acid green dyes:	
Acid Green 1	ACY, NAC.
*Acid Green 3	ACY, DUP, G, NAC, TRC.
Acid Green 5	G, NAC.
*Acid Green 9	ACY, DUP, G, NAC, VPC.
*Acid Green 12	G, NAC, TRC.
*Acid Green 16	DUP, G, NAC, SDH, TRC.
*Acid Green 20	ATL, CMG, DUP, G, NAC, TRC.
Acid Green 22	G, NAC.
*Acid Green 25	ATL, CMG, G, HSH, ICI, NAC, TRC, VPC.
Acid Green 35	TRC.
Acid Green 41	ICI, VPC.
Acid Green 44	VPC.
Acid Green 50	ACY, G.
Acid Green 58	TRC.
Other acid green dyes	ALT, TRC, VPC.
*Acid brown dyes:	
Acid Brown 1	G.
Acid Brown 6	G.
*Acid Brown 14	AAP, ACY, DUP, G, NAC, TRC, YAW.
Acid Brown 19	TRC.
Acid Brown 22	DUP.
Acid Brown 28	TRC.
Acid Brown 29	DUP, NAC.
Acid Brown 31	G.
Acid Brown 45	NAC, TRC.
Acid Brown 96	ACY.
Acid Brown 97	ACY.
Acid Brown 98	ACY, TRC.
Acid Brown 152	G.
Acid Brown 158	G.
Acid Brown 223	G.
Acid Brown 243	G.
Other acid brown dyes	ALT, DUP, G, VPC.
*Acid black dyes:	
*Acid Black 1	AAP, ACY, ATL, BDO, BKS, DUP, FAB, G, NAC, PDC, TRC, YAW.
Acid Black 2	ACY, NAC.
Acid Black 12	NAC.
Acid Black 16	NAC.
Acid Black 18	NAC.
*Acid Black 24	CMG, DUP, G, NAC.
Acid Black 26, 26A, and 26B	DUP, NAC, TRC.
Acid Black 29	G, NAC.
Acid Black 41	NAC.
*Acid Black 48	ACY, CMG, DUP, G, ICI, NAC, TRC.
Acid Black 52	G, NAC, TRC.
Acid Black 53	NAC.
Acid Black 58	NAC, TRC.
Acid Black 60	CMG, TRC.
Acid Black 92	ACY.
*Acid Black 107	G, NAC, TRC.
Acid Black 138	VPC.
Other acid black dyes	ALT, DUP, PDC.

TABLE 8B.--*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
AZOIC DYES AND COMPONENTS	
Azoic Compositions	
Azoic yellow dyes:	
*Azoic Yellow 1	ALL, ATL, BUC, G.
Azoic Yellow 2	BUC, G, HST, x.
*Azoic Yellow 3	ATL, G, HST.
Other azoic yellow dyes	BUC.
Azoic orange dyes:	
*Azoic Orange 3	ALL, ATL, BUC, G, x.
Azoic Orange 4	G.
Other azoic orange dyes	VPC.
*Azoic red dyes:	
*Azoic Red 1	ALL, ATL, BUC, G, HST, x.
*Azoic Red 2	ATL, BUC, G, x.
*Azoic Red 6	ALL, ATL, BUC, G, HST, NAC, VPC, x.
Azoic Red 13	G.
Azoic Red 14	G.
Azoic Red 15	G.
*Azoic Red 16	ATL, BUC, G.
Azoic Red 73	G.
Azoic Red 74	G.
Other azoic red dyes	ATL, BUC, G.
Azoic violet dyes:	
Azoic Violet 1	ATL, G, x.
Other azoic violet dyes	G.
Azoic blue dyes:	
*Azoic Blue 2	ATL, BUC, G.
*Azoic Blue 3	ALL, ATL, BUC, G, HST, x.
Azoic Blue 4	G.
Azoic Blue 6	ATL, G.
Azoic Blue 7	G.
Other azoic blue dyes	G.
Azoic green dyes:	
Azoic Green 1	ATL, G.
Other azoic green dyes	VPC.
Azoic brown dyes:	
*Azoic Brown 9	ATL, BUC, G, HST, VPC, x.
Azoic Brown 10	ATL, BUC.
Azoic Brown 26	BUC, G.
Other azoic brown dyes	ATL, BUC, G, VPC.
*Azoic black dyes:	
Azoic Black 1	G, HST.
Azoic Black 2	ATL.
Azoic Black 3	ATL.
Azoic Black 4	ALL, ATL, G.
Azoic Black 15	G, NAC.
Other azoic black dyes	ALL, ATL, G, VPC.
Other azoic compositions	x.
Azoic Diazo Components, Bases (Fast Color Bases)	
Azoic Diazo Component 1, base	SDH.
Azoic Diazo Component 2, base	ATL.
Azoic Diazo Component 3, base	KLS.
*Azoic Diazo Component 4, base	ALL, G, KLS, SDH.
Azoic Diazo Component 5, base	G, SDH.
Azoic Diazo Component 8, base	DUP.
*Azoic Diazo Component 9, base	AAP, DUP, VPC.
*Azoic Diazo Component 10, base	ALL, AUG, BUC, G, KLS.
*Azoic Diazo Component 12, base	AUG, KLS, SDH.
*Azoic Diazo Component 13, base	ALL, AUG, BUC, KLS.
Azoic Diazo Component 14, base	AAP.
Azoic Diazo Component 20, base	ALL, G.
Azoic Diazo Component 24, base	KLS.
Azoic Diazo Component 28, base	ALL, BUC, KLS.
*Azoic Diazo Component 32, base	AAP, ATL, BUC, DUP, KLS, SDH.
Azoic Diazo Component 34, base	G.
Azoic Diazo Component 41, base	G.
Azoic Diazo Component 46, base	ATL.

TABLE 8B.--*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
AZOIC DYES AND COMPONENTS--Continued	
Azoic Diazo Components, Bases (Fast Color Bases)--Continued	
*Azoic Diazo Component 48, base	ALL, CWN, DUP, G.
Azoic Diazo Component 49, base	KLS.
Azoic Diazo Components, Salts (Fast Color Salts)	
*Azoic Diazo Component 1, salt	AAP, ALL, G, SDH.
*Azoic Diazo Component 2, salt	AUG, BUC, G, KLS.
*Azoic Diazo Component 3, salt	AAP, ALL, AUG, BUC, G, KLS, SDH, VPC.
Azoic Diazo Component 4, salt	ALL.
*Azoic Diazo Component 5, salt	AAP, ALL, AUG, BUC, G, KLS, SDH, VPC.
*Azoic Diazo Component 6, salt	AAP, BUC, G, KLS, SDH.
*Azoic Diazo Component 8, salt	AAP, ALL, AUG, BUC, G, KLS.
*Azoic Diazo Component 9, salt	AAP, ALL, AUG, BUC, G, KLS, SDH, VPC.
*Azoic Diazo Component 10, salt	AAP, ALL, BUC, G, KLS, SDH.
*Azoic Diazo Component 11, salt	AAP, ALL, G, KLS.
*Azoic Diazo Component 12, salt	AAP, ALL, BUC, G, KLS, SDH.
*Azoic Diazo Component 13, salt	AAP, ALL, AUG, BUC, G, KLS, SDH, VPC.
Azoic Diazo Component 14, salt	AAP.
Azoic Diazo Component 20, salt	ALL, G.
Azoic Diazo Component 24, salt	BUC.
*Azoic Diazo Component 28, salt	ALL, AUG, BUC, G, KLS, SDH, VPC.
Azoic Diazo Component 32, salt	ALL, BUC, SDH.
Azoic Diazo Component 34, salt	G.
Azoic Diazo Component 35, salt	G.
Azoic Diazo Component 36, salt	AAP, G.
Azoic Diazo Component 37, salt	G.
Azoic Diazo Component 41, salt	G.
Azoic Diazo Component 42, salt	ALL, G, KLS.
Azoic Diazo Component 44, salt	G, SDH.
*Azoic Diazo Component 48, salt	AAP, ALL, G, NAC, SDH.
*Azoic Diazo Component 49, salt	AAP, BUC, G, KLS.
Azoic Diazo Component 51, salt	BUC.
Other azoic diazo components, salts	G.
Azoic Coupling Components (Naphthol AS and Derivatives)	
Azoic Coupling Component 1	AUG.
*Azoic Coupling Component 2	AAP, ACY, ATL, BUC, DUP, G, PCW.
*Azoic Coupling Component 3	AUG, BUC, G, PCW.
*Azoic Coupling Component 4	ATL, AUG, BUC, G, PCW.
*Azoic Coupling Component 5	AAP, G, PCW, SDH.
*Azoic Coupling Component 7	AAP, AUG, BUC, G, PCW.
*Azoic Coupling Component 8	ATL, G, PCW.
Azoic Coupling Component 10	PCW, SDH.
*Azoic Coupling Component 11	BUC, G, PCW.
Azoic Coupling Component 12	BUC, G, PCW.
Azoic Coupling Component 13	G.
*Azoic Coupling Component 14	ATL, BUC, G, NAC, PCW.
Azoic Coupling Component 15	G.
Azoic Coupling Component 16	G.
*Azoic Coupling Component 17	ACY, ATL, BUC, PCW.
*Azoic Coupling Component 18	ACY, ATL, BUC, DUP, G, PCW.
*Azoic Coupling Component 19	BUC, G, PCW.
*Azoic Coupling Component 20	ATL, BUC, DUP, G, PCW.
*Azoic Coupling Component 21	ATL, AUG, BUC, G, PCW.
Azoic Coupling Component 23	G, PCW.
Azoic Coupling Component 24	G, PCW.
*Azoic Coupling Component 29	ATL, AUG, BUC, G, PCW.
Azoic Coupling Component 34	BUC, G, PCW.
Azoic Coupling Component 35	ALL, G, PCW.
Azoic Coupling Component 36	G.
Azoic Coupling Component 43	ATL, G.
Other azoic coupling components	ATL, G, VPC.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
BASIC DYES	
*Basic yellow dyes:	
Basic Yellow 1	DUP.
*Basic Yellow 2	ACY, DUP, NAC.
Basic Yellow 5	NAC.
*Basic Yellow 11	DUP, G, NAC, VPC.
*Basic Yellow 13	DUP, G, NAC, VPC.
Basic Yellow 15	DUP.
Basic Yellow 16	DUP.
Basic Yellow 26	ACY.
Basic Yellow 27	ACY.
Basic Yellow 28	VPC.
Basic Yellow 37	ACY.
Other basic yellow dyes	G, DUP.
*Basic orange dyes:	
*Basic Orange 1	ACY, DUP, G, NAC.
*Basic Orange 2	ACY, DSC, DUP, G, NAC, PDC, PSC, TRC.
Basic Orange 10	VPC.
Basic Orange 14	G.
Basic Orange 17	NAC.
*Basic Orange 21	DUP, G, NAC, VPC.
Basic Orange 22	G, NAC.
Basic Orange 24	DUP.
Basic Orange 25	DUP.
Basic Orange 26	DUP.
Basic Orange 31	ACY.
Other basic orange dyes	VPC.
*Basic red dyes:	
Basic Red 1	DUP, G.
Basic Red 2	DUP, NAC.
Basic Red 9	DSC, HSC.
Basic Red 12	DUP.
Basic Red 13	G, NAC.
*Basic Red 14	ACY, DUP, G, NAC, VPC.
Basic Red 15	DUP, G.
Basic Red 16	DUP.
Basic Red 17	DUP.
Basic Red 18	DUP, VPC.
Basic Red 19	DUP.
Basic Red 20	DUP.
Basic Red 22	ACY, TRC.
Basic Red 30	ACY.
Other basic red dyes	DUP.
*Basic violet dyes:	
*Basic Violet 1	ACY, DSC, HSC, NAC.
Basic Violet 2	DSC, NYC.
*Basic Violet 3	DSC, DUP, G, NAC, SDH.
*Basic Violet 4	DSC, DUP, G, NAC.
Basic Violet 7	G, NAC.
Basic Violet 10	ACY, DUP, G.
Basic Violet 13	DSC.
Basic Violet 14	ACY, DSC.
Basic Violet 15	DUP.
*Basic Violet 16	DUP, G, VPC.
Basic Violet 18	ACY.
Other basic violet dyes	DUP.
*Basic blue dyes:	
*Basic Blue 1	DSC, G, NAC, SDH, VPC.
Basic Blue 2	DSC.
Basic Blue 3	G.
Basic Blue 4	DUP.
*Basic Blue 5	DSC, SDH, VPC.
Basic Blue 6	ACY, NAC.
*Basic Blue 7	DSC, DUP, G, SDH.
*Basic Blue 9	ACY, G, NAC, SDH.
Basic Blue 11	DSC, DUP, SDH.
Basic Blue 21	DUP.
Basic Blue 22	DUP, NAC.
*Basic Blue 26	DSC, DUP, G, SDH.
Basic Blue 27	G.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
BASIC DYES--Continued	
*Basic blue dyes--Continued	
Basic Blue 35	DUP.
Basic Blue 36	DUP.
Basic Blue 38	ACY, DUP.
Basic Blue 39	DUP.
Basic Blue 41	TRC.
Basic Blue 54	ACY.
Other basic blue dyes	ACY, DUP, G.
Basic green dyes:	
*Basic Green 1	ACY, DSC, DUP, NAC, SDH.
Basic Green 3	DUP.
*Basic Green 4	ACY, DSC, DUP, NAC, SDH.
Basic Green 5	ACY.
Basic brown dyes:	
*Basic Brown 1	ACY, DUP, G, NAC, TRC.
Basic Brown 2	G, NAC.
*Basic Brown 4	ACY, DSC, DUP, G, NAC, TRC.
Basic black dyes:	
Basic Black 3	G.
Other basic black dyes	DSC, DUP.
DIRECT DYES	
*Direct yellow dyes:	
*Direct Yellow 4	ACY, DUP, G, NAC, TRC.
*Direct Yellow 5	ACY, G, NAC.
*Direct Yellow 6	ACY, DUP, G, NAC, TRC.
Direct Yellow 7	ATL.
Direct Yellow 8	G, NAC.
Direct Yellow 9	DUP.
*Direct Yellow 11	ACY, DUP, G, NAC, TRC.
*Direct Yellow 12	BKS, DUP, G, NAC, TRC.
Direct Yellow 20	TRC.
Direct Yellow 23	DUP.
*Direct Yellow 26	BKS, BL, DUP.
Direct Yellow 27	G.
*Direct Yellow 28	ATL, DUP, G, NAC, TRC.
Direct Yellow 29	DUP, G.
Direct Yellow 39	TRC.
*Direct Yellow 44	ALT, ATL, BKS, BL, DUP, G, NAC, TRC, VPC.
*Direct Yellow 50	ATL, BKS, BL, DUP, FAB, G, NAC, TRC, VPC.
*Direct Yellow 59	ATL, DUP, NAC.
Direct Yellow 62	NAC.
Direct Yellow 63	DUP.
*Direct Yellow 84	BKS, G, NAC, TRC.
Direct Yellow 103	NAC.
*Direct Yellow 105	ALT, BKS, TRC.
*Direct Yellow 106	ALT, BKS, G, TRC.
Direct Yellow 107	G.
Direct Yellow 114	ACY.
Direct Yellow 117	TRC.
Direct Yellow 118	ACY, TRC.
Direct Yellow 121	TRC.
Direct Yellow 125	ACY.
Other direct yellow dyes	AAP, ALT, ATL, BL, DUP, FAB, VPC.
*Direct orange dyes:	
*Direct Orange 1	AAP, BDO, CMG, NAC, VPC.
Direct Orange 6	NAC.
*Direct Orange 8	ATL, DUP, G, NAC, TRC.
Direct Orange 10	AAP, NAC.
Direct Orange 11	G.
*Direct Orange 15	ACY, DUP, G, NAC, TRC.
*Direct Orange 26	ATL, BL, DUP, G, NAC, TRC.
Direct Orange 29	ATL, BKS, TRC.
*Direct Orange 34	ACY, CMG, DUP, G, NAC.
*Direct Orange 37	ACY, CMG, DUP, G, TRC.
Direct Orange 38	NAC.
*Direct Orange 39	ATL, BKS, CMG, DUP, G.
Direct Orange 40	DUP.

TABLE 8B.--*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
DIRECT DYES--Continued	
*Direct orange dyes--Continued	
Direct Orange 48	DUP.
Direct Orange 55	DUP, NAC.
Direct Orange 59	DUP, G.
Direct Orange 61	TRC.
Direct Orange 67	NAC, VPC.
Direct Orange 70	TRC.
*Direct Orange 72	ATL, BKS, BL, FAB, NAC, TRC, VPC.
*Direct Orange 73	DUP, G, TRC, VPC.
Direct Orange 74	DUP.
Direct Orange 76	DUP.
Direct Orange 78	DUP, VPC.
Direct Orange 79	DUP.
Direct Orange 80	DUP, VPC.
*Direct Orange 81	DUP, G, NAC, VPC.
Direct Orange 83	G, NAC.
Direct Orange 88	DUP.
*Direct Orange 102	ACY, DUP, G, NAC.
Direct Orange 110	TRC.
Other direct orange dyes	ALT, ATL, BL, DUP, G, VPC.
*Direct red dyes:	
*Direct Red 1	AAP, ATL, DUP, G, NAC, TRC, YAW.
*Direct Red 2	ATL, BKS, DUP, NAC, TRC.
*Direct Red 4	NAC, TRC, VPC.
Direct Red 5	NAC.
*Direct Red 10	AAP, ACY, ATL, NAC.
*Direct Red 13	AAP, ATL, DUP, G, NAC, TRC, YAW.
*Direct Red 16	AAP, ATL, DUP, G, NAC, TRC.
Direct Red 20	G, NAC.
*Direct Red 23	ATL, BKS, DUP, FAB, G, NAC, TRC.
*Direct Red 24	AAP, ATL, BKS, BL, FAB, NAC, TRC, VPC.
*Direct Red 26	AAP, ATL, BKS, DUP, G, NAC, TRC, VPC.
*Direct Red 28	ATL, DUP, NAC, TRC.
Direct Red 30	VPC.
*Direct Red 31	ATL, DUP, G, NAC, TRC.
Direct Red 32	DUP, NAC.
*Direct Red 37	ACY, ATL, G, NAC, TRC, YAW.
*Direct Red 39	ATL, G, NAC, TRC, YAW.
Direct Red 46	ATL, TRC.
Direct Red 53	NAC.
Direct Red 62	TRC.
Direct Red 72	G, TRC.
Direct Red 73	DUP, NAC.
*Direct Red 75	ACY, CMG, DUP, G, NAC, VPC.
Direct Red 76	G, NAC.
*Direct Red 79	ATL, BKS, CMG, TRC, VPC.
*Direct Red 80	AAP, ATL, BDO, BKS, BL, CMG, DUP, FAB, G, NAC, TRC, VPC.
*Direct Red 81	AAP, ACY, ATL, BDO, BKS, BL, CMG, DUP, G, NAC, TRC, VPC, YAW.
*Direct Red 83	ALT, ATL, BKS, BL, CMG, DUP, FAB, G, NAC, TRC.
Direct Red 84	G, NAC.
Direct Red 94	NAC.
Direct Red 95	VPC.
Direct Red 100	NAC.
Direct Red 111	G, VPC.
Direct Red 117	BL, DUP.
Direct Red 120	VPC.
*Direct Red 122	CMG, NAC, TRC, VPC.
Direct Red 123	G.
*Direct Red 127 and 127A	DUP, NAC, TRC.
Direct Red 139	VPC.
Direct Red 148	DUP.
*Direct Red 149	ATL, CMG, DUP, G, NAC.
Direct Red 152	CMG, DUP, NAC.
*Direct Red 153	ATL, CMG, NAC.
Direct Red 155	G.
Direct Red 209	TRC.
Other direct red dyes	ALT, BL.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
DIRECT DYES--Continued	
*Direct violet dyes:	
*Direct Violet 1	AAP, ATL, DUP, NAC.
Direct Violet 7	G, NAC.
*Direct Violet 9	ATL, BKS, DUP, G, NAC, TRC.
Direct Violet 14	ATL, NAC.
Direct Violet 22	DUP.
Direct Violet 30	AAP.
Direct Violet 47	DUP, G.
Direct Violet 48	DUP, NAC.
Direct Violet 49	NAC.
*Direct Violet 51	ATL, DUP, NAC.
Direct Violet 60	NAC.
Direct Violet 62	ACY.
Direct Violet 66	ATL, TRC.
Direct Violet 67	DUP, NAC.
Direct Violet 68	DUP.
Other direct violet dyes	ALT.
*Direct blue dyes:	
*Direct Blue 1	AAP, ACY, ATL, BKS, BL, DUP, FAB, G, NAC, TRC, VPC, YAW.
*Direct Blue 2	AAP, ATL, BKS, BL, DUP, FAB, G, NAC, TRC, VPC, YAW.
Direct Blue 3	NAC.
*Direct Blue 6	AAP, ACY, ATL, BKS, BL, DUP, G, NAC, TRC, YAW.
*Direct Blue 8	ATL, BKS, DUP, G, NAC, TRC, YAW.
Direct Blue 10	DUP.
*Direct Blue 14	ATL, DUP, NAC, TRC.
*Direct Blue 15	ATL, DUP, G, NAC, YAW.
Direct Blue 21	TRC.
*Direct Blue 22	ATL, CMG, DUP, NAC.
*Direct Blue 24	ATL, BKS, NAC, TRC, YAW.
*Direct Blue 25	DUP, G, NAC, TRC, YAW.
Direct Blue 26	ATL, NAC.
Direct Blue 27	DUP.
Direct Blue 55	NAC.
Direct Blue 67	ATL, DUP, NAC, TRC.
*Direct Blue 71	ATL, DUP, G, NAC, TRC.
Direct Blue 74	DUP.
Direct Blue 75	TRC.
*Direct Blue 76	ALT, ATL, BKS, BL, DUP, G, NAC, TRC, VPC.
*Direct Blue 78	ATL, CMG, DUP, G, NAC, TRC.
Direct Blue 79	TRC.
*Direct Blue 80	ALT, ATL, BKS, BL, DUP, FAB, G, NAC, TRC.
Direct Blue 84	DUP.
*Direct Blue 86	AAP, ACY, ATL, BKS, DUP, FAB, G, ICC, ICI, NAC, SDH, TMS, TRC, VPC.
Direct Blue 87	ICI.
Direct Blue 91	TRC.
*Direct Blue 98	ALT, ATL, G, TRC, VPC.
Direct Blue 100	ALT, NAC.
Direct Blue 104	DUP.
*Direct Blue 120 and 120A	ATL, BKS, CMG, DUP, G, NAC, TRC.
*Direct Blue 126	BL, DUP, G, NAC, TRC, VPC.
Direct Blue 130	NAC.
Direct Blue 133	G.
Direct Blue 136	G.
Direct Blue 143	DUP.
*Direct Blue 151	ATL, NAC, TRC.
Direct Blue 160	TRC.
Direct Blue 189	TRC.
Direct Blue 191	G.
Direct Blue 199	G.
Direct Blue 218	BKS.
Direct Blue 238	ACY.
Other direct blue dyes	AAP, ACY, ALT, ATL, BL, DUP, FAB, G, NAC, VPC, YAW.
*Direct green dyes:	
*Direct Green 1	AAP, ACY, ATL, BKS, DUP, G, NAC, TRC, YAW.
*Direct Green 6	AAP, ATL, BKS, BL, DUP, FAB, G, NAC, TRC, YAW.
*Direct Green 8	ATL, NAC, TRC.
*Direct Green 12	DUP, NAC, TRC.

TABLE 8B.--*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
DIRECT DYES--Continued	
*Direct green dyes--Continued	
Direct Green 14	NAC.
Direct Green 15	DUP.
Direct Green 26	TRC.
Direct Green 27	NAC, TRC.
Direct Green 28	TRC.
*Direct Green 38	DUP, G, NAC.
Direct Green 39	G.
Direct Green 41	DUP.
Direct Green 45	VPC.
Direct Green 47	DUP, G.
Direct Green 51	TRC.
Direct Green 69	TRC.
Other direct green dyes	ACY, ALT, ATL, BL, DUP.
*Direct brown dyes:	
*Direct Brown 1	ACY, ATL, BKS, BL, DUP, FAB, NAC.
*Direct Brown 1A	G, TRC, YAW.
*Direct Brown 2	AAP, ACY, ATL, BKS, BL, DUP, G, NAC, TRC, YAW.
*Direct Brown 6	DUP, G, NAC, TRC.
Direct Brown 11	NAC.
Direct Brown 25	DUP, NAC.
Direct Brown 27	G.
Direct Brown 29	NAC.
*Direct Brown 31	AAP, ATL, DUP, G, NAC, YAW.
Direct Brown 32	G.
Direct Brown 33	DUP, NAC.
Direct Brown 35	NAC.
Direct Brown 40	AAP, DUP.
Direct Brown 44	G, YAW.
Direct Brown 48	AAP.
Direct Brown 59	ACY.
*Direct Brown 74	AAP, DUP, NAC.
*Direct Brown 95	AAP, ALT, ATL, BKS, BL, DUP, FAB, G, NAC, TRC, YAW.
Direct Brown 101	G.
Direct Brown 105	DUP.
Direct Brown 106	G, NAC.
*Direct Brown 111	DUP, G, TRC, VPC.
Direct Brown 112	ATL, NAC.
Direct Brown 125	G.
*Direct Brown 154	DUP, G, NAC, TRC, YAW.
Other direct brown dyes	ALT, ATL, BL, NAC, TRC, VPC, YAW.
*Direct black dyes:	
Direct Black 3	DUP.
*Direct Black 4	ATL, BKS, DUP, G, NAC, TRC, YAW.
Direct Black 8	TRC, YAW.
*Direct Black 9	BKS, DUP, G, NAC, TRC.
Direct Black 17	G.
*Direct Black 19	ATL, BKS, G, NAC, TRC, VPC.
*Direct Black 22	AAP, ALT, ATL, BKS, CMG, DUP, G, NAC, TRC, VPC, YAW.
Direct Black 29	ATL.
Direct Black 36	AAP.
Direct Black 37	AAP, DUP.
*Direct Black 38	AAP, ACY, ATL, BKS, BL, DUP, FAB, G, NAC, TRC, YAW.
Direct Black 44	TRC.
*Direct Black 51	AAP, ATL, DUP, G, NAC, TRC.
Direct Black 55	DUP.
Direct Black 56	NAC, TRC.
Direct Black 67	DUP, NAC, VPC.
Direct Black 71	ATL, BKS, VPC.
Direct Black 74	NAC.
Direct Black 75	G.
Direct Black 78	BKS, NAC.
*Direct Black 80	AAP, ATL, BKS, BL, FAB, G, NAC, TRC, VPC, YAW.
Direct Black 109	G.
Direct Black 123	NAC.
Direct Black 130	ACY.
Direct Black 190	BKS.
Other direct black dyes	ACY, ALT, ATL, BL, TRC, YAW.

TABLE 8B.--*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
DISPERSE DYES	
*Disperse yellow dyes:	
Disperse Yellow 1	DUP, G.
Disperse Yellow 2	DUP.
*Disperse Yellow 3	AAP, BKS, BL, DUP, EKT, G, HSH, ICC, NAC, SDH, TRC.
*Disperse Yellow 5	BKS, EKT, G, ICC.
Disperse Yellow 8	DUP, TRC.
Disperse Yellow 17	AAP.
*Disperse Yellow 23	DUP, EKT, ICC.
Disperse Yellow 31	G.
Disperse Yellow 32	DUP.
*Disperse Yellow 33	AAP, EKT, ICC, NAC, TRC.
*Disperse Yellow 34	AAP, EKT, ICC, G.
Disperse Yellow 37	EKT, ICC.
*Disperse Yellow 42	AAP, DUP, TRC.
Disperse Yellow 50	TRC.
*Disperse Yellow 54	AAP, DUP, G, ICC, TRC.
Disperse Yellow 67	DUP.
Other disperse yellow dyes	DUP, EKT, G, ICC.
*Disperse orange dyes:	
*Disperse Orange 3	AAP, BKS, BL, DUP, EKT, G, HSH, ICC, NAC, TRC.
*Disperse Orange 5	AAP, EKT, G.
Disperse Orange 16	AAP.
*Disperse Orange 17	AAP, BKS, EKT, G, HSH, ICC, NAC.
Disperse Orange 21	TRC.
Disperse Orange 25	DUP, TRC.
Disperse Orange 26	DUP.
Disperse Orange 29	AAP.
Disperse Orange 30	TRC.
Disperse Orange 38	TRC.
Disperse Orange 44	DUP.
Other disperse orange dyes	AAP, EKT, G, ICC.
*Disperse red dyes:	
*Disperse Red 1	AAP, BKS, BL, DUP, EKT, G, HSH, ICC, NAC, TRC, YAW.
Disperse Red 4	G, TRC.
*Disperse Red 5	AAP, BKS, EKT, G, HSH, ICC.
Disperse Red 9	DUP.
*Disperse Red 11	AAP, DUP, G, TRC.
*Disperse Red 13	DUP, G, ICC.
Disperse Red 15	G, HSH, ICC, NAC.
*Disperse Red 17	AAP, BKS, DUP, EKT, G, HSH, ICC, TRC.
Disperse Red 20	NAC.
Disperse Red 21	EKT.
Disperse Red 30	EKT, TRC.
Disperse Red 31	ICC.
Disperse Red 32	G.
Disperse Red 55	TRC.
Disperse Red 56	DUP.
Disperse Red 59	DUP.
*Disperse Red 60	AAP, DUP, VPC.
Disperse Red 61	DUP.
Disperse Red 65	DUP, TRC.
Disperse Red 66	AAP.
Disperse Red 73	TRC.
Disperse Red 78	TRC.
Disperse Red 96	ACY.
Other disperse red dyes	BKS, DUP, EKT, G, ICC, VPC.
Disperse violet dyes:	
*Disperse Violet 1	AAP, BKS, G, HSH, ICC, TRC.
*Disperse Violet 4	AAP, G, ICC.
Disperse Violet 8	G.
Disperse Violet 11	EKT, NAC.
Disperse Violet 14	DUP.
Disperse Violet 18	DUP.
Disperse Violet 22	G.
Disperse Violet 26	DUP.
*Disperse Violet 27	AAP, ACY, BL, DUP.
Other disperse violet dyes	EKT, G, ICC.
*Disperse blue dyes:	
*Disperse Blue 1	AAP, G, TRC.
*Disperse Blue 3	AAP, BKS, EKT, G, HSH, ICC, TRC.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
DISPERSE DYES--Continued	
*Disperse blue dyes--Continued	
*Disperse Blue 7	AAP, EKT, G, ICC, TRC.
Disperse Blue 9	G, ICC.
Disperse Blue 27	EKT.
Disperse Blue 35	ICI.
Disperse Blue 51	G.
Disperse Blue 55	TRC.
Disperse Blue 59	DUP.
Disperse Blue 60	DUP.
Disperse Blue 61	DUP.
Disperse Blue 62	DUP.
Disperse Blue 63	DUP.
*Disperse Blue 64	DUP, G, TRC.
Disperse Blue 70	AAP.
Disperse Blue 71	VPC.
Disperse Blue 73	TRC.
Disperse Blue 79	TRC.
Other disperse blue dyes	AAP, BKS, DUP, EKT, G, HSH, ICC, STD, VPC.
Disperse brown dyes:	
Disperse Brown 2	DUP.
Other disperse brown dyes	EKT, G, ICC.
*Disperse black dyes:	
*Disperse Black 1	AAP, BL, DUP, G, TRC.
Disperse Black 2	DUP, TRC.
Disperse Black 6	AAP, DUP.
Disperse Black 7	YAW.
*Disperse Black 9	AAP, BL, DUP, EKT, G, NAC.
Other disperse black dyes	DUP, EKT, G, ICC, YAW.
FIBER-REACTIVE DYES	
*Reactive yellow dyes:	
Reactive Yellow 1	ICI.
Reactive Yellow 2	TRC.
Reactive Yellow 3	TRC.
Reactive Yellow 4	ICI.
Reactive Yellow 6	TRC.
Reactive Yellow 7	ICI.
Reactive Yellow 11	TRC.
Reactive Yellow 13	HST.
Reactive Yellow 14	HST.
Reactive Yellow 15	DUP, HST.
Reactive Yellow 16	HST.
Reactive Yellow 17	HST.
Reactive Yellow 18	ICI.
Reactive Yellow 22	ICI.
Reactive Yellow 24	HST.
Other reactive yellow dyes	DUP, G, HST.
Reactive orange dyes:	
Reactive Orange 1	ICI.
Reactive Orange 2	TRC.
Reactive Orange 4	ICI.
Reactive Orange 5	TRC.
Reactive Orange 7	DUP.
Reactive Orange 12	ICI.
Reactive Orange 13	ICI.
Reactive Orange 14	ICI.
Reactive Orange 16	HST.
*Reactive red dyes:	
Reactive Red 1	ICI.
Reactive Red 2	ICI.
Reactive Red 3	ICI.
Reactive Red 4	TRC.
Reactive Red 5	ICI.
Reactive Red 6	ICI.
Reactive Red 8	ICI.
Reactive Red 11	ICI.
Reactive Red 13	ICI.
Reactive Red 16	TRC.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
FIBER-REACTIVE DYES--Continued	
*Reactive red dyes--Continued	
Reactive Red 21	HST.
Reactive Red 29	ICI.
Reactive Red 31	ICI.
Reactive Red 33	ICI.
Reactive Red 35	HST.
Other reactive red dyes	DUP, G.
Reactive violet dyes:	
Reactive Violet 1	ICI.
Reactive Violet 2	TRC.
Reactive Violet 4	HST.
Reactive Violet 5	HST.
Other reactive violet dyes	HST.
*Reactive blue dyes:	
Reactive Blue 1	ICI.
Reactive Blue 2	TRC.
Reactive Blue 3	ICI.
Reactive Blue 4	ICI.
Reactive Blue 5	TRC.
Reactive Blue 7	TRC.
Reactive Blue 9	ICI.
Reactive Blue 19	DUP, HST.
Reactive Blue 21	DUP, HST.
Reactive Blue 25	ICI.
Reactive Blue 27	HST.
Other reactive blue dyes	DUP, G, HST.
Reactive green dyes	HST.
Reactive brown dyes:	
Reactive Brown 1	TRC.
Reactive Brown 10	ICI.
Reactive black dyes:	
Reactive Black 1	TRC.
Reactive Black 5	HST.
Reactive Black 9	ICI.
FLUORESCENT BRIGHTENING AGENTS	
Fluorescent Brightening Agent 1	GGY.
Fluorescent Brightening Agent 6	ACY.
Fluorescent Brightening Agent 8	ACY.
*Fluorescent Brightening Agent 9	ACY, G, SDH.
Fluorescent Brightening Agent 22	GGY.
Fluorescent Brightening Agent 24	GGY.
Fluorescent Brightening Agent 25	G.
*Fluorescent Brightening Agent 28	ACY, CCW, DUP, SDH.
Fluorescent Brightening Agent 30	G.
Fluorescent Brightening Agent 33	G.
Fluorescent Brightening Agent 34	DUP.
Fluorescent Brightening Agent 37	CIB.
Fluorescent Brightening Agent 45	TRC.
Fluorescent Brightening Agent 46	GGY.
Fluorescent Brightening Agent 49	S.
Fluorescent Brightening Agent 52	S.
Fluorescent Brightening Agent 54	GGY.
Fluorescent Brightening Agent 59	GGY.
Fluorescent Brightening Agent 61	ACY.
Fluorescent Brightening Agent 68	CCW, G.
Fluorescent Brightening Agent 71	ACY, G.
Fluorescent Brightening Agent 75	G.
Fluorescent Brightening Agent 102	DUP.
Fluorescent Brightening Agent 108	G.
Fluorescent Brightening Agent 113	VPC.
Fluorescent Brightening Agent 114	VPC.
Fluoreacent Brightening Agent 125	ACY.
Fluoreacent Brightening Agent 126	SDH.
Fluorescent Brightening Agent 128	SDH.
Fluorescent Brightening Agent 130	SDH.
Fluorescent Brightening Agent 134	CIB.
Fluoreacent Brightening Agent 135	CIB.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
FLUORESCENT BRIGHTENING AGENTS--Continued	
Fluorescent Brightening Agent 136	CIB.
Fluorescent Brightening Agent 139	CIB.
Fluorescent Brightening Agent 155	WLM.
Fluorescent Brightening Agent 158	ACY.
Fluorescent Brightening Agent 159	ACY.
Fluorescent Brightening Agent 161	ACY.
Other fluorescent brightening agents	ACY, CCW, CIB, DUP, G, GGY, S, VPC.
FOOD, DRUG, AND COSMETIC COLORS	
Food, Drug, and Cosmetic Dyes	
*FD&C Blue No. 1	BAT, KON, NAC, SDH, WJ.
FD&C Blue No. 2	KON, NAC, SDH.
FD&C Green No. 3	WJ.
*FD&C Red No. 2	BAT, KON, NAC, SDH, STG, WJ.
*FD&C Red No. 3	BAT, KON, NAC, SDH, STG.
*FD&C Red No. 4	BAT, KON, NAC, SDH, STG.
FD&C Violet No. 1	BAT, NAC.
*FD&C Yellow No. 5	BAT, KON, NAC, SDH, STG, WJ.
*FD&C Yellow No. 6	BAT, KON, NAC, SDH, STG, WJ.
Other food, drug, and cosmetic dyes	WJ.
Drug and Cosmetic Dyes	
D&C Black No. 1	KON, YAW.
D&C Blue No. 1	KON.
D&C Blue No. 4	SNA.
D&C Blue No. 6	KON, NAC.
D&C Blue No. 9	NAC.
D&C Brown No. 1	NAC.
D&C Green No. 5	KON, NAC.
D&C Green No. 6	NAC.
D&C Green No. 8	KON, SDH.
D&C Orange No. 4	KON, SNA.
D&C Orange No. 5	SNA, TMS.
D&C Orange No. 10	TMS.
D&C Orange No. 17	KON, SNA.
D&C Red No. 2	KON.
D&C Red No. 3	KON, TMS.
D&C Red No. 6	KON, TMS.
D&C Red No. 7	KON, SNA, TMS.
D&C Red No. 8	KON, TMS.
D&C Red No. 9	KON, SNA, TMS.
D&C Red No. 10	KON, SNA.
D&C Red No. 11	KON, SNA.
*D&C Red No. 12	KON, SNA, TMS.
D&C Red No. 13	SNA, TMS.
D&C Red No. 17	KON, NAC.
*D&C Red No. 19	KON, SNA, TMS.
*D&C Red No. 21	KON, SNA, TMS.
D&C Red No. 22	KON.
D&C Red No. 27	TMS.
D&C Red No. 28	NAC.
D&C Red No. 30	KON.
D&C Red No. 31	KON.
D&C Red No. 33	KON, NAC.
D&C Red No. 34	KON, SNA, TMS.
*D&C Red No. 36	KON, SNA, TMS.
D&C Red No. 37	NAC.
D&C Red No. 39	SDH.
D&C Violet No. 2	NAC.
D&C Yellow No. 5	KON, TMS.
D&C Yellow No. 6	KON.
D&C Yellow No. 8	KON, NAC, TMS.
D&C Yellow No. 10	KON, NAC.
D&C Yellow No. 11	NAC.

TABLE 8B.--*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
FOOD, DRUG, AND COSMETIC COLORS--Continued	
Drug and Cosmetic Dyes, External	
Ext. D&C Green No. 1	KON, NAC.
Ext. D&C Orange No. 3	KON, NAC.
Ext. D&C Red No. 8	SNA.
Ext. D&C Red No. 15	KON.
Ext. D&C Violet No. 2	KON.
Ext. D&C Yellow No. 1	KON, NAC.
Ext. D&C Yellow No. 5	SNA.
Ext. D&C Yellow No. 7	KON.
INGRAIN DYES	
Ingrain blue dyes:	
Ingrain Blue 1	ICI.
Ingrain Blue 3	ICI.
Ingrain Blue 4	ICI.
Ingrain Blue 8	ICI.
MORDANT DYES	
*Mordant yellow dyes:	
*Mordant Yellow 1	ATL, G, PDC, TRC.
Mordant Yellow 3	ATL, NAC.
Mordant Yellow 5	NAC, TRC.
*Mordant Yellow 8	DUP, NAC, VPC.
Mordant Yellow 10	DUP.
Mordant Yellow 14	NAC, TRC.
Mordant Yellow 16	ACY, NAC.
Mordant Yellow 20	NAC.
Mordant Yellow 26	VPC.
Mordant Yellow 29	G.
Mordant Yellow 30	TRC, VPC.
Mordant Yellow 36	PDC.
*Mordant orange dyes:	
*Mordant Orange 1	ACY, G, PDC, TRC.
Mordant Orange 4	G, VPC.
Mordant Orange 6	ATL, G, TRC.
Mordant Orange 8	TRC.
Mordant Orange 30	NAC.
*Mordant red dyes:	
Mordant Red 3	ACY, ICI, NAC.
Mordant Red 5	PDC.
Mordant Red 6	G.
*Mordant Red 7	ACY, BDO, CMG, G, NAC, PDC, TRC, VPC.
Mordant Red 9	G, HSH, MRX, NAC.
Mordant Red 11	ACY, NAC.
Mordant Red 19	PDC.
Mordant Red 59	TRC.
Mordant Red 64	PDC.
Mordant violet dyes:	
Mordant Violet 5	NAC.
Mordant Violet 11	G.
Mordant Violet 26	G.
*Mordant blue dyes:	
*Mordant Blue 1	DUP, G, NAC, TRC.
Mordant Blue 3	G.
Mordant Blue 7	NAC, TRC.
Mordant Blue 9	G, NAC.
Mordant Blue 13	HSH, NAC.
Mordant Blue 19	CMG.
Mordant green dyes:	
Mordant Green 11	ACY.
Mordant Green 36	NAC, PDC.
*Mordant brown dyes:	
*Mordant Brown 1	CMG, DUP, G, NAC, TRC, YAW.
Mordant Brown 12	PDC.
Mordant Brown 13	NAC.
Mordant Brown 15	G.
Mordant Brown 17	CMG, G.

TABLE 8B.--*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
MORDANT DYES--Continued	
*Mordant brown dyes--Continued	
Mordant Brown 18	DUP, NAC.
Mordant Brown 19	G.
Mordant Brown 21	G, VPC.
Mordant Brown 33	DUP, NAC, TRC.
*Mordant Brown 40	CMG, DUP, G, NAC, VPC, YAW.
Mordant Brown 43	G.
Mordant Brown 50	TRC.
Mordant Brown 63	TRC.
Mordant Brown 70	DUP, PDC.
*Mordant black dyes:	
Mordant Black 1	G, NAC, TRC.
*Mordant Black 3	G, NAC, TRC.
*Mordant Black 5	G, NAC, TRC.
Mordant Black 7	G.
Mordant Black 8	NAC, VPC.
Mordant Black 9	NAC, VPC.
*Mordant Black 11	G, NAC, TRC, VPC.
*Mordant Black 13	G, HSH, NAC, TRC.
Mordant Black 16	NAC.
*Mordant Black 17	ACY, DUP, G, NAC, TRC.
Mordant Black 19	PDC.
Mordant Black 26	TRC.
*Mordant Black 38	CMG, G, NAC, VPC.
OXIDATION BASES	
Oxidation Base 8 and 8A	ACY.
Oxidation Base 21	PDC.
Oxidation Base 22	ACY.
Oxidation Base 25	ACY.
Other oxidation bases	ACY.
SOLVENT DYES	
*Solvent yellow dyes:	
Solvent Yellow 1	ACY.
*Solvent Yellow 2	AAP, DUP, FH, G, PAT, PSC.
*Solvent Yellow 3	DUP, FH, G, NAC, PSC.
Solvent Yellow 13	ACY, G, TRC.
*Solvent Yellow 14	AAP, ACY, DUP, FH, G, NAC, PAT, PSC, SDH.
Solvent Yellow 16	PAT.
Solvent Yellow 19	G.
Solvent Yellow 29	G, NAC.
Solvent Yellow 30	PSC.
Solvent Yellow 33	ACY, NAC.
Solvent Yellow 34	DUP.
Solvent Yellow 40	NAC.
Solvent Yellow 42	NAC.
Solvent Yellow 43	G.
Solvent Yellow 44	G, NAC.
Solvent Yellow 45	DUP, NAC.
*Solvent Yellow 47	ACY, DUP, G, NAC.
Solvent Yellow 53	NAC.
Solvent Yellow 56	ACY, FH.
Solvent Yellow 66	NAC.
Solvent Yellow 71	ACY.
Solvent Yellow 72	ACY.
Other solvent yellow dyes	ACY, DSC, PAT.
*Solvent orange dyes:	
*Solvent Orange 2	AAP, NAC, PSC.
*Solvent Orange 3	ACY, DSC, G, NAC.
Solvent Orange 5	G.
*Solvent Orange 7	ACY, ATL, FH, G, NAC, PSC.
Solvent Orange 20	ACY, G, NAC.
Solvent Orange 23	NAC.
Solvent Orange 24	DUP.
Solvent Orange 25	ACY, DUP.
Solvent Orange 31	NAC.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965* --Continued

Dye	Manufacturers' identification codes (according to list in table 22)
SOLVENT DYES--Continued	
*Solvent orange dyes--Continued	
Solvent Orange 47	FH.
Solvent Orange 48	ACY.
Solvent Orange 51	ACY.
Other solvent orange dyes	DSC, DUP, PAT.
*Solvent red dyes:	
Solvent Red 8	G.
Solvent Red 22	G.
*Solvent Red 24	ACY, DUP, G, PAT, SDH.
*Solvent Red 26	AAP, ACY, FH, NAC, PSC.
Solvent Red 27	NAC.
Solvent Red 33	DUP, G.
Solvent Red 34	DUP.
Solvent Red 35	G.
Solvent Red 36	NAC.
Solvent Red 40	G.
Solvent Red 41	DSC.
*Solvent Red 49	ACY, DSC, DUP, G.
Solvent Red 52	G, ICI.
Solvent Red 65	NAC.
Solvent Red 68	NAC.
Solvent Red 69	DUP.
Solvent Red 74	NAC.
Solvent Red 76	NAC.
Solvent Red 80	NAC.
Solvent Red 105	ACY.
Solvent Red 106	ACY.
Solvent Red 108	ACY.
Solvent Red 111	ACY.
Solvent Red 115	ACY.
Other solvent red dyes	ACY, BKS, DSC, DUP, G, ICI, PAT.
*Solvent violet dyes:	
*Solvent Violet 8	ACY, DSC, NAC.
Solvent Violet 9	DSC.
Solvent Violet 13	AAP, HSH, ICI.
Solvent Violet 14	ICI.
Solvent Violet 17	NAC.
Other solvent violet dyes	DSC, PAT.
Solvent blue dyes:	
Solvent Blue 3	SW.
Solvent Blue 4	DSC, DUP, SDH.
Solvent Blue 5	DSC.
Solvent Blue 6	DSC.
Solvent Blue 7	ACY, NAC.
Solvent Blue 9	G.
Solvent Blue 11	G, ICI.
Solvent Blue 12	DUP, NAC.
Solvent Blue 13	ICI.
Solvent Blue 16	NAC.
Solvent Blue 30	NAC.
Solvent Blue 31	NAC.
Solvent Blue 32	AAP.
Solvent Blue 36	DUP, NAC.
Solvent Blue 37	DUP.
*Solvent Blue 38	ACY, DUP, NAC.
Solvent Blue 39	NAC.
Solvent Blue 43	NAC.
Solvent Blue 58	ACY.
Solvent Blue 59	ACY.
Solvent Blue 60	ACY.
Other solvent blue dyes	AAP, ACY, DSC, G, ICI, PAT, SDH.
*Solvent green dyes:	
Solvent Green 1	ACY, DSC, SDH.
Solvent Green 2	G.
*Solvent Green 3	AAP, ACY, ATL, CMG, G, HSH, ICI, NAC.
Solvent Green 10	DUP.
Solvent Green 11	DUP.
Other solvent green dyes	DSC.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
SOLVENT DYES--Continued	
*Solvent brown dyes:	
Solvent Brown 11	G.
Solvent Brown 12	ACY, DSC, G.
Solvent Brown 17	DUP.
Solvent Brown 19	DUP.
Solvent Brown 20	ACY, DUP.
Solvent Brown 21	NAC.
Solvent Brown 22	FH.
Solvent Brown 38	ACY.
Other solvent brown dyes	DSC.
Solvent black dyes:	
Solvent Black 3	NAC.
Solvent Black 5	ACY, DSC, NAC.
Solvent Black 7	ACY, DSC, FH, NAC.
Solvent Black 12	NAC.
Solvent Black 13	NAC.
Solvent Black 17	DUP.
Solvent Black 19	G.
Solvent Black 20	NAC.
Solvent Black 26	ACY.
Other solvent black dyes	DSC, DUP.
SULFUR DYES	
Sulfur yellow dyes:	
Sulfur Yellow 2	NAC.
Leuco Sulfur Yellow 2	ACY, NAC.
Sulfur Yellow 4	SDC.
Leuco Sulfur Yellow 4	SDC.
Leuco Sulfur Yellow 15	ACY.
Other sulfur yellow dyes	ACY, AUG, SDC.
Sulfur red dyes:	
Sulfur Red 1	ACY, NAC.
Sulfur Red 6	ACY, DUP, NAC.
Sulfur Red 8	DUP.
Sulfur blue dyes:	
*Sulfur Blue 7	ACY, NAC, SDC.
Leuco Sulfur Blue 7	ACY, NAC, SDC.
Leuco Sulfur Blue 8	SDC.
Sulfur Blue 9	ACY, NAC.
Leuco Sulfur Blue 9	SDC.
*Sulfur Blue 11	DUP, NAC, SDC.
Leuco Sulfur Blue 11	SDC.
Sulfur Blue 13	NAC.
Leuco Sulfur Blue 13	ACY.
*Sulfur Blue 15	ACY, DUP, NAC.
Sulfur Blue 16	ACY.
Other sulfur blue dyes	ACY, SDC.
Sulfur green dyes:	
Sulfur Green 1	NAC.
Leuco Sulfur Green 1	NAC.
Sulfur Green 2	NAC, SDC.
Leuco Sulfur Green 2	SDC.
Sulfur Green 3	NAC, SDC.
Leuco Sulfur Green 3	SDC.
Sulfur Green 14	DUP.
Leuco Sulfur Green 16	SDC.
Sulfur Green 28	ACY.
Other sulfur green dyes	AUG, SDC.
Sulfur brown dyes:	
Sulfur Brown 3	SDC.
Leuco Sulfur Brown 3	SDC.
*Sulfur Brown 10	DUP, NAC, SDC.
Leuco Sulfur Brown 10	SDC.
Sulfur Brown 14	ACY.
Leuco Sulfur Brown 14	ACY.
Sulfur Brown 20	DUP.
Sulfur Brown 21	DUP.
Sulfur Brown 30	ACY.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
SULFUR DYES--Continued	
Sulfur brown dyes--Continued	
Sulfur Brown 33	ACY.
Leuco Sulfur Brown 37	SDC.
Sulfur Brown 39	SDC.
Sulfur Brown 43	NAC.
Leuco Sulfur Brown 43	NAC.
Sulfur Brown 44	NAC.
Leuco Sulfur Brown 44	NAC.
Sulfur Brown 45	NAC.
Sulfur Brown 50	NAC.
Other sulfur brown dyes	ACY, AUG, NAC, SDC.
Sulfur black dyes:	
*Sulfur Black 1	ACY, DUP, NAC, SDC.
*Leuco Sulfur Black 1	ACY, AUG, NAC, SDC.
Sulfur Black 2	ACY, DUP, NAC.
*Leuco Sulfur Black 2	ACY, NAC, SDC.
Sulfur Black 6	G.
Leuco Sulfur Black 6	NAC.
Sulfur Black 10	ACY.
Leuco Sulfur Black 10	ACY, NAC.
Sulfur Black 11	SDC.
Leuco Sulfur Black 11	SDC.
Other sulfur black dyes	SDC.
VAT DYES	
*Vat yellow dyes:	
Vat Yellow 1, 12-1/2%	NAC.
*Vat Yellow 2, 8-1/2%	AAP, DUP, G, ICI, NAC, TRC, VPC.
Solubilized Vat Yellow 2, 25%	G, ICI.
Vat Yellow 3, 12-1/2%	DUP.
*Vat Yellow 4, 12-1/2%	AAP, ACY, ATL, CMG, G, HST, ICI, VPC.
Solubilized Vat Yellow 4, 37-1/2%	G, HST, ICI.
Vat Yellow 10, 10%	G.
Vat Yellow 13, 6-1/2%	ICI.
Vat Yellow 14, 12-1/2%	TRC.
Vat Yellow 15, 11-1/2%	ACY.
Vat Yellow 16, 16-2/3%	DUP.
Vat Yellow 21, 9-1/2%	ATL.
Vat Yellow 22, 10%	DUP, G.
Vat Yellow 27	VPC.
Vat Yellow 33	TRC, VPC.
Vat Yellow 41, 9%	ACY.
Other vat yellow dyes	MAY, NAC, VPC.
*Vat orange dyes:	
*Vat Orange 1, 20%	CMG, G, HST, ICI, NAC, TRC, VPC.
*Solubilized Vat Orange 1, 26%	G, HST, ICI.
*Vat Orange 2, 12%	AAP, ACY, CMG, DUP, G, ICI, NAC, TRC.
*Vat Orange 3, 13-1/2%	CMG, DUP, G, HST.
*Vat Orange 4, 6%	ACY, CMG, DUP.
*Vat Orange 5, 10%	AAP, ACY, HST.
*Solubilized Vat Orange 5, 30%	G, HST, ICI.
*Vat Orange 7, 11%	G, HST, TRC.
*Vat Orange 9, 12%	ACY, CMG, DUP, G, ICI, NAC, TRC.
Vat Orange 11, 6%	DUP, NAC.
*Vat Orange 15, 10%	AAP, G, ICI, NAC, TRC, VPC.
Vat Orange 23, 17-1/2%	ACY, DUP, G.
Vat Orange 24	DUP.
Other vat orange dyes	SDC.
*Vat red dyes:	
*Vat Red 1, 13%	AAP, ACY, DUP, HST, ICI.
Solubilized Vat Red 1, 37%	G, HST, ICI.
Vat Red 10, 18%	G, NAC, TRC.
Solubilized Vat Red 10, 31%	G.
Vat Red 12, 8-1/2%	DUP.
*Vat Red 13, 11%	DUP, G, TRC.
Vat Red 14, 10%	G, HST.
*Vat Red 15, 10%	G, HST, TRC.
Vat Red 16, 11%	DUP.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
VAT DYES--Continued	
*Vat red dyes--Continued	
Vat Red 17, 10%	G.
Vat Red 23	DUP.
Vat Red 29, 18%	G, NAC.
*Vat Red 32, 20%	DUP, G, NAC.
Vat Red 35, 12-1/2%	NAC, TRC.
Vat Red 41, 20%	HST.
Vat Red 44, 17%	TRC.
Vat Red 52, 10%	DUP.
Vat Red 53, 12%	DUP.
Vat Red 56	ACY.
Vat Red 62	DUP.
Other vat red dyes	DUP, G, TRC, VPC.
*Vat violet dyes:	
*Vat Violet 1, 11%	ACY, DUP, G, ICI, MAY, NAC, TRC.
Solubilized Vat Violet 1, 26%	G, ICI.
*Vat Violet 2, 20%	ACY, G, HST, NAC, VPC.
Vat Violet 3, 15%	G, HST, NAC.
*Vat Violet 9, 12%	DUP, G, ICI, MAY, NAC, TRC.
Vat Violet 12, 10%	DUP.
*Vat Violet 13, 6-1/4%	DUP, G, ICI, NAC, TRC.
Vat Violet 14, 12-1/2%	NAC.
Vat Violet 17, 12-1/2%	DUP, G, NAC.
Other vat violet dyes	NAC.
*Vat blue dyes:	
Vat Blue 1, 20%	NAC.
Solubilized Vat Blue 1, 25%	G.
Vat Blue 3, 16%	HST.
Vat Blue 4, 10%	ACY, DUP, G.
Vat Blue 5, 16%	ATL, DUP, HST, NAC, VPC.
Solubilized Vat Blue 5, 38%	G, HST.
*Vat Blue 6, 8-1/3%	AAP, ACY, DUP, G, ICI, MAY, NAC, TRC.
Solubilized Vat Blue 6, 17-1/2%	G, HST, ICI.
Vat Blue 7, 12-1/2%	NAC.
Solubilized Vat Blue 9, 35%	G.
Vat Blue 12, 6-1/2%	DUP.
Vat Blue 14, 8-1/3%	DUP, G, NAC, TRC.
Vat Blue 16, 16%	ACY, DUP, NAC.
*Vat Blue 18, 13%	AAP, ACY, DUP, G, ICI, MAY, NAC, TRC.
*Vat Blue 20, 14%	AAP, ACY, ATL, DUP, G, ICI, MAY, NAC, TRC.
Vat Blue 29	G.
Vat Blue 39, 12%	G.
Vat Blue 43	SDC.
Vat Blue 53	G.
Vat Blue 60	DUP.
Vat Blue 61, 16%	DUP.
Other vat blue dyes	SDC, x.
*Vat green dyes:	
*Vat Green 1, 6%	AAP, ACY, ATL, DUP, G, ICI, MAY, NAC.
Solubilized Vat Green 1, 12-1/2%	G, HST, ICI.
*Vat Green 3, 10%	AAP, ACY, ATL, DUP, G, ICI, MAY, NAC, TRC.
*Solubilized Vat Green 3, 26%	G, HST, ICI.
*Vat Green 8, 8-1/2%	ATL, DUP, G, ICI, NAC.
*Vat Green 9, 12-1/2%	ACY, ATL, DUP, G, MAY, NAC, SDC, TRC.
Vat Green 15, 17%	NAC.
Vat Green 18, 8%	DUP.
Vat Green 19, 13%	DUP.
Vat Green 20, 6%	DUP.
Other vat green dyes	G, SDG.
*Vat brown dyes:	
*Vat Brown 1, 11%	ACY, DUP, G, ICI, MAY, NAC, TRC.
Solubilized Vat Brown 1, 17%	G, ICI.
*Vat Brown 3, 11%	AAP, ACY, DUP, G, ICI, MAY, NAC, TRC, VPC.
*Vat Brown 5, 13%	AAP, ACY, G, HST, VPC.
Vat Brown 6, 17-1/2%	TRC.
Vat Brown 11, 12%	MAY, TRC.
Vat Brown 12, 12-1/2%	DUP, NAC.
Vat Brown 13, 17%	MAY.
Vat Brown 14, 12%	HST.

TABLE 8B. --*Benzenoid dyes for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Dye	Manufacturers' identification codes (according to list in table 22)
VAT DYES--Continued	
*Vat brown dyes--Continued	
Vat Brown 20, 10-1/2%--	DUP, G, NAC.
Vat Brown 25, 11-1/2%--	G.
Vat Brown 28, 22%--	ICI.
Vat Brown 29, 13%--	ACY.
Vat Brown 31, 28%--	AAP.
Vat Brown 38, 20%--	ICI.
Vat Brown 40, 14%--	DUP.
Vat Brown 53, 100%--	G.
Vat Brown 57--	TRC.
Other vat brown dyes--	DUP, NAC, SDC, VPC.
*Vat black dyes:	
*Solubilized Vat Black 1, 27-1/2%--	G, HST, ICI.
*Vat Black 9, 16%--	ATL, G, NAC, TRC.
Vat Black 11, 17-1/2%--	ACY.
Vat Black 13, 14%--	DUP, NAC.
Vat Black 14, 11-1/2%--	DUP.
Vat Black 15--	AAP.
Vat Black 18, 15-1/2%--	G, NAC.
Vat Black 21, 18-1/2%--	ACY.
Vat Black 22, 19%--	ACY, TRC.
*Vat Black 25, 12-1/2%--	AAP, ACY, DUP, G, ICI, MAY, NAC, TRC.
Vat Black 26, 24%--	G.
*Vat Black 27, 12-1/2%--	AAP, ACY, CMG, DUP, ICI, MAY, NAC, TRC, VPC.
Vat Black 34, 16%--	ICI.
Vat Black 37, 100%--	G.
Vat Black 38--	G.
Vat Black 52--	ACY.
Other vat black dyes--	DUP, G, SDC, TRC.
All other dyes--	ACY, PAT, VPC.

Pigments

TABLE 11B. -- *Benzenoid pigments for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Benzenoid pigments for which separate statistics are given in table 11A are marked below with an asterisk (*); products not so marked do not appear in table 11A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Pigment	Manufacturers' identification codes (according to list in table 22)
TONERS	
*Yellow toners:	
*Hansa yellows:	
*Pigment Yellow 1, C.I. 11 680	ACY, AMS, DUP, FCL, G, HSC, HSH, ICI, IMP, KON, NAC, PPG, S, SDH, SNA, SW.
*Pigment Yellow 3, C.I. 11 710	HSC, HSH, HST, IMP, KCW, KON, NAC, PPG, S, SNA, SW.
Pigment Yellow 4, C.I. 11 665	NAC, SNA.
Pigment Yellow 5, C.I. 11 660	IMP.
Pigment Yellow 6, C.I. 11 670	CIK, IMP.
Pigment Yellow 9, C.I. 11 720	SNA.
Pigment Yellow 49, C.I. 11 765	ICI.
Pigment Yellow 65, C.I. 11 740	SW.
Pigment Yellow 73	NAC, SW.
Pigment Yellow 74	DUP, SW.
All other Hansa yellows	DUP, HSC, HSH, IMP, KCW, SDH, SNA.
*Benzidine yellows:	
*Pigment Yellow 12, C.I. 21 090	ACY, AMS, DUP, FCL, G, HSC, HSH, ICC, IMP, KON, LVY, MRX, NAC, S, SDH, SNA, SW.
*Pigment Yellow 13, C.I. 21 100	BUC, FCL, G, HSH, HST, ICC, IMP, NAC, ROM, SNA, SW.
*Pigment Yellow 14, C.I. 21 095	ACY, AMS, BUC, CPC, DUP, FCL, G, HSC, HSH, HST, ICC, IMP, KON, MRX, NAC, ROM, S, SDH, SNA, SW, x.
*Pigment Yellow 17, C.I. 21 105	ACY, AMS, DUP, FCL, HSC, HSH, HST, ICC, IMP, S, SDH, SNA, SW.
Pigment Yellow 83	HST, NAC.
All other benzidine yellows	BUC, HSH, ICC, IMP, ROM, S, SW.
Pigment Yellow 10, C.I. 12 710	SW.
Pigment Yellow 18, C.I. 49 005	IMP.
Pigment Yellow 19	G.
Pigment Yellow 60, C.I. 12 705	SW.
Pigment Yellow 62	S.
(Basic Yellow 2), C.I. 41 000, fugitive	MRX.
(Vat Yellow 1), C.I. 70 600	NAC, TRC.
(Vat Yellow 20), C.I. 68 420	NAC, TRC.
All other	ACY, ICC, IMP, SW.
*Orange toners:	
Pigment Orange 1, C.I. 11 725	KCW, NAC.
*Pigment Orange 2, C.I. 12 060	FCL, IMP, SDH, SW.
*Pigment Orange 5, C.I. 12 075	ACY, EAK, HSC, IMP, SNA, SW.
Pigment Orange 9	DUP.
*Pigment Orange 13, C.I. 21 110	ACY, AMS, BUC, DUP, G, ICC, IMP, KON, NAC, SNA, SW.
Pigment Orange 15, C.I. 21 130	G, NAC.
*Pigment Orange 16, C.I. 21 160	BUC, DUP, FCL, G, HSH, HST, ICC, IMP, NAC, ROM, SDH, SNA, SW.
Pigment Orange 30	SNA, SW.
(Vat Orange 2), C.I. 59 705	G.
(Vat Orange 3), C.I. 59 300	NAC, TRC.
(Vat Orange 4), C.I. 59 710	NAC.
(Vat Orange 5), C.I. 73 335	TRO.
(Vat Orange 7), C.I. 71 105	G, NAC.
(Vat Orange 15), C.I. 69 025	NAC.
All other	HSH, ICC, KON, ROM, SDH.
*Red toners:	
*Naphthol reds:	
*Pigment Red 2, C.I. 12 310	BUC, EAK, G, HSC, HSH, IMP, KCW, KON, MRX, NAC, S, SDH, SW.
*Pigment Red 5, C.I. 12 490	DUP, G, HSH, HST, ICC, ICI, IMP, NAC, ROM, SDH, SNA, SW.
Pigment Red 7, C.I. 12 420	ICI, S.
Pigment Red 9, C.I. 12 460	IMP.
Pigment Red 10, C.I. 12 440	KCW.
Pigment Red 13, C.I. 12 395	IMP, KCW.
Pigment Red 14, C.I. 12 380	DUP, NAC.
Pigment Red 15, C.I. 12 465	DUP.

See note at end of table for definition of abbreviations.

TABLE 11B.--*Benzenoid pigments for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Pigment	Manufacturers' identification codes (according to list in table 22)
TONERS--Continued	
*Red toners--Continued	
*Naphthol reds--Continued	
*Pigment Red 17, C.I. 12 390	ACY, BLN, FCL, ICC, IMP, S, SNA, SW.
*Pigment Red 18, C.I. 12 350	IMP, NAC, SW.
Pigment Red 19, C.I. 12 400	NAC.
*Pigment Red 22, C.I. 12 315	ACY, DUP, FCL, IMP, MRX, NAC, SNA, SW.
*Pigment Red 23, C.I. 12 355	ACY, BUC, DUP, FCL, HSC, HSH, ICC, IMP, NAC, ROM, SDH, SNA.
Pigment Red 31, C.I. 12 360	ICC, SNA.
All other naphthol reds	BUC, ICC, IMP, KCW, ROM, SDH, SW, x.
*Pigment Red 1, C.I. 12 070, dark	ACY, AMS, APC, FCL, HSC, HSH, IMP, KON, LVY, NAC, PPG, SDH, SW.
*Pigment Red 1, C.I. 12 070, light	ACY, EAK, FCL, HSC, HSH, IMP, KON, PPG, SDH, SW.
*Pigment Red 3, C.I. 12 120	ACY, APC, BLN, CIK, DUP, EAK, FCL, HSC, HSH, IMP, KCW, KON, NAC, PPG, SDH, SNA, SW.
*Pigment Red 4, C.I. 12 085	ACY, AMS, FCL, HSC, HSH, IMP, KON, MRX, SDH, SNA, SW, UHL.
Pigment Red 5	IMP.
*Pigment Red 6, C.I. 12 090	DUP, HSC, HSH, KCW, SW.
*Pigment Red 38, C.I. 21 120	DUP, G, NAC, SNA, SW.
Pigment Red 41, C.I. 21 200	G, NAC.
*Pigment Red 48, C.I. 15 865	ACY, AMS, BLN, DUP, FCL, G, HSC, HSH, ICC, IMP, KON, LVY, MRX, NAC, S, SNA, SW.
Pigment Red 49, C.I. 15 630:	
*Barium toner	ACY, AMS, CIK, FCL, HSC, HSH, IMP, KON, LVY, PPG, SDH, SNA, SW, UHL.
*Calcium toner	ACY, AMS, FCL, HSC, IMP, LVY, PPG, SDH, SNA, SW.
*Sodium toner	ACY, AMS, CIK, FCL, HSC, SDH, SW.
*Pigment Red 52, C.I. 15 860	AMS, FCL, HSC, HSH, IMP, SNA, SW.
*Pigment Red 53, C.I. 15 585, barium toner	ACY, AMS, CIK, FCL, HSC, HSH, IMP, KON, LVY, MGR, MRX, SDH, SNA, SW.
Pigment Red 53, C.I. 15 585, sodium toner	KCN.
*Pigment Red 54, C.I. 14 830, calcium toner	HSH, IMP, MRX, SDH.
Pigment Red 55, C.I. 15 820	DUP, NAC.
*Pigment Red 57, C.I. 15 850, calcium toner	AMS, BLN, CIK, DUP, FCL, HSC, HSH, IMP, KON, LVY, MGR, NAC, S, SDH, SNA, SW.
Pigment Red 58, C.I. 15 825	DUP, G, IMP.
*Pigment Red 63, C.I. 15 880	FCL, HSH, IMP, NAC, SNA, SW.
Pigment Red 64, C.I. 15 800	NAC.
Pigment Red 77, C.I. 15 826	SW.
Pigment Red 78	DUP.
Pigment Red 79, PMA	G.
Pigment Red 81, C.I. 45 160, fugitive	BLN, KCW.
*Pigment Red 81, C.I. 45 160, PMA	BLN, CPC, DUP, FCL, G, IMP, KON, LVR, LVY, MGR, MRX, NYC, S, SNA, SW.
*Pigment Red 81, C.I. 45 160, PTA	ACY, AMS, BLN, DUP, FCL, G, HSC, IMP, KCW, KON, MGR, MRX, S, SDH, SNA.
Pigment Red 87, C.I. 73 310	NAC.
Pigment Red 88	NAC, SDH.
*Pigment Red 90, C.I. 45 380	AMS, FCL, ICC, IMP, LVR, LVY, NYC, SDH, SNA.
Pigment Red 117, C.I. 15 603	SW.
Pigment Red 122	NAC.
Pigment Red 123	NAC.
(Vat Red 10), C.I. 67 000	G, NAC.
(Vat Red 23)	NAC.
(Vat Red 29), C.I. 71 140	NAC.
All other	ACY, DUP, G, HAM, HSC, S, SW, TRC.
*Violet toners:	
Pigment Violet 1, C.I. 45 170, fugitive	BLN, UHL.
*Pigment Violet 1, C.I. 45 170, PMA	BLN, G, IMP, LVR, MRX.
*Pigment Violet 1, C.I. 45 170, PTA	ACY, AMS, BLN, DUP, FCL, G, HSC, IMP, KON, MRX, SNA.
*Pigment Violet 3, C.I. 42 535, fugitive	ACY, AMS, BLN, HAM, HSC, IMP, LVY, MGR, SDH, UHL.
*Pigment Violet 3, C.I. 42 535, PMA	AMS, BLN, CIK, DUP, EAK, G, HSC, IMP, KON, LVR, LVY, MGR, MRX, NYC, PPG, SDH, SNA, SW, UHL.
*Pigment Violet 3, C.I. 42 535, PTA	ACY, AMS, G, HSC, HSH, IMP, KON, MRX, SNA, SW.
Pigment Violet 19	DUP, NAC.
Pigment Violet 23	G, HST, TRC.

See note at end of table for definition of abbreviations.

TABLE 11B.--*Benzenoid pigments for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Pigment	Manufacturers' identification codes (according to list in table 22)
TONERS--Continued	
*Violet toners--Continued	
(Vat Violet 1), C.I. 60 010	DUP, ICI, NAC.
(Vat Violet 2), C.I. 73 385	NAC.
(Vat Violet 3), C.I. 73 395	NAC.
All other	ACY, G, ICC, IMP, ROM.
*Blue toners:	
*Pigment Blue 1, C.I. 42 595, PMA	BLN, DUP, EAK, FCL, G, HSC, IMP, KON, LVR, LVY, MGR, MRX, NYC, SDH, SNA, SW, UHL.
*Pigment Blue 1, C.I. 42 595, PTA	AMS, G, HAM, IMP, MGR, NAC, SNA, SW, UHL.
*Pigment Blue 2, C.I. 44 045, fugitive	BLN.
*Pigment Blue 2, C.I. 44 045, PMA	G, IMP, LVR.
*Pigment Blue 2, C.I. 44 045, PTA	G, HAM.
Pigment Blue 3, C.I. 42 140, PTA	MGR.
Pigment Blue 5, C.I. 42 600	G.
Pigment Blue 9, C.I. 42 025, PMA	MRX, NYC, UHL.
*Pigment Blue 9, C.I. 42 025, PTA	BLN, G, IMP, MGR, MRX, SDH.
Pigment Blue 10, C.I. 44 040, PMA	IMP, SDH.
Pigment Blue 10, C.I. 44 040, PTA	IMP.
*Pigment Blue 14, C.I. 42 600, PMA	DUP, G, IMP, NYC.
Pigment Blue 14, C.I. 42 600, PTA	DUP, G, NYC.
*Pigment Blue 15, C.I. 74 160, alpha form	ACY, DUP, FCL, G, HSC, ICC, ICI, IMP, NAC, SNA, SW, TMS, TRC.
*Pigment Blue 15, C.I. 74 160, beta form	ACY, AMS, DUP, FCL, HSC, IMP, LVY, NAC, SNA, SW, TMS.
*Pigment Blue 19, C.I. 42 750A	ACY, AMS, HSC, NYC, SW.
*Pigment Blue 22, C.I. 69 810	DUP, IMP, TRC.
Pigment Blue 25, C.I. 21 180	DUP, G, ICC, NAC.
(Basic Blue 7), C.I. 42 595, PTA	DUP.
(Vat Blue 4), C.I. 69 800	G.
(Vat Blue 6), C.I. 69 825	ICI, TRC.
(Vat Blue 14), C.I. 69 810	NAC.
All other	G, IMP, MGR, SDH.
*Green toners:	
Pigment Green 1, C.I. 42 040, fugitive	MGR.
*Pigment Green 1, C.I. 42 040, PMA	BLN, G, IMP, MGR, MRX, NYC, UHL.
*Pigment Green 1, C.I. 42 040, PTA	BLN, IMP, KON, S, SDH, SNA.
*Pigment Green 2, C.I. 42 040 and 49 005, PMA	G, IMP, LVY, MGR, MRX, SDH, UHL.
*Pigment Green 2, C.I. 42 040 and 49 005, PTA	ACY, AMS, BLN, DUP, IMP, KON, LVY, MGR, MRX, S, SDH, UHL.
Pigment Green 4, C.I. 42 000, fugitive	BLN, G, MGR.
*Pigment Green 4, C.I. 42 000, PMA	BLN, G, MGR.
*Pigment Green 4, C.I. 42 000, PTA	ACY, AMS, HAM, IMP.
*Pigment Green 7, C.I. 74 260	ACY, DUP, FCL, G, HSC, ICC, IMP, NAC, SNA, SW, TMS, TRC.
*Pigment Green 8, C.I. 10 006	DUP, G, HSH, IMP, KCW, LVY, SW.
Pigment Green 10, C.I. 12 775	DUP, HSC, IMP, SW.
Pigment Green 36	ACY, G.
Pigment Green 38	NAC.
All other	ACY, G, SNA.
*Brown toners:	
Pigment Brown 1, C.I. 12 480	ICI.
Pigment Brown 2, C.I. 12 071	SDH.
Pigment Brown 3, C.I. 21 010, PMA	BLN, KCW.
*Pigment Brown 5, C.I. 15 800	BUC, HSH, ICC, NAC, ROM, SNA.
(Vat Brown 3), C.I. 69 015	G, NAC, TRC.
All other	G, ICC, SDH, SW.
*Black toners:	
Pigment Black 1	SNA.
Pigment Black 7, C.I. 77 266	G.
All other	BLN, DUP, G, MGR, UHL.
LAKES	
Yellow lakes:	
(Acid Yellow 1), C.I. 10 316	IMP.
(Acid Yellow 3), C.I. 47 005	IMP.
(Acid Yellow 11), C.I. 18 820	KON.
(Acid Yellow 23), C.I. 19 140	KON, MRX.

See note at end of table for definition of abbreviations.

TABLE 11B.--*Benzenoid pigments for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Pigment	Manufacturers' identification codes (according to list in table 22)
LAKES--Continued	
Orange lakes:	
Pigment Orange 17, C.I. 15 510	CIK, CPC, IMP, KCW, MGR.
All other	APC, HAM.
*Red lakes:	
*Pigment Red 60, C.I. 16 105	BLN, DUP, HSC, HSH, KON, MRX, SNA, SW.
*Pigment Red 83, C.I. 58 000	HSH, IMP, KON, MRX, SW, UHL.
(Acid Red 17), C.I. 16 180	IMP, KCW.
(Acid Red 25), C.I. 16 050	KON.
*(Acid Red 26), C.I. 16 150	CPC, EAK, HAM, IMP, KCW.
(Acid Red 27)	KON.
(Natural Red 4), C.I. 75 470	KON.
All other	APC, G, HAM, IMP.
*Violet lakes:	
*Pigment Violet 5, C.I. 58 055	BLN, DUP, HSH, IMP, NAC.
Pigment Violet 20, C.I. 58 225	SW.
(Acid Violet 17), C.I. 42 650	BLN.
All other	HAM, HSC.
*Blue lakes:	
Pigment Blue 17, C.I. 74 180	BLN, CPC.
*Pigment Blue 24, C.I. 42 090	AMS, BLN, ICC, KON, LVY, MGR, SDH.
(Acid Blue 93), C.I. 42 780	LVR.
(Acid Blue 104), C.I. 42 735	CPC, KCW.
Green lakes: (Acid Green 3), C.I. 42 085	BLN, CPC.
Brown lakes	HAM, KON.
Black lakes:	
*(Natural Black 3), C.I. 75 291	CPC, KON, NYC.
All other	HAM.

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

When the name of a color is enclosed in parentheses, it indicates that this name is that of the dye from which the pigment can be made and that no name for the pigment itself is given in the *Colour Index*.

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

Medicinal Chemicals

TABLE 13B.--*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Medicinal chemicals for which separate statistics are given in table 13A in pt. II are marked below with an asterisk (*); medicinal chemicals not so marked do not appear in table 13A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Chemical	Manufacturers' identification codes (according to list in table 22)
*Antibiotics:	
*For medicinal use:	
*Antifungal and antitubercular antibiotics:	
Antifungal antibiotics:	
Amphotericin B	OMS.
Candicidin	PEN.
Nystatin	OMS.
Antitubercular antibiotics:	
Cycloserine	COM.
Dihydrostreptomycin	MRK, OMS, PFZ.
*Streptomycin	LIL, MRK, OMS, PFZ.
Viomycin	PFZ.
*Bacitracin	COM, PEN, PFZ, PMP.
*Penicillins:	
Ampicillin	BRS.
Cloxacillin, sodium	BRS.
Methicillin, sodium	BRS.
Nafcillin, sodium	WYT.
Oxacillin, sodium	BRS.
Penicillin G, benzathine	PFZ, WYT.
*Penicillin G, potassium	LIL, MRK, OMS, PFZ, WYT.
*Penicillin G, procaine	LIL, MRK, OMS, PFZ, WYT.
Penicillin G, sodium	MRK, OMS, PFZ.
Phenethicillin, potassium	BRS, PFZ, WYT.
Phenoxymethylpenicillin (Penicillin V)	LIL.
Phenoxymethylpenicillin, benzathine	WYT.
Phenoxymethylpenicillin, hydrabamine	ABB.
Phenoxymethylpenicillin, potassium	ABB, LIL.
*Other antibiotics for medicinal use:	
Cephalothin	LIL.
Chloramphenicol	PD.
Erythromycin	ABB, LIL.
Fumagillin	ABB.
Gentamycin	SCH.
Gramicidin	BAX, PEN.
Kanamycin	BRS.
Lincomycin	x.
Neomycin	OMS, PEN, PFZ, UPJ.
Novobiocin	MRK, UPJ.
Oleandomycin	PFZ.
Paromomycin	MRK.
Polymyxin B	PFZ.
Ristocetin	ABB.
Tetracyclines:	
Chlortetracycline	ACY.
Demethylchlortetracycline	ACY.
Oxytetracycline	PFZ.
Tetracycline	ACY, BRS, PFZ, RLS.
Thiostrepton	OMS.
Triacetyloleandomycin	PFZ.
Tyrothricin	BAX, PEN.
*For other uses:	
*Bacitracin	COM, GPR, PEN, PMP.
Chlortetracycline	ACY.
Cycloheximide	UPJ.
Hygromycin B	LIL.
Neomycin	PFZ.
Novobiocin	UPJ.
Oxytetracycline	PFZ.
*Penicillin G, procaine	LIL, MRK, OMS, PFZ, WYT.
Streptomycin	MRK, PFZ.
Tylosin	LIL.

TABLE 13B.--*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Antihistamines:	
*Antinauseants:	
Cyclizine hydrochloride	BUR.
Dimenhydrinate	SRL.
Meclizine hydrochloride	PFZ.
Trimethobenzamide hydrochloride	HOF.
Bromodiphenhydramine hydrochloride	PD.
Brompheniramine maleate	SCH.
Carbinoxamine maleate	SCH.
Chlorcyclizine hydrochloride	ABB, BUR.
*Chlorpheniramine maleate	HEX, LEM, SCH, SK, x.
Cyproheptadine hydrochloride	MRK.
Dexbrompheniramine maleate	SCH.
Dexchlorpheniramine maleate	SCH.
Dimethindene maleate	CBP.
Diphenhydramine hydrochloride	ARA, GAN, PD.
Doxylamine succinate	BKC.
Methapyrilene fumarate	ABB.
Methapyrilene hydrochloride	ABB.
Methapyrilene hydroxybenzoylbenzoate	LIL.
Phenindamine tartrate	HOF.
*Pheniramine maleate	HEX, LEM, SCH, x.
Phenyltoloxamine citrate	BRS.
*Pyrilamine maleate	BKL, HEX, MRK, PYL, RSA.
Pyrrobutamine phosphate	LIL.
Rotoxamine (levo-Carbinoxamine) tartrate	SCH.
Thenyldiamine hydrochloride	SDW.
Thonzylamine hydrochloride	NEP.
Tripelennamine	CBP.
Tripelennamine citrate	CBP.
Tripelennamine hydrochloride	CBP.
Triprolidine hydrochloride	BUR.
*Anti-infective agents (except antibiotics):	
*Antimony, arsenic, and bismuth compounds:	
Arsanilic acid	WHL.
Bismuth dipropylacetate	x.
Bismuth sodium triglycollamate	x.
Bismuth subsalicylate	MAL, NOR, PEN.
Carbarsone	LIL, PYL, RSA, WHL.
Glycobiarsol	SDW.
Nitarsone	SAL.
Roxarsone	SAL.
Roxarsone, sodium	SAL.
Sodium arsanilate	SAL, WHL.
*Cetylpyridinium chloride	BKL, FIN, GAN, HEX, NEP.
*Mercury compounds:	
o-Hydroxyphenylmercuric chloride	MRK.
Merbromin	HYN.
Mercuric salicylate	MAL, MRK.
Nitromersol	ABB.
Phenylmercuric acetate	WRC.
Phenylmercuric benzoate	MRK, WRC.
Phenylmercuric borate	MRK, WRC.
Phenylmercuric chloride	MRK.
Phenylmercuric nitrate	MRK, WRC.
Thimerosal	LIL, PYL, SEL.
*5-Nitrofurane, -imidazole, and -thiazole derivatives:	
Acinitrazole	ACY.
2-Amino-5-nitrothiazole	ACY.
Furazolidone	NOR.
Metronidazole	RDA.
Nihydrazone	NOR.
Nithiazide	MRK.
Nitrofurantoin	NOR.
Nitrofurathiazide	SCH.
Nitrofurazone	NOR.
*Phenolic antiseptics and disinfectants:	
Betanaphthol	ACY, FIN.
Bithionol	SDH.
Resorcinol	KPT, LEM.
Thymol	GIV.
Thymol iodide	MAL.

TABLE 13B.--*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Anti-infective agents (except antibiotics)--Continued	
*Piperazine base and salts:	
*Piperazine	DOW, JCC, UCC.
Piperazine adipate	JCC, PYL, RDA.
Piperazine calcium edetate	EN.
Piperazine citrate	BUR, JCC, RDA.
Piperazine dihydrochloride	DOW, JCC, RDA, WHL.
Piperazine hexahydrate	JCC, RDA.
Piperazine hydrochloride	DOW, JCC, RDA.
Piperazine phosphate	BUR, JCC, PYL, RDA, WHL.
Piperazine sulfate	JCC, RDA.
Piperazine tartrate	RDA.
*Quinoline derivatives:	
Amodiaquin	PD.
Amodiaquin hydrochloride	PD.
Chloroquine phosphate	SDW.
*Diiodohydroxyquin	LEM, PYL, RSA, SRL.
Hydroxychloroquine sulfate	SDW.
8-Hydroxy-5-quinolinesulfonic acid	GAM, MRK.
Iodochlorhydroxyquin	CBP, PYL.
Oxyquinoline	GAM, LEM, MRK.
Oxyquinoline benzoate	GAM, LEM, MRK.
Oxyquinoline citrate	GAM.
Oxyquinoline potassium sulfate	LEM.
Oxyquinoline sulfate	GAM, LEM, MRK, PYL.
Primaquine phosphate	PD, SDW.
*Sulfonamides:	
Acetyl sulfamethoxypyridazine	ACY.
Acetyl sulfisoxazole	HOF.
Azosulfamide	SDW.
Dinsed	SAL.
Mafenide hydrochloride	SDW.
Phthalylsulfacetamide	LEM.
Phthalylsulfathiazole	MRK.
Succinylsulfathiazole	LEM, MRK.
Sulfabenz	SAL.
Sulfabenzamide	ACY.
Sulfabenzamide, sodium	ACY.
Sulfabromomethazine, sodium	MRK.
Sulfacetamide	LEM.
Sulfacetamide, sodium	LEM, SCH.
Sulfadiazine	ACY, LEM.
Sulfadiazine, sodium	ACY.
Sulfadimethoxine	HOF.
Sulfaethidole	ACY.
Sulfaguanidine	ACY, LEM.
Sulfamerazine	ACY, LEM.
Sulfamerazine, sodium	ACY.
Sulfamethazine	ACY, LEM.
Sulfamethizole	ACY.
Sulfamethoxazole	HOF.
Sulfamethoxypyridazine	ACY.
Sulfanilamide	LEM, MRK.
Sulfanitran	SAL.
Sulfapyridine	ACY, MRK.
Sulfapyridine, sodium	ACY.
Sulfaquinoxaline	MRK.
*Sulfathiazole	ACY, LEM, MRK.
Sulfathiazole, sodium	ACY, MRK.
Sulfisoxazole	HOF.
*Other anti-infective agents:	"
*Anthelmintic, antifungal, antiprotozoan, and antiviral agents:	
Anthelmintic agents:	
Cadium anthranilate	MAL.
Diethylcarbamazine citrate	ACY.
Gentian violet	NAC, SDH.
Hexylresorcinol	HEX, MRK.
Phenothiazine	CLV.
Pyrvinium pamoate	x.
Thiabendazole	MRK.

TABLE 13B.--*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Anti-infective agents (except antibiotics)--Continued	
*Other anti-infective agents--Continued	
*Anthelmintic, antifungal, antiprotozoan, and antiviral agents--Continued	
Antifungal agents:	
Benzoic acid	MON, PFZ.
Calcium undecylenate	WTL.
Diamthazole hydrochloride	HOF.
Fuchsin, basic	NAC.
p-Hydroxybenzoic acid esters:	
Butylparaben	HN, ICO.
Ethylparaben	HN.
Methylparaben	HN, ICO, LEM, PYL.
Propylparaben	HN, ICO, LEM, PYL.
Salicylanilide	LEM.
Sodium caprylate	LEM, TNC.
Sodium undecylenate	BAC.
Undecylenic acid	BAC.
Zinc undecylenate	BAC, LEM, TNC, WTL.
Antiprotozoan agents:	
Aklomide	SAL.
Amprolium	MRK.
Nitrophenide	ACY.
Pyrimethamine	BUR.
Antiviral agent: Amantadine hydrochloride	x.
*Urinary antiseptics:	
Ammonium benzoate	GAM, PEN.
Calcium mandelate	MAL.
Ethoxazene hydrochloride	KON.
Mandelic acid	MAL.
Methenamine	HN.
Methenamine acetamidosalicylate	ABB.
Methenamine mandelate	LEM, NEP, PYL, TNC.
Methylene blue	ACY, NAC.
Phenazopyridine hydrochloride	HOF, KON, NEP.
*All other:	
Acriflavine	NAC.
Acriviolet	NAC.
Aminacrine	SDW.
Aminacrine hydrochloride	SDW.
Antileprotic and antitubercular agents:	
Aminosalicylic acid	MLS.
Calcium aminosalicylate	MLS.
Isoniazid	RIL.
Potassium aminosalicylate	MLS.
Pyrazinamide	MRK.
Sodium aminosalicylate	MLS.
Sodium sulfoxone	ABB.
Benzalkonium chloride	SDH.
Bromoform	DOW.
Camphor, monobromated	MAL, PEN.
Cetalkonium chloride	FIN, SDW.
Chloramine T	MON.
Chlorobutanol	BPC, PD.
Iodoform	MAL, PEN.
Magnesium salicylate	MAL.
Nalidixic acid	SDH, SDW.
Nitromide	SAL.
Povidone - iodine complex	G.
*Antineoplastic agents and local anesthetics:	
Antineoplastic agents:	
Mercaptopurine	BUR.
Urethane	BKL, FMP.
Vinblastine sulfate	LIL.
Vincristine sulfate	LIL.
Local anesthetics:	
Butacaine sulfate	ABB.
Butamben picrate	ABB.
Butyl aminobenzoate (Butamben)	ABB, ICO.
Dibucaine	CBP.
Dibucaine hydrochloride	CBP.

TABLE 13B.--*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Antineoplastic agents and local anesthetics--Continued	
Local anesthetics--Continued	
Ethyl aminobenzoate (Benzocaine)	ABB, LEM.
Isobutyl aminobenzoate	ICO.
Lidocaine	AST, LEM.
Oxethazaine	WYT.
Phenacaine hydrochloride	GAN, SDW.
Piperocaine hydrochloride	LIL.
Pramoxine hydrochloride	ABB.
Procaine	ABB.
Procaine hydrochloride	ABB, LEM.
Proparacaine hydrochloride	OMS.
Propyl aminobenzoate	ICO.
Pyrrocaine hydrochloride	EN.
Tetracaine	SDW.
Tetracaine hydrochloride	ICO, SDW.
*Autonomic drugs:	
Ganglionic blocking agent: Tetraethylammonium chloride	RSA.
Parasympatholytic (anticholinergic) agents:	
*Quaternary ammonium compounds (except tropane derivatives):	
Ambutonium bromide	ICO.
Diphemanil methylsulfate	SCH.
Hexocyclium methylsulfate	ABB.
Isopropamide iodide	SK.
Mepenzolate bromide	LKL.
Methantheline bromide	SRL.
Pipenzolate bromide	LKL.
Pralidoxime chloride	NEP.
Propantheline bromide	SRL.
Thihexinol methylbromide	SCH.
Tridihexethyl iodide	ACY.
*Tertiary amines (except tropane derivatives):	
Adiphenine hydrochloride	CBP.
Caramiphen edisylate	SK.
Cycrimine hydrochloride	LIL.
Dicyclomine hydrochloride	BKC.
Ethopropazine	NEP.
Orphenadrine citrate	RIK.
Orphenadrine hydrochloride	RIK.
Oxyphencyclimine hydrochloride	PFZ.
Piperidolate hydrochloride	LKL.
Thiphenamil hydrochloride	x.
Trihexyphenidyl hydrochloride	ACY, SDW.
Tropane derivatives:	
Anisotropine methylbromide	x.
Benztropine mesylate	x.
Homatropine	CTN, HEX.
Homatropine hydrobromide	CTN.
Homatropine methylbromide	CTN, EN, HEX.
Parasympathomimetic (cholinergic) agents:	
Acetylcholine chloride	MRK.
Methacholine chloride	MRK, RSA.
Neostigmine bromide	HEX.
Physostigmine salicylate	PEN.
Pyridostigmine bromide	HOF.
Sympatholytic (antiadrenergic) agents:	
Ergonovine maleate	LIL.
Hydralazine hydrochloride	CBP.
Tolazoline hydrochloride	CTN.
*Sympathomimetic (adrenergic) agents:	
Adrenalone	SDW.
Arterenol hydrochloride (racemic)	SDW.
Cinnamylephedrine	SDW.
Cyclopentamine hydrochloride	LIL.
*Epinephrine salts:	
Epinephrine bitartrate (levo)	SDW.
Epinephrine hydrochloride (racemic)	DOD, VB.
*Isoproterenol salts:	
Isoproterenol hydrochloride	GAN, SDW.
Isoproterenol sulfate	ABB, GAN, SDW.

TABLE 13B.--*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Autonomic drugs--Continued	
*Sympathomimetic (adrenergic) agents--Continued	
Levarterenol bitartrate	SDW.
dl-Metanephrine hydrochloride	SDW.
Metaraminol bitartrate	SDW.
Methoxyphenamine hydrochloride	x.
Naphazoline hydrochloride	CBP, SDW.
dl-Normetanephrine hydrochloride	SDW.
Nylidrin hydrochloride	x.
*Phenylephrine base and salts:	
Phenylephrine	CTN, GAN, SDW.
Phenylephrine bitartrate	GAN.
*Phenylephrine hydrochloride	CTN, GAN, HEX, SDW.
Phenylephrine tannate	CTN.
*Phenylpropanolamine hydrochloride	BKL, GAM, GAN, ICO, NEP, ORT.
Propylhexedrine	HEX, SK.
Protokylol hydrochloride	LKL.
Pseudoephedrine hydrochloride	BUR, GAN.
Pseudoephedrine sulfate	GAN.
Tetrahydrozoline hydrochloride	PFZ.
*Cardiovascular agents:	
Antihypertensive agents:	
Alkavervir	PEN, RIK.
Alseroxylon	RIK.
Deserpidine	PEN.
Methyldopa	MRK.
Pargyline hydrochloride	ABB.
Reserpine	PEN.
Bioflavonoids:	
Hesperidin	SKG.
Hesperidin methyl chalcone	SKG.
Lemon bioflavonoid	SKG.
Naringin	SKG.
Rutin	PEN.
Cardiac drugs:	
Calcium camphorsulfonate	FIN, PYL.
Digitoxin	BUR.
Procainamide hydrochloride	OMS.
Quinidine gluconate	HEX.
*Vasodilators:	
Clonitrate	APD.
Dioxyline phosphate	LIL.
Ethyl nitrite	MAL.
Isosorbide dinitrate	APD.
Mannitol hexanitrate	APD.
Nicotinyl alcohol tartrate	HOF.
Nitroglycerin	APD.
Pentaerythritol tetranitrate	APD.
*Central depressants:	
*Analgesics and antipyretics:	
*Salicylates:	
Aluminum aspirin	ABB, SCH.
*Aspirin	CFC, DOW, MLS, MON, NOR, SDG.
Ethyl salicylate carbonate	PD.
Phenyl salicylate	DOW, MAL.
Potassium salicylate	HN, PEN.
Salicylamide	CFC, x.
Salicylsalicylic acid	TNC.
Sodium salicylate	DOW, HN.
Strontium salicylate	MAL, TNC.
*Other analgesics and antipyretics:	
Acetaminophen	ATP, MLS, NEP, x.
Acetanilide	CTN.
p-Aminobenzoic acid and salts:	
Aminobenzoic acid	LEM.
Calcium aminobenzoate	LEM, x.
Magnesium aminobenzoate	LEM.
Potassium aminobenzoate	GAN, LEM.
Sodium aminobenzoate	GAN, LEM.
Anileridine hydrochloride	MRK.
Calcium succinate	LEM.
Colchicine	PEN.

TABLE 13B.--*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Central depressants--Continued	
*Analgesics and antipyretics--Continued	
*Other analgesics and antipyretics--Continued	
Dipyrone	SDW.
Ethoheptazine citrate	WYT.
Meperidine hydrochloride	SDW, WYT.
Oxycodone hydrochloride	EN.
Oxymorphone hydrochloride	EN.
Oxyphenbutazone	GGY.
Phenacetin	DOW, MON.
Phenylbutazone	GGY.
1-Phenylsemicarbazide	RSA.
Phenyramidol hydrochloride	OTC.
Propoxyphene hydrochloride	LIL.
Propoxyphene napsylate	LIL.
*Anticonvulsants, hypnotics, and sedatives:	
Anticonvulsants (except barbiturates):	
Aminoglutethimide	CBP.
Diphenylhydantoin	PD.
Diphenylhydantoin, sodium	PD.
Ethosuximide	PD.
Ethotoin	ABB.
Methsuximide	PD.
Paramethadione	ABB.
Phenacemide	ABB.
Phensuximide	PD.
Trimethadione	ABB.
*Barbiturates:	
5-Allyl-5-(2-cyclopenten-1-yl)barbituric acid	GAN.
Amobarbital	LIL.
Amobarbital, sodium	GAN, LIL.
Barbital	GAN.
Barbital, sodium	GAN.
*Butabarbital	ABB, BPC, GAN.
*Butabarbital, sodium	ABB, BPC, GAN.
Butalbital	GAN.
Butalbital, sodium	GAN.
Cyclobarbital, calcium	SDW.
Hexobarbital	GAN, SDW.
Mephobarbital	SDW.
Methohexital, sodium	LIL.
Pentobarbital	ABB, BPC, GAN.
Pentobarbital, sodium	ABB, BPC, GAN.
Phenobarbital	BPC, GAN, MAL.
*Phenobarbital, sodium	BPC, GAN, MAL, SDW.
Secobarbital	GAN.
Secobarbital, sodium	GAN, LIL.
Talbutal	SDW.
Thiamylal, sodium	PD.
Thiopental, sodium	ABB.
Vinbarbital	x.
Hypnotics and sedatives (except barbiturates):	
Acetylcarbromal	MLS.
Carbromal	MLS, PD.
Ethchlorvynol	ABB.
Ethinamate	LIL.
Glutethimide	CBP.
Methyprylon	HOF.
*Skeletal muscle relaxants:	
Carisoprodol	x.
Chlorphenesin carbamate	UPJ.
Chlorzoxazone	OTC.
*Mephenesin	BKL, HEX, OMS.
Mephenesin carbamate	OMS.
Phenaglycodol	LIL.
Styramate	ARP.
*Succinylcholine chloride	ABB, BUR, SDW.
Tubocurarine	ABB, OMS.
*Tranquilizers:	
Azacyclonol hydrochloride	BKC.
Buclizine hydrochloride	PFZ.
Chlordiazepoxide hydrochloride	HOF.

TABLE 13B.--*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Central depressants--Continued	
*Tranquilizers--Continued	
Chlormezanone	SDW.
Chlorprothixene	HOF.
Diazepam	HOF.
Ethoxybutamoxane hydrochloride	LIL.
Hydroxyphenamate	ARP.
Hydroxyzine hydrochloride	PFZ.
Hydroxyzine pamoate	PFZ.
Mebutamate	x.
Mephenoxalone	ACY.
*Meprobamate	ABB, BKL, PEN, TBK.
Methaqualone	HEX, x.
Oxazepam	WYT.
*Phenothiazine derivatives:	
Carphenazine maleate	WYT.
Chlorpromazine hydrochloride	SK.
Fluphenazine hydrochloride	OMS, SCH.
Mepazine hydrochloride	NEP.
Perphenazine	SCH.
Prochlorperazine maleate	SK.
Promazine hydrochloride	WYT.
Promethazine hydrochloride	WYT.
Trifluoperazine hydrochloride	SK.
Triflupromazine hydrochloride	OMS.
Tybamate	PEN, x.
*Other central depressants:	
Anesthetics:	
Tribromoethanol	SDW.
Vinyl ether	MRK.
Antitussives:	
Benzonatate	CBP.
Carbetapentane citrate	PFZ.
Dextromethorphan hydrobromide	HOF.
Dimethoxanate hydrochloride	x.
*Ethylmorphine hydrochloride	MAL, MRK, PEN.
Hydrocodone bitartrate	EN, MAL, MRK.
*Central stimulants:	
*Amphetamines:	
*Amphetamine, dextroamphetamine and levamphetamine base and salts:	
Amphetamine (racemic)	HEX, ORT.
Amphetamine hydrochloride (racemic)	HEX.
Amphetamine sulfate (racemic)	ARN, HEX, SK.
Dextroamphetamine	HEX.
Dextroamphetamine carboxymethylcellulose	ARN.
Dextroamphetamine hydrochloride	ARN, HEX.
*Dextroamphetamine sulfate	ARN, HEX, SK.
Dextroamphetamine tannate	ARN.
Levamphetamine succinate	ARN.
*Methamphetamine base and hydrochloride:	
Methamphetamine (dextro)-	HEX.
Methamphetamine (levo)	ABB.
*Methamphetamine (racemic)	ARN, HEX, OTC.
*Methamphetamine hydrochloride (dextro)	ABB, ARN, GAN, HEX.
Methamphetamine hydrochloride (racemic)	ARN, GAN, HEX.
*Antidepressants:	
Amitriptyline	MRK.
Desipramine hydrochloride	GGY, LKL.
Isocarboxazid	HOF.
Nialamide	PFZ.
Nortriptyline	LIL.
Phenelzine sulfate	NEP.
*Caffeine:	
Natural	GNF, MCW.
Synthetic	MON, PFZ.
*Other central stimulants:	
Benzphetamine hydrochloride	x.
Caffeine, citrated	MAL, MRK.
Caffeine sodium benzoate	MAL.
Chlorphentermine hydrochloride	NEP.
Diethylpropion hydrochloride	BKC, x.

TABLE 13B. --*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Central stimulants--Continued	
*Other central stimulants--Continued	
Nikethamide	CBP.
Phendimetrazine tartrate	x.
Phenmetrazine hydrochloride	GGY.
Phentermine	HEX.
Sodium succinate	MAL.
*Dermatological agents:	
*Allantoin	CTN, FIN, HFT.
*Bismuth subgallate	BKC, MAL, PEN.
*Salicylic acid	DOW, HN, MON, SDH.
*Other dermatological agents:	
Aluminum phenolsulfonate	MAL.
Ammonium phenolsulfonate	SAL.
Dipropylene glycol salicylate	SBC.
Glycol salicylate	RDA.
Homomenthyl salicylate	ICO.
p-Methoxycinnamic acid, 2-ethoxyethyl ester	GIV.
Podophyllum resin	ABB, PEN.
Scarlet red	NAC.
Sodium phenolsulfonate	MAL, SAL.
Zinc phenolsulfonate	MAL.
*Expectorants and mucolytic agents:	
Ethylenediamine dihydriodide	BKC, PYL, WHL.
Glyceryl guaiacolate	BKL, GAN, ICO, OTC, x.
Guaiacol	HN, MON.
Iodinated glycerol	x, x.
Lobeline sulfate	ABB.
Terpin hydrate	LEM, PEN.
Thonzonium bromide	NEP.
*Gastrointestinal agents:	
*Choleretics and hydrocholeretics:	
Bile acids, oxidized	SRL, WIL.
Dehydrocholic acid	WIL.
Florantyrone	SRL.
Iron bile salts	LIL.
Ox bile extract	ABB.
Sodium dehydrocholate	WIL.
Tocamphyl	x.
*Choline chloride (all grades):	
Feed grade	COM, DLI, HFT, TMH.
Medicinal grade	CFC, HFT.
Technical grade	G, RH.
*Methionine and its hydroxy analogue:	
Methionine (feed grade)	DOW.
Methionine (medicinal grade)	DOW, LEM.
Methionine, hydroxy analogue, calcium salt	DUP, MON.
*Other gastrointestinal agents:	
Betaine base	HFT, MAL.
Betaine hydrate	HFT.
Betaine hydrochloride	HFT.
Calcium polycarbophil	WLI.
Choline bicarbonate	COM.
Choline bitartrate	ACY, CFC, HFT.
Choline citrate (Tricholine citrate)	ACY, CFC, HFT.
Choline dihydrogen citrate	ACY, CFC, HFT.
Dihydroxy aluminum aminoacetate	CHT.
Magnesium citrate	MAL.
Pectin	SKG.
Phenolphthalein	MON.
Phenolphthalein, yellow	WLI.
Sitosterols	UPJ.
Sodium carboxymethylcellulose	CBP.
Sodium tartrate	MAL.
*Hormones and synthetic substitutes:	
*Corticosteroids:	
Betamethasone	SCH.
Betamethasone acetate	SCH.
Betamethasone phosphate	SCH.
Cortisone	MRK.
Cortisone acetate	MRK, SCH, UPJ.
Dexamethasone	MRK, SCH.

TABLE 13B.--*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Hormones and synthetic substitutes--Continued	
*Corticosteroids--Continued	
Dexamethasone acetate	SCH.
Dexamethasone phosphate	MRK.
Dichlorisone acetate	SCH.
Fludrocortisone acetate	UPJ.
Fluorometholone	UPJ.
Fluprednisolone	UPJ.
Hydrocortamate hydrochloride	PFZ.
*Hydrocortisone	MRK, PFZ, UPJ.
Hydrocortisone acetate	MRK, PFZ, UPJ.
Hydrocortisone phosphate	MRK.
Indomethacin	MRK.
Methylprednisolone	UPJ.
Prednisolone	MRK, SCH, UPJ.
Prednisolone acetate	SCH, UPJ.
Prednisone	MRK, SCH, UPJ.
Triamcinolone	ACY, OMS.
*Estrogens:	
Chlorotrianisene	BKC.
Dienestrol diacetate	SCH.
Diethylstilbestrol	CTN, LIL.
Natural estrogenic substances	ORG.
Piperazine estrone sulfate	ABB.
*Synthetic hypoglycemic agents:	
Acetohexamide	LIL.
Chlorpropamide	PEZ.
Phenformin hydrochloride	x.
Tolazamide	x.
Tolbutamide	HST, x.
*Other hormones and synthetic substitutes:	
Androgens:	
Fluoxymesterone	UPJ.
Testosterone cypionate	UPJ.
Antithyroid agents:	
Methimazole	LIL.
Propylthiouracil	PYL.
Thiouracil	ACY.
Progestogens:	
Medroxyprogesterone acetate	x.
Norethynodrel	SRL.
Progesterone	x.
All other:	
Corticotropin (ACTH) (pituitary)	ARP, ORG, WIL.
Insulin (pancreas)	ARP, LIL.
*Renal-acting and edema-reducing agents:	
*Mercurial diuretics:	
Meralluride	LKL.
Mersalyl acid	SDW.
Sodium mercaptomerin	WYT.
Sodium mercurophylline	FIN.
*Theobromine and theophylline derivatives:	
Ambuphylline	GAN.
*Aminophylline	GAN, LEM, SRL.
Aminophylline sodium biphosphate	GAN.
Oxtriphylline	NEP.
Theobromine sodium salicylate	CLC.
Theophylline magnesium	MAL.
Theophylline monoethanolamine	LIL.
Theophylline sodium acetate	MAL.
*Other renal-acting and edema-reducing agents:	
Acetazolamide	ACY.
Benzothiadiazine derivatives:	
Bendroflumethiazide	OMS.
Benzthiazide	PFZ.
Chlorothiazide	MRK.
Cyclothiazide	LIL.
Flumethiazide	OMS.
Hydrochlorothiazide	ABB, CBP, MRK.
Hydroflumethiazide	OMS.
Methyclothiazide	ABB.

TABLE 13B. --*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Renal-acting and edema-reducing agents--Continued	
*Other renal-acting and edema-reducing agents--Continued	
Benzothiadiazine derivatives--Continued	
Polythiazide	PFZ.
Trichlormethiazide	SCH.
Chlorthalidone	GGY.
Dichlorphenamide	MRK.
Probenecid	MRK.
Spironolactone	SRL.
Triamterene	SK.
*Therapeutic nutrients:	
*Amino acids and salts:	
Acetyltryptophane	SDW.
Aminoacetic acid (glycine)	BPC, DOW.
Amino acid mixtures	ABB, CUT, STA.
Arginine glutamate	ABB.
Aspartic acid and salts:	
Aspartic acid	HEX, NAC.
Magnesium aspartate	WYT.
Potassium aspartate	WYT.
Beta-alanine	BFG, NOP.
Glutamic acid and salts:	
Ammonium glutamate	IMC.
Calcium glutamate	LEM.
*Glutamic acid	IMC, LEM, PFZ.
Glutamic acid hydrochloride	IMC, LEM.
Potassium glutamate	IMC, LEM, PFZ.
Lysine (feed grade)	MRK.
Lysine hydrochloride	MRK.
dl-Phenylalanine	SDW.
dl-Tryptophane	SDW.
*Calcium gluconate	MAL, PFZ, WHL.
*Other therapeutic nutrients:	
Calcium glucoheptonate	PFN.
Calcium lactophosphate	MAL.
Calcium levulinate	SEL.
Calcium phytate	STA.
Copper gluconate	PFZ.
Ferrous gluconate	PFZ, SDW.
Fructose	DLI.
Lecithin	ARP.
Liver concentrate	WIL.
Liver, desiccated	WIL.
Magnesium gluconate	PFZ.
Manganese gluconate	PFZ.
Potassium gluconate	PFZ.
Sodium glycerophosphate	SEL.
*Vitamins:	
*Ascorbic acid and derivatives:	
*Ascorbic acid	HOF, MRK, PFZ.
Ascorbyl palmitate	PFZ.
Calcium ascorbate	PFZ.
Sodium ascorbate	HOF, MRK, PFZ.
B-complex vitamins:	
*Cyanocobalamin (all grades):	
Feed grade	GPR, MRK, PMP.
Medicinal grade	IMC, MRK.
U.S.P. crystalline	MRK.
*Niacin (all grades):	
Feed grade	ABB, CKL, MRK, NEP, RIL.
Medicinal grade	MRK, NOP, RIL, SCR.
*Niacinamide	MRK, NEP, PD, RIL, SCR.
*Pantothenic acid and derivatives:	
Calcium pantothenate (dextro)	DLI, MRK, x.
*Calcium pantothenate (racemic) (all grades):	
Feed grade	CKL, FLM, HFT, NOP.
Medicinal grade	NOP.
Calcium pantothenate (racemic) - calcium chloride complex.	NOP.
Dexpanthenol	HOF.

TABLE 13B. --*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Vitamins--Continued	
B-complex vitamins--Continued	
*Pantothenic acid and derivatives--Continued	
Panthenol (racemic)	HOF.
Sodium pantothenate	PD.
*Riboflavin (all grades):	
Feed grade	COM, GPR, HOF, MRK, PMP.
Medicinal grade	HOF, MRK.
*Cholecalciferol (Vitamin D_3)	CW, DLI, NOP, VTM.
*Ergocalciferol (Vitamin D_2)	CW, DLI, SCR, VTM.
*Menadione	ABB, HET, HFT, WHL.
*Menadione sodium bisulfite	ABB, HET, HFT, WHL.
*Vitamin A alcohol and esters:	
Vitamin A acetate (feed grade)	HOF.
Vitamin A acetate (medicinal grade)	CW, HOF, PFZ.
Vitamin A alcohol	CW, HOF.
Vitamin A natural esters	CW.
*Vitamin A palmitate (feed grade)	EK, HOF, PFZ.
Vitamin A palmitate (medicinal grade)	EK, HOF, PFZ.
*Other vitamins:	
d-Alpha tocopherol	CW, EK.
dl-Alpha tocopherol	HOF.
d-Alpha tocopheryl acetate	CW, EK.
dl-Alpha tocopheryl acetate	HOF.
d-Alpha tocopheryl acid succinate	CW, EK, HOF.
Beta-carotene (Provitamin A)	HOF.
Biotin	HOF.
Cyanocobalamin with intrinsic factor concentrate	WIL.
Folic acid	ACY.
Inositol	STA.
Magnesium nicotinate	NEP.
Niacinamide hydrochloride	NEP.
Phytonadione	MRK.
Pyridoxine	HOF, MRK.
Riboflavin-5-phosphate, sodium	HOF.
Sodium nicotinate	MRK, NEP.
Thiamine hydrochloride	HOF, MRK.
Thiamine mononitrate	HOF, MRK.
*Miscellaneous medicinal chemicals:	
Diagnostic agents:	
Roentgenographic contrast media:	
Acetrizoate, sodium	MAL.
Diatrizoate, meglumine	SDW.
Diatrizoate, sodium	SDW.
Diprotrizoate, sodium	MAL.
Iodihippurate, sodium	MAL.
Iodopyracet	SDW.
Iopanoic acid	SDW.
Iophendylate	x.
Iothalamate, meglumine	MAL.
Iothalamate, sodium	MAL.
Methiodal, sodium	SDW.
Other diagnostic agents:	
Galactose (liver function test)	PFN.
Indocyanine green (cardiac output test)	x.
Metyrapone (pituitary function test)	CBP.
Hematological agents:	
*Anticoagulants:	
Ammonium heparin	WIL.
Anisindione	SCH.
Bishydroxycoumarin	ABB, FIN.
Phenindione	CTN, GAN, WIL.
Potassium heparin	WIL.
Sodium heparin	ABB, RIK.
Sodium warfarin	EN.
Other hematological agents:	
Aminocaproic acid	ACY.
Cellulose, oxidized	EKT.
Dextran (plasma expander)	PHR.
Smooth muscle relaxants:	
Alverine	CTN.
Alverine citrate	CTN.

TABLE 13B.--*Medicinal chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
*Miscellaneous medicinal chemicals--Continued	
Smooth muscle relaxants--Continued	
Alverine hydrochloride	CTN.
Papaverine hydrochloride	LIL.
Other miscellaneous medicinal chemicals:	
Acetyl glycol salicylate	ICO.
Berberine hydrochloride	ABB, PEN.
Hydrastine	PEN.
Hydrastine hydrochloride	PEN.

Flavor and Perfume Materials

TABLE 14B.--*Flavor and perfume materials for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Flavor and perfume materials for which separate statistics are given in table 14A are marked below with an asterisk (*); those not so marked do not appear in table 14A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Material	Manufacturers' identification codes (according to list in table 22)
FLAVOR AND PERFUME MATERIALS, CYCLIC	
Benzenoid and Naphthalenoid	
2'-Acetonaphthone (Methyl β-naphthyl ketone)	FB, GIV, TBK.
Acetophenone	GIV, TBK.
7-Acetyl-6-ethyl-1,1,4,4-tetramethyl-1,2,3,4-tetrahydronaphthalene.	GIV.
p-Allylanisole	GIV.
Allyl phenoxyacetate	GIV.
*4-Allylveratrole (Eugenyl methyl ether)	FB, GIV, ICO.
p-tert-Amylcyclohexanone	IFF.
*Anethole (p-Propenylanisole)	ARZ, GLD, HNW, HPC.
p-Anisaldehyde (p-Methoxybenzaldehyde)	GIV, OPC, SHL, TBK, UNG.
Anisole (Methyl phenyl ether)	GIV.
Anisyl acetate	GIV, TBK.
Anisyl alcohol	GIV, TBK.
*Benzophenone	G, GIV, ICO, NEO, TBK.
*Benzyl acetate	GIV, OPC, SHL, TBK, TNP.
*Benzyl alcohol	BPC, GIV, OPC, SHL, TBK, TNP.
Benzyl benzoate	MON, TBK, TNP.
Benzyl butyrate	FB, GIV, TBK.
*Benzyl cinnamate	FB, GIV, ICO, TBK.
Benzyl ether	OPC, SHL, TNP.
Benzyl formate	TBK.
Benzyl glyceryl acetal	GIV.
Benzyl isobutyrate	TBK.
Benzyl isoeugenyl ether	GIV, TBK.
Benzyl isopentyl ether	GIV.
Benzyl phenylacetate (Benzyl α-toluate)	GIV, TBK.
*Benzyl propionate	FB, GIV, TBK.
*Benzyl salicylate	GIV, ICO, OPC, TBK, UNG.
α-Bromostyrene	TBK.
4'-tert-Butyl-2',6'-dimethyl-3',5'-dinitroacetophenone (Musk ketone).	GIV, TBK.
6-tert-Butyl-3-methyl-2,4-dinitroanisole (Musk ambrette)	GIV.
p-tert-Butyl-α-methylhydrocinnamaldehyde (α-Methyl-β-(p-tert-butylphenyl)propionaldehyde).	GIV.
5-tert-Butyl-1,2,3-trimethyl-4,6-dinitrobenzene (5-tert-Butyl-4,6-dinitrohemimellitene).	GIV.
5-tert-Butyl-2,4,6-trinitro-m-xylene (Musk xylol)	GIV.
Carvacrol (2-p-Cymenol)	GIV.
*Cinnamaldehyde	FB, OPC, TBK.
Cinnamic acid	BPC, ICC.
Cinnamyl acetate	FB, GIV, TBK.
*Cinnamyl alcohol	FB, GIV, NEO, TBK.
Cinnamyl anthranilate	FEL, GIV, RT.
Cinnamyl cinnamate	TBK.
Cinnamyl formate	TBK.
Cinnamyl isovalerate	TBK.
Cinnamyl propionate	GIV, TBK.
trans-Decahydro-2-naphthol	IFF.
p,α-Dimethylbenzyl alcohol (p-Methylphenylmethylcarbinol)	GIV, TBK.
α,α-Dimethylphenethyl acetate	GIV, IFF.
α,α-Dimethylphenethyl alcohol	GIV, IFF.
α,α-Dimethyl-3-phenyl-1-propanol	IFF.
4,6-Dinitro-1,1,3,3,5-pentamethylindan	GIV.
Diphenylmethane	TBK.
1,3-Diphenyl-2-propanone (Dibenzyl ketone)	GIV, TBK.
1-Ethoxy-2-hydroxy-4-propenylbenzene	SHL.
2-Ethoxynaphthalene (Ethyl β-naphthyl ether)	GIV.
Ethyl anisate	ICO.
Ethyl anthranilate	FB.
Ethyl benzoate	TBK.

TABLE 14B.--*Flavor and perfume materials for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Material	Manufacturers' identification codes (according to list in table 22)
FLAVOR AND PERFUME MATERIALS, CYCLIC--Continued	
Benzenoid and Naphthalenoid--Continued	
Ethyl cinnamate	GIV, TBK.
Ethyl α,β-epoxy-β-methylhydrocinnamate	GIV, TBK.
Ethyl eugenol	ICO.
2-Ethylhexyl salicylate	FEL, ICO.
Ethyl phenylacetate	GIV.
Ethyl 3-phenylglycidate	GIV, TBK.
Ethyl salicylate	TBK.
Ethylvanillin	MON, RDA.
*Eugenol	FB, GIV, ICO, LUE, NEO, PEN, RT, TBK, UNG, VLY.
Eugenol acetate	GIV.
Hexylcinnamaldehyde	GIV, IFF, TBK.
Hydratropaldehyde (α-Phenylpropionaldehyde)	GIV, IFF.
Hydratropaldehyde, dimethyl acetal	GIV, IFF.
Hydrocinnamaldehyde (β-Phenylpropionaldehyde)	GIV.
Hydroxycitronellal methyl anthranilate	GIV.
2-Hydroxypropyl p-N,N-bis(2-hydroxypropyl)aminobenzoate	SHL.
Isobutyl cinnamate	TBK.
*Isobutyl phenylacetate (Isobutyl α-toluate)	FB, GIV, TBK.
*Isobutyl salicylate	FB, GIV, TBK.
*Isoeugenol	GIV, SHL, TBK, VLY.
Isoeugenyl acetate	TBK.
*Isopentyl salicylate (Amyl salicylate)	FB, GIV, ICO, OPC, SHL, TBK.
p-Isopropylbenzaldehyde (Cumaldehyde)	GIV.
p-Isopropylcyclohexanol	GIV.
*p-Isopropyl-α-methylhydrocinnamaldehyde (Cyclamen aldehyde).	GIV, OPC, RDA.
4'-Methoxyacetophenone	GIV, ICO.
2-Methoxynaphthalene (Methyl β-naphthyl ether)	GIV.
4-(α-Methoxyphenyl)butanone	TBK.
1-(p-Methoxyphenyl)-1-pentene-3-one	GIV.
4'-Methylacetophenone (Methyl p-tolyl ketone)	TBK.
Methyl anisate	ICO.
p-Methylanisole (p-Cresyl methyl ether)	GIV, OPC.
*Methyl anthranilate	FB, GIV, MEE, OPC, SHL, UNG.
Methyl benzoate	HN.
p-Methylbenzyl acetate	ICO.
α-Methylbenzyl acetate	FB, GIV, VLY.
α-Methylbenzyl alcohol (Methylphenyl carbinol)	TBK.
*α-Methylcinnamaldehyde	FB, GIV, TBK, VLY.
*Methyl cinnamate	FB, ICO, TBK.
4-Methyl-7-ethoxy coumarin	GIV.
p-Methyl hydratropic aldehyde	GIV.
Methyl N-methylanthranilate (Dimethyl anthranilate)	GIV, OPC.
Methyl phenylacetate (Methyl α-toluate)	GIV, TBK.
*Methyl salicylate (Synthetic wintergreen oil)	CFC, DOW, HN, MON, PEN.
*α-Pentylcinnamaldehyde (α-Amylcinnamaldehyde)	FB, GIV, IFF, NEO, RDA, TBK, VLY.
*Phenethyl acetate	GIV, IFF, NEO.
Phenethyl alcohol	GIV, IFF, OPC.
Phenethyl formate	IFF, TBK.
*Phenethyl isobutyrate	GIV, IFF, TBK.
Phenethyl isovalerate	FB, GIV.
*Phenethyl phenylacetate (Phenethyl α-toluate)	FB, GIV, IFF, TBK.
Phenethyl propionate	GIV.
Phenethyl salicylate	NEO, TBK.
2-Phenoxyethyl isobutyrate	GIV, TBK.
Phenylacetaldehyde (α-Tolualdehyde)	GIV, TBK.
Phenylacetaldehyde, dimethyl acetal	GIV, TBK.
Phenylacetaldehyde, ethylene acetal	GIV.
o-Phenylanisole (2-Methoxybiphenyl)	GIV.
4-Phenyl-3-buten-2-one	FB.
Phenyl ethyl acetal	GIV.
Phenylethyl tiglate	FB.
*3-Phenyl-1-propanol (Hydrocinnamic alcohol)	FB, GIV, TBK.
3-Phenyl-1-propyl acetate	FB, GIV.
5-Propenyl-2-ethoxyphenol (Propenylguaethol)	ICO.
4-Propenylveratrole (Isoeugenyl methyl ether)	GIV, ICO, TBK.
p-Propylanisole	GIV.

TABLE 14B.--*Flavor and perfume materials for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Material	Manufacturers' identification codes (according to list in table 22)
FLAVOR AND PERFUME MATERIALS, CYCLIC--Continued	
Benzenoid and Naphthalenoid--Continued	
n-Propyl phenethyl acetal	GIV.
p-Tolualdehyde (p-Methylbenzaldehyde)	HN.
p-Tolyl acetate (p-Cresyl acetate)	GIV, IFF.
p-Tolyl phenylacetate (p-Cresyl α-toluate)	GIV.
α-(Trichloromethyl)benzyl acetate (Rosetone)	ICO, TBK.
Trimethyltetrahydrobenzylidene acetone	TBK.
Vanillin	MON, SLV.
All other	FB, GIV, IFF, PFW, RDA, SHL.
Terpenoid, Heterocyclic, and Alicyclic	
Allyl cyclohexyl propionate	GIV.
Allyl ionone	GIV, IFF.
Amyris acetate	GIV, TBK.
Bornyl acetate	FEL.
4-tert-Butylcyclohexanol	IFF.
4-tert-Butylcyclohexyl acetate	DOW, IFF.
Cadinene	FB.
Carvone (Carvol)	FB, FRM, OPC.
Caryophyllene	FB, GIV.
Cedranone	TBK.
Cedrenol	GIV.
Cedrol	GIV, IFF, TBK.
*Cedryl acetate	GIV, IFF, NEO, TBK, UNG.
*Citral (Geranial)	FB, FEL, GIV, LUE, MYW, NEO, RT, TBK.
Citral dimethyl acetal	GIV.
Citronellal	FB, GIV, IFF, TBK.
*Citronellol	FB, GIV, GLD, IFF, NEO, TBK, VLY.
*Citronellyl acetate	GIV, IFF, TBK, VLY.
Citronellyl butyrate	GIV.
*Citronellyl formate	FB, GIV, IFF, TBK, VLY.
Citronellyl isobutyrate	GIV, IFF, TBK.
Citronellyl oxyacetaldehyde	IFF.
Citronellyl propionate	GIV, IFF.
*Coumarin	DOW, MON, NEO, RDA, TBK.
Cyclohexadecanolide	IFF.
Cyclohexylcyclohexanone	GIV.
Cyclopentanone	ARA.
Dihydrogeraniol	ICO.
Dihydroterpinyl acetate	GIV.
*Essential oils, chemically modified:	
Citronella oil, acetylated	CP, RT.
Clove leaf oil terpenes	SHL.
Ethyl oxyhydrate	FEL, FLO, LUE, VND.
Guaiacwood acetate	FB, GIV, TBK.
Lavandin, acetylated	FEL, GIV, UNG.
Oil clove stem, acetylated	FB.
Sassafras oil, hydrogenated	GIV.
Other	BPC.
α-Furfural mercaptan	RT.
*Geraniol	FB, FEL, GIV, GLD, IFF, NEO, TBK, UNG, VLY.
Geranoxy acetaldehyde	IFF.
*Geranyl acetate	FEL, GIV, IFF, TBK, VLY.
Geranyl benzoate	GIV.
Geranyl butyrate	GIV, TBK.
Geranyl formate	GIV, IFF, TBK, VLY.
Geranyl isobutyrate	IFF.
Geranyl isovalerate	FB.
Geranyl phenylacetate (Geranyl α-toluate)	GIV, TBK.
2-Hexyl-2-cyclopenten-1-one	IFF.
Hydrocoumarin (3,4-Dihydrocoumarin)	GIV, ICO.
*Hydroxycitronellal	GIV, GLD, IFF, OPC, TBK, VLY.
Hydroxycitronellal, dimethyl acetal	GIV, OPC, TBK.
4-(4-Hydroxy-4-methylpentyl)-3-cyclohexene-1-carboxaldehyde.	IFF.
Indole	DOW, GIV.

TABLE 14B.--*Flavor and perfume materials for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Material	Manufacturers' identification codes (according to list in table 22)
FLAVOR AND PERFUME MATERIALS, CYCLIC--Continued	
Terpenoid, Heterocyclic, and Alicyclic--Continued	
*Ionones:	
α-Ionone	GIV, IFF, LUE, MYW, TBK.
β-Ionone	MYW, TBK.
Ionone (α- and β-)	GIV, LUE, MYW, NEO.
Isoborneol (Isobornyl alcohol)	RDA.
*Isobornyl acetate	FB, GIV, OPC, RDA.
Isobutylquinoline	IFF.
Isomenthone	FB, GIV, TBK.
Isopropylquinoline	FMT.
Isopulegol	GIV, TBK.
Isosafrole	GIV.
Laevo carveol	FB.
d-Limonene	RT, SKG.
Linalool	FB, FEL, GIV, GLD, HOF, LUE, NEO, SHL, TBK, UNG.
Linalyl acetate	DOW, FB, GIV, GLD, HOF, LUE, SHL, UNG.
Linalyl anthranilate	FMT.
Linalyl isobutyrate	GIV, TBK.
Linalyl propionate	FB, GIV.
l,l-p-Menthen-6-yl-l-propanone	GIV.
*Menthol, synthetic:	
Tech	GIV, ICO, NEO.
U.S.P.	GIV, HNW, NEO.
Menthone	GIV, HNW, NEO.
Menthyl acetate	FB, GIV.
6-Methylcoumarin	GIV.
*Methylionones:	
Methyl-α-ionone	GIV, IFF, MYW.
Methyl-β-ionone	IFF, NEO.
Methylionone (α- and β-)	GIV, LUE, MYW, VLY.
Methyl-γ-ionone	TBK.
Methyl-δ-ionone	TBK.
*Nerol	FB, GIV, GLD, IFF, TBK, VLY.
Nerol, acetate	FB, GIV.
Nopyl acetate	MYW, SHL, TBK, VLY.
Phellandrene	GIV, ICO.
*Piperonal (Heliotropin)	GIV, SHL, TBK.
Piperonal, sodium bisulfite complex	SHL.
Piperonal terpenes	SHL.
Pseudolinalyl acetate (Myrcenyl acetate, principally)	IFF.
*Rhodinol	FB, FEL, GIV, IFF, LUE, NEO, SHL.
Rhodinyl acetate	FB, GIV, IFF.
Safrole	GIV.
Santalol	GIV, IFF.
Santalyl acetate	GIV.
*Sweeteners, synthetic:	
Cyclohexanesulfamic acid	ABB, NRS.
Cyclohexanesulfamic acid, calcium salt	ABB, CYC, DRW, MON, NRS, PBY, PFZ, UNS.
Cyclohexanesulfamic acid, sodium salt	ABB, DRW, MON, NRS, PBY, PFZ, UNS.
Saccharin	MEE, MON, NRS.
Saccharin, calcium salt	MEE, MON, NRS, PBY.
Saccharin, sodium salt	MEE, MON, NRS.
All other	VLY.
*Terpineols:	
α-Terpineol	GLD, HNW, HPC.
β-Terpineol	HNW.
Terpineol (α- and β-)	GIV, NEO.
Terpinol hydrate (Terpin hydrate), tech	HPC.
*Terpinyl acetate	GIV, NEO, OPC, RDA, TBK, UNG.
Terpinyl propionate	GIV, TBK.
Tetrahydro alloocimenol	IFF.
3,5,5-Trimethylcyclohexanol	ICO.
Vertofix (Acetyl cedrene, principally)	IFF.
Vetivenol	GIV, TBK.
*Vetivenyl acetate	FB, GIV, IFF, NEO, TBK.
All other	FB, GIV, IFF, OPC, RDA, TBK.

TABLE 14B.-- *Flavor and perfume materials for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Material	Manufacturers' identification codes (according to list in table 22)
FLAVOR AND PERFUME MATERIALS, ACYCLIC	
Acetyl butyryl	FB.
Acetyl isovaleryl	FB.
Acetyl propionyl	FB.
Allyl heptanoate (Allyl enanthate)	FB, TBK.
*Allyl hexanoate (Allyl caproate)	DOW, FB, GIV, UNG.
Allyl isothiocyanate (Synthetic mustard oil)	ICO, MRT.
Allyl sulfide (Diallyl sulfide)	RT.
Amyl propionate	GIV.
Butyl butyrate	OPC, TBK.
Butyl isovalerate	TBK.
Butyroyl butyl lactate	ICO.
Decanal (Capraldehyde) (C_{10})	GIV, IFF, TBK.
Diallyl disulfide	RT.
Diethyl sebacate (Ethyl sebacate)	FEL, TBK.
Diethyl succinate	ICO, TBK, UCC.
Diethyl tridecanedioate (Ethylene brassylate)	RDA.
2,6-Dimethyl-5-hepten-1-al	GIV.
3,6-Dimethyl-3-octanol	CUC.
3,7-Dimethyl-1-octanol	GIV, TBK.
3,7-Dimethyl-3-octanol	GIV.
Dimethyl succinate	ICO.
Ethylamyl ketone	GIV.
Ethyl butyrate	FB, NW, RT, TBK.
Ethyl decanoate	TBK.
Ethylene brassylate	VLY.
Ethyl heptanoate (Ethyl enanthate)	FB, FEL, TBK.
Ethyl hexanoate (Ethyl caproate)	FB, NW.
Ethyl isovalerate	FB, TBK.
Ethyl laurate	FB, TBK.
Ethyl levulinate	FMT.
*Ethyl nonanoate (Ethyl pelargonate)	FB, FEL, GIV, TBK.
Ethyl octanoate (Ethyl caprylate)	FB, TBK.
*Glutamic acid, monosodium salt (Monosodium glutamate)	COM, GRW, IFG, IMC, MRK.
Heptanal (Enanthaldehyde) (C_7)	BAC.
Heptyl alcohol (Heptanol)	BAC, UCC.
cis-3-Hexen-1-ol	x.
cis-3-Hexyn-1-ol	x.
3-Hydroxy-2-butanone (Acetoin)	FMT.
4-Hydroxynonanoic acid, γ-lactone (γ-Nonalactone)	GIV, TBK.
4-Hydroxyoctanoic acid, γ-lactone (γ-Octalactone)	GIV, TBK.
4-Hydroxyundecanoic acid, γ-lactone (γ-Undecalactone)	FB, GIV.
*Isopentyl butyrate (Amyl butyrate)	FB, GIV, NW, RT, TBK.
*Isopentyl formate (Amyl formate)	FEL, RT, TBK.
Isopentyl heptanoate (Amyl caproate)	FEL, TBK.
Isopentyl isovalerate (Amyl isovalerate)	FB, TBK.
*Lauraldehyde (Dodecyl aldehyde) (C_{12})	GIV, IFF, TBK.
6-Methyl-5-hepten-2-one	GIV.
Methyl isovalerate	FB.
Methyl-β-methylthiopropionate	RT.
Methyl-2-nonenoate	GIV.
Methylolmethylhexyl ketone	GIV.
2-Methylundecanal (2-Methylnonylacetaldehyde)	GIV, TBK.
Myristic aldehyde	GIV.
Nonanal (Pelargonaldehyde) (C_9)	GIV.
Nonanediol monoacetate	GIV.
Nonyl acetate	TBK.
Nonynol acetate, isomeric (Tepyl acetate)	IFF.
Octanal (Caprylaldehyde) (C_8)	GIV, IFF.
n-Octyl acetate	FB, TBK.
n-Octyl formate	FB.
n-Octyl isobutyrate	FB, TBK.
Omega decenol	IFF.
2,6,10-Trimethyl-9-undecen-1-ol	GIV.
Undecanal (Hendecanaldehyde) (C_{11})	GIV, IFF, TBK.
2-Undecanone (Methyl nonyl ketone)	GIV.
Undecenal (Hendecenaldehyde)	GIV.
10-Undecen-1-ol	GIV.
Valerolactone	GIV.
All other	FB, GIV, IFF, OPC, RT, SHL.

Plastics and Resin Materials

TABLE 15B.--*Plastics and resin materials for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Plastics and resin materials for which separate statistics are given in table 15A are marked below with an asterisk (*); chemicals not so marked do not appear in table 15A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Material and use	Manufacturers' identification codes (according to list in table 22)
THERMOSETTING RESINS	
*Alkyd resins:	
Protective coatings:	
*Phthalic anhydride type	AAI, ACP, ACY, ADM, APT, APV, BAL, BEN, BOY, BRU, CEL, CIK, CM, COM, CPV, DAV, DEG, DSO, DUN, DUP, EW, FAR, FBR, FCD, FLW, FOC, FRE, FSH, GEI, GIL, GLD, GRG, GRV, HAN, HPC, HRS, ICF, JOB, JWL, KEL, KMC, KMP, KPS, KYN, MCC, MID, NCI, NPV, NTL, ORO, OSB, PER, PFP, PPG, PRT, RCI, RED, REL, RH, RMC, SCF, SCN, SED, SIP, SM, SRR, SVC, SW, SYV, TV, VTV, WAS, WPC, x.
*Polybasic acid type	ACP, ACY, APV, BEN, BRU, CGL, CM, COM, CPV, DSO, DUN, DUP, EW, FBR, FCD, FOC, GEI, GLD, GRV, HPC, ICF, KPS, MCC, MID, NCI, NON, NPV, OBS, ORO, OSB, PPG, PRT, RED, REL, RH, RMC, SCN, SHA, SM, SRR, TV, VTV.
*All other uses	ACP, ACY, AMR, CGL, CIK, DUP, GLD, HPC, HYC, JSC, KMP, MMM, MOB, NOP, ORO, QCP, RCI, RH, SCN, SIP, SM.
*Coumarone-indene and petroleum polymer resins:	
*Floor tile	ACC, ACP, NEV, NSP, PAI, VEL.
*Rubber compounding	ACC, ACP, KPI, NEV, NSP, PAI, VEL, WTC.
*All other uses	ACC, ACP, ADM, CM, DSO, DUP, ENJ, ICF, MCA, NEV, NPV, NSP, PAI, PPG, RCM, VEL, VTV.
Epoxy resins:	
*Unmodified:	
*Bonding and adhesives	CBA, CEL, DOW, SHC, UCP.
*Protective coatings	CBA, CEL, DOW, RCI, SHC, UCP.
*Reinforced plastics	CBA, CEL, DOW, RCI, SHC, UCP.
*All other uses	CBA, CEL, DOW, RCI, SHC, UCP.
*Modified	ACP, ADM, BEN, CM, DSO, FAR, FMC, GLD, HAN, HAP, ICF, IOC, KPT, MID, MNP, MRB, NON, ORO, OSB, PPG, PYR, REZ, RMC, SCN, SM, VTV, WAS.
*Polyester resins:	
Reinforced plastics:	
*Sheets, flat and corrugated	ACY, ADM, APD, DA, EW, FRE, GLD, HKD, ICF, LAS, MFG, ORO, PPG, RCI, RH, SIC, USR.
*All other	AAI, ACP, ACY, ADM, CAP, CPV, DA, DSO, FRE, GLD, GRV, HKD, ICF, IPC, KPS, LAS, MFG, MRO, PLU, PPG, RCI, SW, USR.
*Surface coatings	ACP, ACY, APD, COM, CPV, DA, FCD, GLD, GYR, ICF, MCC, ORO, PPG, SW, USR.
*All other uses	ACP, ACR, ACY, AMR, APD, DA, DAV, DSO, EKT, EPC, EW, FMC, FRE, GEI, GLD, GNT, GRG, GYR, HKD, LAS, OCF, PLU, PPG, RCI, RH, SCN, SW, USR, UTR, VAL.
Silicone resins	ACP, BOR, DCC, GLD, SPD, UCS.
*Phenolic and other tar acid resins:	
*Molding materials	FRL, GE, HER, HKD, HVG, IRC, MON, MRB, PLS, RCI, RGC, SYR, UCP, VAR, VSV.
Bonding and adhesive resins for--	
*Laminating	ACP, AMR, BOR, CAT, CBR, CD, DRL, EW, FOM, GE, HKD, IRI, MCA, MON, NPI, NPP, NTC, NVF, PGU, PYZ, RCD, RCI, SCN, SPL, SYR, TAY, TKL, UCP, VAR.
*Coated and bonded abrasives	AMR, BME, BOR, CAT, CBM, CBR, HKD, MMM, MON, PYZ, SCN, SYR, UCP, VAR.
*Friction materials	ABS, BME, BOR, FRL, GE, HKD, PYZ, SCN, SYR, SYV, UCP, VAR, VSV, x.
*Thermal insulation	ACP, AMR, CAT, GE, HKD, ICF, MON, NPI, OCF, PYZ, RCI, SYV, UCP.
*Foundry or shell molding	ACP, ACR, ARM, BOR, GE, HKD, MON, NPI, PYZ, RCI, SCN, UCP, UNO, VAR, WOD.
*Plywood	AMR, BOR, CAT, CBC, CBD, HPC, MON, PGU, PYZ, RCI, RH, SIM, WCA, WOD, WRD.
*Fibrous and granulated wood	AMR, BOR, CBC, CBD, HKD, ICF, MCA, MON, NPI, PYZ, RCI, SIM, UCP.

TABLE 15B.--*Plastics and resin materials for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Material and use	Manufacturers' identification codes (according to list in table 22)
THERMOSETTING RESINS--Continued	
*Phenolic and other tar acid resins--Continued	
Bonding and adhesive resins for--Continued	
*All other bonding and adhesive uses	ACP, AMR, BME, BOR, CAT, GE, HKD, IRI, KPT, MON, MRB, PYZ, RPC, SCN, SHA, SNC, SYR, UCP, USR, VAR.
*Protective coatings	ADM, AMR, BOR, CIK, CPV, DSO, EW, FAR, FCD, FRE, GE, GEI, GLD, GRG, GRV, HAN, HER, HKD, ICF, INL, KRM, MID, MON, NCI, NPI, ORO, PFP, PYZ, RCI, RH, RMC, SCN, SHA, SM, SNC, SW, SYR, UCP, VAR, VTV, WAS.
*All other uses	ACP, ACR, AMR, BOR, CAT, EW, GEN, HER, HKD, IOC, IRC, KND, MMM, MON, MRB, PLS, PYR, PYZ, RCI, REZ, RGC, RH, SCN, SNC, UCP, USR, VAR, VSV, x.
*Polyurethane and diisocyanate resins	ACB, ADM, ARK, BFG, BKL, CDM, DUP, FAR, GPM, HAP, HOU, IPI, MCC, MID, NOP, NPV, PEL, PFP, PYR, QUN, SCN, TRN, UPC, UPJ.
*Rosin modifications:	
*Rosin and rosin esters, unmodified (ester gums)	ADM, APV, CBY, DPP, FAR, FCD, FRP, HPC, KRM, MCC, SRR.
*All other	ADM, APV, CBY, DPP, FAR, FCD, FLW, FRP, HPC, KRM, MCC, RH, SCF, SRR.
Styrene and alkyd polyesters	ADM, DEG, MCC.
*Urea and melamine resins:	
*Textile treating and coating resins	ACY, APX, BOR, BPY, CAT, CCT, CIB, CRC, DAN, DEP, DUP, ECC, HNC, HRT, JSC, MON, MRA, ONX, PC, QCP, RCI, RH, ROC, RPC, S, SBC, SEY, SNW, STC, SYN, TV, USO, WON.
*Paper treating and coating resins	ACY, AMR, BME, BOR, CBD, CBR, DEP, DUP, HPC, MMM, MON, RCI, RH, SIM, x.
Molding materials	ACP, ACY, AV, BOR, CAP, EFH, GDN, PMC.
Bonding and adhesive resins for--	
*Laminating	ACY, BOR, CAT, FOM, GE, MON, NPP, NTC, PGU, PPL.
*Plywood	ACY, BGC, BOR, CAT, CBC, CBD, HPC, MON, NPI, NTC, PGU, RCI, REN, RH, SAC, SIM, SOR, WOD, WRD.
*Fibrous and granulated wood	ACY, AMR, BOR, CED, IPR, MON, NTC, PGU, RCI, SOR, SWP, SYV, UPL.
*All other bonding and adhesive uses	ACP, ACY, BOR, GLD, MON, OCF, RCI, UNO.
*Protective coatings	ACP, ACY, AMR, BOR, CEL, CPV, DUP, GRV, HAN, KPS, MID, MON, OXR, PPG, RCI, REL, RH, SCN, SW.
All other uses	ACP, ACY, AMR, AV, BOR, CAT, CMP, DUP, ECC, FRP, GEO, HPC, MMM, MON, RCI, RH, VAL, VAR, WIC.
All other thermosetting resins	ACP, ACY, ADM, DEG, GGY, HPC, HVG, JNS, MCC, MON, NPV, OCF, RCD, SNW, UBS, UNO, WTC.
THERMOPLASTIC RESINS	
Acrylic resins	ACO, ACY, CAT, CEL, CIB, CMG, DUP, FLH, GLC, GLX, HCO, JNS, JSC, PII, PPG, QUN, RH, RPC, SAR, SEY, USP, VPC, WIC.
*Cellulose plastics materials:	
Sheets, continuous:	
*Under 0.003 gage	CEL, DUP, EKT, MON.
*0.003 gage and over	CEL, DOW, EKT, MPP, NIX, PDJ, SPY.
*All other sheets, rods, and tubes	CEL, MPP, NIX, PDJ, RPI, RSB, SPY.
*Molding and extrusion materials	CEL, DOW, EKT, MON, PMA, RSB.
*Polyamide resins:	
*Nylon type	ALF, DUP, FG, POL, SPN.
*Non-nylon type	AMR, BCM, EMR, GNM, HN, JNS, KRM, SNW.
*Styrene type plastics materials:	
*Molding	ACP, BFG, BKC, BPL, CSD, DOW, DSO, FBF, FG, FIR, GOR, GRP, GYR, KPP, MCB, MON, MPL, PLA, RCC, SHC, SOL, TIC, UCP, USR.
*Textile and paper treating and coating	BOR, DOW, FIR, GNT, GRD, GYR, ILC, KPP, MON, MRT, USR, WAS, WIC.
*Emulsion paint	BOR, DOW, DSO, DUP, FIR, GLD, GNT, GRD, GYR, KPP, JSC, MON, USR.
*Extrusion	ASP, BFG, CSD, DOW, KPP, MCB, MON, PMA, RCC, UCP, USR.
*All other uses	ACC, ACP, BCN, BFG, BKC, BOR, CSD, DOW, DSO, DUP, FIR, G, GNT, GRD, GYR, IOC, JNS, JSC, KPP, MCB, MON, MRT, ONX, PAI, POL, PVI, RCC, RH, SEK, SEP, SHC, SPI, UBS, UCP, UNC, USR, WAS, WIC.

TABLE 15B.--*Plastics and resin materials for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Material and use	Manufacturers' identification codes (according to list in table 22)
THERMOPLASTIC RESINS--Continued	
Vinyl resins:	
*Polyvinyl acetate resins:	
*Emulsion paint	ACP, AIR, AML, APV, BOR, BOY, CAT, CEL, COM, DAV, DSO, DUP, FAR, FLH, GLC, GLD, GRD, HAN, JNT, KMC, KMP, MCC, MON, NPV, NSC, RCI, REL, SED, SPC, UCP, WAS, x.
*Adhesives	ACP, AML, AIR, BOR, CAT, CEL, DUP, FC, FLH, GLC, GRD, HNC, JNT, JSC, MON, MRN, NSC, NTC, PII, PPG, RCI, SEY, SH, SYR, UCP, WIC.
*Bonding and sizing	AIR, AML, CEL, CST, DUP, GLC, GRD, MON, PII, QCP, RPC, SEY, WIC.
*All other uses	AIR, AML, BOR, CEL, CIK, DAN, DUP, FLH, GLC, GRD, HRT, JSC, MON, NSC, OCF, PPG, PVI, RCI, RPC, SCO, UCP, x.
*Polyvinyl chloride and copolymer resins:	
*Film, under 6 mils	ATU, BFG, BOR, CRY, DOW, FIR, GNT, GYR, MON, PNT, THC, UCP, x.
*Sheet, 6 mils and over	AME, ATU, BFG, BOR, CRY, DA, DOW, ESC, FIR, GNT, GYR, MON, PNT, THC, UCP, USR, x.
*Flooring	AME, BFG, BOR, CRY, CUC, DA, ESC, FIR, GNT, GYR, MON, THC, UCP, USR, x.
*Paper and textile coating	ATU, BFG, BOR, CRY, DA, ESC, MON, ONX, THC, UCP, USR, x.
Extrusion:	
*Wire and cable	ATU, BFG, BOR, CRY, DA, DOW, FIR, MON, PNT, THC, UCP, USR.
*Garden hose	ATU, BFG, BOR, DA, DOW, FIR, MON.
*All other extrusions	BFG, BOR, CRY, DA, DOW, ESC, FIR, GNT, GYR, LAS, MON, THC, UCP, USR.
Molding:	
*Records	BFG, BOR, CRY, CUC, DA, KYS, MON, PLA, PNT, THC, UCP, USR.
*Slush and rotational molding	BFG, BOR, CRY, DA, ESC, FIR, MON, UCP, USR.
*All other moldings	ATU, BFG, BOR, CRY, DA, DOW, ESC, FIR, GYR, LAS, MON, PYR, THE, UCP.
*All other uses	ATU, BFG, BOR, CBR, CMG, CRY, CUC, DA, DOW, ESC, FIR, GNT, GRA, GYR, MON, NSC, PNT, PYR, THC, UCP, USR, x.
*All other vinyl resins	ADM, AIR, BEN, BOR, DOW, DUP, FC, FCD, G, GLD, GRD, HOU, MCC, MON, NSC, RMC, RPC, SW, UCP.
Polyolefin plastics materials:	
*Polyethylene, density 0.940 and below:	
*Injection molding	ACP, CEL, DOW, DUP, EKX, KPP, MON, PLC, RCC, SHC, SPN, UCP, USI.
*Blow molding	ACP, DOW, DUP, EKX, KPP, MON, PLC, RCC, SHC, UCP, USI.
Extrusion:	
*Film and sheet	ACP, ALO, CEL, DOW, DUP, EKX, KPP, MON, PLC, RCC, SHC, SPN, UCP, USI.
*Wire and cable coating	DOW, DUP, EKX, KPP, MON, PLC, SHC, SPN, UCP, USI.
*Extrusion coating on paper and other substrates	ACP, CEL, DOW, DUP, EKX, KPP, MON, PLC, RCC, SHC, SPN, UCP, USI.
*Pipe	CEL, DUP, EKX, KPP, PLC, SPN, UCP, USI.
*All other extrusions	ACP, DOW, DUP, EKX, GRP, KPP, PLC, UCP, USI.
*All other uses	ACP, CEL, DOW, DUP, EKX, KPP, MON, PLC, RCC, SHC, SPN, UCP, USI.
*Polyethylene, density over 0.940:	
*Injection molding	ACP, CEL, DOW, DUP, EKX, HPC, KPP, PLC, RCC, SHC, UCP, USI.
*Blow molding	ACP, CEL, DOW, DUP, EKX, GGC, HPC, KPP, MON, PLC, SHC, UCP, USI.
Extrusion:	
*Film and sheet	ACP, CEL, DOW, DUP, EKX, GGC, HPC, KPP, PLC, SHC, UCP, USI.
*Wire and cable coating	ACP, CEL, DUP, EKX, HPC, PLC, UCP.
*Pipe	ACP, CEL, DUP, EKX, GGC, HPC, KPP, PLC, SHC, UCP.
*All other extrusions	ACP, CEL, DOW, DUP, EKX, GGC, HPC, KPP, PLC, SHC, UCP, USI.
*All other uses	ACP, CEL, DOW, DUP, EKX, GGC, HPC, KPP, MON, PLC, RCC, UCP, USI.

TABLE 15B.--*Plastics and resin materials for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Material and use	Manufacturers' identification codes (according to list in table 22)
THERMOPLASTIC RESINS--Continued	
Polyolefin plastics materials--Continued	
*Polypropylene:	
*Molding	ACP, AVS, DOW, EKX, ENJ, HPC, NVT, PLC, RCC, SHC, SPN, UCP, USI.
*Extrusion	ACP, ALO, AVS, EKX, ENJ, HPC, PLC, UCP.
*All other uses	ACP, ALO, AVS, DOW, EKX, ENJ, HPC, NVT, PLC, RCC, SHC, UCP, USI.
All other thermoplastic resins	ACG, ACP, CBY, CIB, DEP, DUP, GE, HPC, JSC, KRM, MID, MMM, MOB, MRA, RPC, SBC, SCN, SEY, SNW, VSV, WIC.

Rubber-Processing Chemicals

TABLE 16B.--*Rubber-processing chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Rubber-processing chemicals for which separate statistics are given in table 16A are marked below with an asterisk (*); chemicals not so marked do not appear in table 16A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Chemical	Manufacturers' identification codes (according to list in table 22)
RUBBER-PROCESSING CHEMICALS, CYCLIC	
*Accelerators, activators, and vulcanizing agents:	
*Aldehyde-amine reaction products:	
Acetaldehyde-aniline condensate	USR.
n-Butyraldehyde-aniline condensate	DUP, MON, RCD, USR.
Butyraldehyde-butylideneaniline condensate	MON.
α-Ethyl-β-propylacrylanilide	CCO.
Heptaldehyde-aniline condensate	USR.
Triethyltrimethylenetriamine	USR.
*Dithiocarbamic acid derivatives:	
Dibenzyldithiocarbamic acid, sodium salt	USR.
Dibenzyldithiocarbamic acid, zinc salt	USR.
Dibutyldithiocarbamic acid, N,N-dimethylcyclohexylamine salt.	MON.
Dibutyldithiocarbamic acid, diphenylguanidine salt	CCO.
Dimethylethylene diphenyldithiocarbamic acid, lead salt	CCO.
2,4-Dinitrophenyl dimethyldithiocarbamate	USR.
Piperidinecarbodithioic acid, piperidinium-potassium salts, mixed.	DUP.
Guanidines:	
Dicatechol borate, di-o-tolylguanidine salt	DUP.
1,3-Diphenylguanidine	ACY.
Diphenylguanidine phthalate	MON.
1,3-Di-o-tolylguanidine	ACY, DUP.
1,2,3-Triphenylguanidine	NAC.
*Thiazole derivatives:	
2-Benzothiazyl N,N-diethylthiocarbamoyl sulfide	PAS.
1,3-Bis(2-benzothiazolylmercaptomethyl)urea	MON.
N-tert-Butyl-2-benzothiazolesulfenamide	MON.
*N-Cyclohexyl-2-benzothiazolesulfenamide	ACY, BFG, MON, USR.
N,N-Diisopropyl-2-benzothiazolesulfenamide	ACY.
N-(2,6-Dimethylmorpholino)-2-benzothiazolesulfenamide	MON.
*2,2'-Dithiobis(benzothiazole)	ACY, BFG, GYR, MON, USR.
2-Mercaptobenzothiazole	ACY, BFG, GYR, MON, USR.
2-Mercaptobenzothiazole, zinc chloride	DUP.
2-Mercaptobenzothiazole, zinc salt	ACY, GYR, USR.
4-Morpholinyl-2-benzothiazyl disulfide	GYR.
N-Oxydiethylene-2-benzothiazolesulfenamide	ACY, MON.
Thiazoline-2-thiol	ACY.
All other cyclic accelerators, activators, and vulcanizing agents:	
p-Benzoquinonedioxime	CTA, DUP.
Bis(p-aminocyclohexyl)methane carbamate	DUP.
Bis(2,6-dimethylmorpholinothiocarbonyl)sulfide	DUP.
Dibenzoyl-p-quinonedioxime	CTA, USR.
Dibenzylamine	MLS, USR.
N,N'-Dicinnamylidene-1,6-hexanediamine	DUP.
Di-N,N'-pentamethylenethiuram tetrasulfide	DUP, VNC.
4,4'-Dithiodimorpholine	MON.
2-Imidazoline-2-thiol	DUP, RBC.
m-Phenylenebismaleimide	DUP.
Poly-p-dinitrosobenzene	DUP.
Styrene polysulfide	TKL.
Tetrahydro-4,4,6-trimethyl-2(1H)-pyrimidinethione	VNC.
*Antioxidants, antiozonants, and stabilizers:	
*Amino antioxidants, antiozonants, and stabilizers:	
*Aldehyde- and acetone-amine reaction products:	
Acetaldehyde-aniline hydrochloride condensate	USR.
Aldol-α-naphthylamine condensate	BFG.
Butyraldehyde-aniline condensate	DUP.
*Diphenylamine-acetone condensate	ACY, BFG, DUP, USR.
Phenyl-2-naphthylamine-acetone condensate	USR.

TABLE 16B.--*Rubber-processing chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
RUBBER-PROCESSING CHEMICALS, CYCLIC--Continued	
*Antioxidants, antiozonants, and stabilizers--Continued	
*Amino antioxidants, antiozonants, and stabilizers--Continued	
*Substituted p-phenylenediamines:	
N,N'-Bis(1-ethyl-3-methylpentyl)-p-phenylenediamine--	EKT, MON, UPM.
N,N'-Bis(1-methylheptyl)-p-phenylenediamine----------	BFG, EKT, MON, UPM.
N-sec-Butyl-N'-phenyl-p-phenylenediamine------------	USR.
N-Cyclohexyl-N'-phenyl-p-phenylenediamine------------	USR.
Diarylarylenediamines, mixed------------------------	GYR.
N,N'-Di-2-naphthyl-p-phenylenediamine----------------	BFG.
*N,N'-Diphenyl-p-phenylenediamine---------------------	BFG, DUP, USR.
N-Isopropyl-N'-phenyl-p-phenylenediamine-------------	MON, USR.
N-(1-Methylheptyl)-N'-phenyl-p-phenylenediamine------	UPM.
All other p-phenylenediamines-----------------------	EKT, MON.
Other amino antioxidants, antiozonants, and stabilizers:	
p-Anilinophenol-------------------------------------	BFG.
1,2-Dihydro-6-dodecyl-2,2,4-trimethylquinoline-------	MON.
1,2-Dihydro-6-ethoxy-2,2,4-trimethylquinoline--------	MON.
1,2-Dihydro-2,2,4-trimethylquinoline-----------------	BFG, MON.
4,4'-Dimethoxydiphenylamine--------------------------	DUP.
4,4'-Dioctyldiphenylamine----------------------------	BFG.
N,N'-Diphenylethylenediamine------------------------	CCO, x, x.
N,N'-Diphenyl-1,3-propanediamine---------------------	CCO.
N,N'-Di-o-tolylethylenediamine-----------------------	CCO.
p-Isopropoxydiphenylamine----------------------------	BFG.
4,4'-Methylenedianiline------------------------------	USR.
*Octyldiphenylamine----------------------------------	ACY, NPI, PAS, USR.
Octyldiphenylamine mixture (mono-, nonyl-, and di-)--	BFG.
N-Phenyl-1-naphthylamine-----------------------------	DUP.
N-Phenyl-2-naphthylamine-----------------------------	BFG, DUP.
Tetramethyldiphenylethylenediamine-------------------	x.
p-(p-Toluenesulfonamido)diphenylamine----------------	USR.
*Phenolic and phosphite antioxidants and stabilizers:	
Phosphites:	
Nonyl phenyl phosphites, mixed-----------------------	USR.
Polyphenolic phosphite, polyalkylated----------------	BFG.
Polyphenolics (including bisphenols):	
4,4'-Butylidenebis(6-tert-butyl-m-cresol)------------	MON.
2,5-Di-(1,1-dimethylpropyl)hydroquinone--------------	MON.
2,2'-Methylenebis(6-tert-butyl-p-cresol)-------------	ACY, CAT.
2,2'-Methylenebis(6-tert-butyl-4-ethylphenol)--------	ACY.
2,2'-Methylenebis(6-tert-octyl-p-cresol)-------------	ACY.
2,2'-Thiobis(4,6-di-sec-amylphenol)------------------	MON.
4,4'-Thiobis(6-tert-butyl-m-cresol)------------------	MON.
1,1,3-Tri(2-methyl-4-hydroxy-5-tert-butylphenyl)-butane.	ICI.
Other phenolic antioxidants and stabilizers:	
p-Benzyloxyphenol------------------------------------	BFG.
N-Butyroyl-p-aminophenol-----------------------------	MLS.
o-Cresol, alkylated----------------------------------	PIT.
N-Lauroyl-p-aminophenol------------------------------	MLS.
*Phenol, alkylated-----------------------------------	ACY, BFG, CCO, GYR, PAS, PIT, USR.
Phenol, hindered-------------------------------------	DUP, GYR, PIT.
Phenol, styrenated-----------------------------------	BFG, GYR.
N-Stearoyl-p-aminophenol-----------------------------	MLS.
Xylenol, alkylated-----------------------------------	PIT.
*Blowing agents:	
N,N'-Dimethyl-N,N'-dinitrosoterephthalamide----------	DUP.
Dinitrosopentamethylenetetramine---------------------	DUP, NPI.
p,p'-Oxybis(benzenesulfonhydrazide)------------------	USR.
*Peptizers:	
Alkylated o-thiocresol-------------------------------	PIT.
Alkylated thiophenol, zinc salt----------------------	PIT.
Aryl mercaptans--------------------------------------	PIT.
2-Benzamidothiophene, zinc salt----------------------	ACY.
2',2'''-Dithiobis(benzanilide)-----------------------	ACY.
Dixylyl disulfides, mixed----------------------------	DUP, PIT.
2-Naphthalenethiol-----------------------------------	DUP.

TABLE 16B.--*Rubber-processing chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
RUBBER-PROCESSING CHEMICALS, CYCLIC--Continued	
*Peptizers--Continued	
Pentachlorobenzenethiol	DUP.
Pentachlorobenzenethiol, zinc salt	DUP.
Thiocresol	PIT.
Thiophenol (Benzenethiol)	PIT.
Xylenethiol	DUP.
Other cyclic rubber-processing chemicals:	
p-tert-Amylphenol sulfide (tackifier)	PAS.
Dicresyl disulfide	USR.
N,4-Dinitroso-N-methylaniline (physical-property improver).	CTA, MON.
*N-Nitrosodiphenylamine (retarder)	BFG, CTA, GYR, USR.
RUBBER-PROCESSING CHEMICALS, ACYCLIC	
*Accelerators, activators, and vulcanizing agents:	
*Dithiocarbamic acid derivatives:	
Dibutyldithiocarbamic acid, potassium salt	VNC.
Dibutyldithiocarbamic acid, sodium salt	DUP, PAS, USR, VNC.
*Dibutyldithiocarbamic acid, zinc salt	ALC, DUP, PAS, RBC, USR, VNC.
Diethyldithiocarbamic acid, cadmium salt	VNC.
Diethyldithiocarbamic acid, selenium salt	VNC.
Diethyldithiocarbamic acid, sodium salt	ALC, PAS, USR.
Diethyldithiocarbamic acid, tellurium salt	VNC.
*Diethyldithiocarbamic acid, zinc salt	ALC, GYR, PAS, RBC, USR, VNC.
Dimethyldithiocarbamic acid, bismuth salt	VNC.
Dimethyldithiocarbamic acid, copper salt	VNC.
Dimethyldithiocarbamic acid, lead salt	VNC.
Dimethyldithiocarbamic acid, selenium salt	VNC.
Dimethyldithiocarbamic acid, sodium salt and sodium polysulfide.	BFG, GNT.
*Dimethyldithiocarbamic acid, zinc salt	ALC, DUP, FMN, GYR, PAS, RBC, USR, WRC.
All other	PAS.
*Thiurams:	
Bis(dibutylthiocarbamoyl) sulfide	USR.
Bis(diethylthiocarbamoyl) disulfide	DUP, GYR, PAS, VNC.
*Bis(dimethylthiocarbamoyl) disulfide	BFG, DUP, GNT, GYR, PAS, RBC, USR, VNC.
Bis(dimethylthiocarbamoyl) disulfide and 2-mercapto-benzothiazole, mixed.	VNC.
*Bis(dimethylthiocarbamoyl) sulfide	DUP, GYR, USR.
Bis(ethylmethylthiocarbamoyl) sulfide	VNC.
Thiuram blend	DUP.
Xanthates and sulfides:	
Di-n-butylxantho disulfide	USR.
Diisopropylxantho disulfide	BFG.
Zinc dibutyl xanthate	USR.
All other acyclic accelerators, activators, and vulcanizing agents:	
n-Butyraldehyde-butylamine condensate	DUP.
Di-n-butylammonium oleate	DUP.
N,N'-Dibutyldithioadipamide	DUP.
3-Ethyl-1,1-dimethyl-2-thiourea	VNC.
Ethylenediamine carbamate	DUP.
Polyoxyalkalenetetrasulfide	TKL.
1,1,3-Trimethyl-2-thiourea	VNC.

TABLE 16B.--*Rubber-processing chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
RUBBER-PROCESSING CHEMICALS, ACYCLIC--Continued	
Blowing agents:	
Modified urea	DUP.
Urea-biuret mixture	SW.
Conditioning and lubricating agents:	
Methyl stearyl-10-sulfonic acid, sodium salt	DUP.
Mono- and dialkyl acid phosphates, mixed	DUP.
Mono- and dialkyl phosphate ammonium salts, mixed	DUP.
Polymerization regulators:	
Alkyl mercaptans, mixed	PAS, PLC.
*Dodecyl mercaptans	HK, PAS, PLC.
Shortstops:	
Dimethyldithiocarbamic acid, potassium salt	GYR, PAS, USR.
*Dimethyldithiocarbamic acid, sodium salt	ALC, BFG, DUP, GYR, PAS.
Other acyclic rubber-processing chemicals:	
Zinc laurate (activator, physical-property improver)	USR.
All other	ACY, USR.

Elastomers (Synthetic Rubbers)

TABLE 17B.--*Elastomers (synthetic rubbers) for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Elastomers (synthetic rubbers) for which separate statistics are given in table 17A are marked below with an asterisk (*); products not so marked do not appear in table 17A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Product	Manufacturers' identification codes (according to list in table 22)
ELASTOMERS, CYCLIC	
*Polybutadiene-styrene type (S-type)	ASY, BFG, CPY, FIR, FRS, GGC, GNT, GYR, ILC, MCB, PLC, RUB, SHC, TUS, URC, USR, WIC.
*Polybutadiene-styrene-vinylpyridine type	ASY, BFG, FIR, FRS, GNT, GYR, PLC, USR, WIC.
*Polyurethane type	ACY, BFG, DUP, GNT, MOB, PRC, TKL, USR.
ELASTOMERS, ACYCLIC	
Polyacrylate ester type	ACY, BFG, TKL.
Polyalkalene sulfide type	TKL.
Polybutadiene type	BFG, FRS, GYR, TKL, TUS.
*Polybutadiene-acrylonitrile type (N-type)	BFG, FRS, GYR, ILC, MCB, USR.
Polychloroprene type (Neoprene)	DUP.
*Polyisobutylene-isoprene type (Butyl)	CBN, ENJ.
Reaction products of natural rubber	GYR, HPC.
*Silicone elastomers	DCC, SPD, UCS.
*Stereo elastomers	ASY, BAR, DUP, ENJ, FRS, GGC, GNT, GYR, PLC, SHC, TUS.
All other	DUP, x.

Plasticizers

TABLE 18B.--*Plasticizers for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Plasticizers for which separate statistics are given in table 18A are marked below with an asterisk (*); products not so marked do not appear in table 18A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22]

Chemical	Manufacturers' identification codes (according to list in table 22)
PLASTICIZERS, CYCLIC	
Coumarone-indene plasticizer	NEV.
N-Cyclohexyl-p-toluenesulfonamide	MON.
Diethylene glycol dibenzoate	VEL.
Di-tert-octyldiphenyl oxide	DOW.
Dipropanediol dibenzoate	VEL.
N-Ethyl-p-toluenesulfonamide	MON.
Isopropylidenediphenoxypropanol	DOW.
Naphthalene, alkylated	ACC.
Phosphoric acid esters:	
*Cresyl diphenyl phosphate	FMP, MON, MTR, SF, SM.
Dibutyl phenyl phosphate	MON.
Diphenyl mono-o-xenyl phosphate	DOW.
Diphenyl octyl phosphate	MON.
Methyl diphenyl phosphate	FMP, MON.
*Tricresyl phosphate	FMP, MON, MTR, SF.
Triphenyl phosphate	DOW, EK, MON, SF.
All other phosphoric acid esters	SF.
*Phthalic anhydride esters:	
Alkyl benzyl phthalates	MON.
Butyl benzyl phthalate	GRH, MON.
Butyl cyclohexyl phthalate	ACP.
Butyl decyl phthalate	ACP, PCC.
*Butyl 2-ethylhexyl phthalate	ACP, MON, UCC.
n-Butyl isodecyl phthalate	GRH, UCC.
*Butyl octyl phthalate	GRH, PCC, RCI, RUB.
Butyl phthalyl butyl glycolate	MON.
Di(2-butoxyethyl) phthalate	FMP, WM.
*Dibutyl phthalate	ACP, COM, DUP, EKT, ENJ, GRH, HAL, LAS, MON, PCC, PFZ, RCI, RUB, SW, UCC, WTH.
*Dicyclohexyl phthalate	ACP, DUP, FMP, MON, PFZ.
*Diethyl phthalate	DUP, EKT, KF, MON, PFZ.
*Dihexyl phthalate	ACP, ENJ, GRH, LEH, THC.
Diisobutyl phthalate	EKT, UCC.
*Diisodecyl phthalate	ACP, BFG, EKT, ENJ, GRH, MON, PCC, PFZ, RCI, RUB, THC, UCC, WTH.
*Di(2-methoxyethyl) phthalate	DUP, EKT, FMP, RCI, SF.
Dimethyl cyclohexyl phthalate	DUP.
Dimethyl isophthalate	PFZ.
*Dimethyl phthalate	ACP, EKT, KF, MON, PFZ.
Dinonyl phthalate	RCI.
*Dioctyl phthalates:	
Dicapryl phthalate	ACP, GRH, WTH.
Di(ethylhexyl)isophthalate	UCC.
*Di(2-ethylhexyl) phthalate	ACP, BFG, EKT, ENJ, GRH, LEH, MON, PCC, PFZ, RCI, RUB, THC, UCC, WTH.
*Diiso-octyl phthalate	ACP, BFG, EKT, ENJ, GRH, LEH, MON, PCC, PFZ, RCI, RUB, THC, UCC.
Di-n-octyl phthalate	ADM.
*Mixed dioctyl phthalates	ACP, GRH, UCC, WTH.
Diphenyl phthalate	MON.
*Ditridecyl phthalate	ACP, ENJ, GRH, MON, PCC, PFZ, RCI, RUB, THC, UCC.
2-Ethylhexyl isodecyl phthalate	UCC.
Ethyl (and methyl) phthalyl ethyl glycolate	MON.
Glycol phthalic esters	ARG, HPC.
Hexyl n-decyl phthalate	ACP, UCC.
Hexyl isodecyl phthalate	PFZ.
Hydrogenated castor oil phthalate	DUP.
Isodecyl tridecyl phthalate	THC.
*Octyl decyl phthalates:	
Iso-octyl isodecyl phthalate	ACP, PCC.
n-Octyl n-decyl phthalate	ACP, GRH, HPC, MON, PCC, PFZ, RCI, RUB, THC, UCC.
All other phthalic anhydride esters	FMP, LEH, MON, PCC, UCC.

TABLE 18B.--*Plasticizers for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
PLASTICIZERS, CYCLIC--Continued	
Polyethylene glycol dibenzoate	VEL.
Tetrahydrofurfuryl oleate	CCW, EMR.
Toluenesulfonamide, o-, p- mixtures	ACY, MON.
Triethylene glycol dibenzoate	VEL.
*Trimellitic acid esters	PCC, PFZ, RUB.
All other cyclic plasticizers	CCW, EKT, MON, NEV, WTH.
PLASTICIZERS, ACYCLIC	
*Adipic acid esters:	
Di(2-(2-butoxyethoxy)ethyl) adipate	FMP, TKL.
*Di(2-ethylhexyl) adipate	EKT, LEH, MON, PCC, RCI, RH, RUB, THC, UCC, WTH.
Diisobutyl adipate	FMP, GRH, HAL, RCI.
*Diisodecyl adipate	ACP, EKT, GRH, LEH, MON, PCC, RCI, RH, RUB, THC, UCC, WTH.
*Diiso-octyl adipate	GRH, LEH, PCC, RCI, RH, RUB, WTH.
Dinonyl adipate	THC.
Di-n-octyl adipate	ACP.
Di-tridecyl adipate	LEH.
Iso-octyl isodecyl adipate	BFG, NOP, RCI.
*Octyl decyl adipate	ACP, GRH, MON, PCC, RCI, RH, RUB, THC, TKL, UCC.
Polyethylene glycol adipate	PFZ.
All other adipic acid esters	ACP, ARC, EKX, PCC, PFZ, VND.
*Azelaic acid esters:	
Di(2-ethylhexyl) azelate	DUP, EKT, EMR, PFZ, RCI, RH, RUB, THC, UCC.
Di-n-hexyl azelate	UCC.
Diisobutyl azelate	HAL, RCI.
Diiso-octyl azelate	EMR, PFZ.
Dioctyl azelate	PFZ.
All other azelaic acid esters	ACP, EMR, PFZ.
Citric and acetylcitric acid esters	PFZ.
*Complex linear polyesters and polymeric plasticizers	ADM, EKT, EMR, GLY, HAL, LEH, MON, PFZ, RH, RUB, WM, WTH.
Di(2-(2-butoxyethoxy)ethyl)methane	GRD.
Diethylene glycol dinonanoate	EMR, RUB.
Diiso-octyl diglycolate	CCA, FMP.
*Epoxidized esters:	
Butyl epoxydioleate	ADM.
Butyl epoxytallate	ADM, THC.
Epoxidized linseed oils	ADM, SWT.
*Epoxidized soya oils	ADM, ARG, BAC, RCI, RH, SWT, THC, UCC.
*2-Ethylhexyl epoxytallates	ADM, BAC, UCC.
Octyl epoxystearates	ARG.
*Octyl epoxytallates	ARG, RH, THC, UCC.
All other epoxidized esters	EMR, RH.
Glycerol pelargonate	EMR.
Glyceryl tributyrate and tripropionate	EKT.
Glycol pelargonate	EMR.
Isodecyl maleate	LEH.
Isodecyl nonanoate (Isodecyl pelargonate)	EMR.
Lauric acid esters	HAL.
Myristic acid esters:	
Butyl myristate	ARC, ICI.
*Isopropyl myristate	ARC, ICI, NOP, PRP.
*Oleic acid esters:	
*Butyl oleate	ARC, HAL, ICI, LAS, NOP, SWT, WM, WTH.
*Glycerol trioleate (Triolein)	DRW, EMR, SWT, WM.
*Isopropyl oleate	ARC, ICI, WM.
*Methyl oleate	CHL, EMR, ICI, NOP, SWT.
*n-Propyl oleate	CHL, EMR, WM.
*All other oleic acid esters	ARC, DRW, HAL.
Palmitic acid esters:	
Isobutyl palmitate	ARC, EKT.
*Isopropyl palmitate	ARC, EMR, ICI, PRP, WM.
2-Methoxyethyl palmitate	EKT.
All other palmitic acid esters	EKT, RUB.
*Phosphoric acid esters:	
Tri(2-butoxyethyl) phosphate	FMP, MON, SF, WES.
Tri(2-chloroethyl) phosphate	UCC.
Triethyl phosphate	EKT.

TABLE 18B.--*Plasticizers for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
PLASTICIZERS, ACYCLIC--Continued	
*Phosphoric acid esters--Continued	
Trioctyl phosphate	FMP, UCC.
All other phosphoric acid esters	SM.
Ricinoleic and acetylricinoleic acid esters:	
n-Butyl acetylricinoleate	BAC, WTH.
Butyl ricinoleate	BAC, RCI.
*Glycerol monoricinoleate	BAC, GLY, HAL, NOP.
Glyceryl tri(acetylricinoleate)	BAC.
Methyl ricinoleate	BAC.
All other ricinoleic and acetylricinoleic acid esters	ARC, BAC, RCI.
Sebacic acid esters:	
Dibutoxyethyl sebacate	RCI.
*Dibutyl sebacate	EKT, GRH, HAL, PFZ, RCI, **RH, WTH.**
*Di(2-ethylhexyl) sebacate	GRD, GRH, HAL, PCC, RCI, **RH, RUB, WTH.**
All other sebacic acid esters	ARC, LEH, NOP, PCC, RCI, **RH, RUB.**
*Stearic acid esters:	
Butoxyethyl stearate	ARC.
*n-Butyl stearate	ARC, CHL, EMR, HAL, ICI, **LAS, SCP,** SWT, WTH.
Glycerol triacetyl stearate	BAC.
Glycerol tristearate	DRW.
Methoxyethyl stearate	ARC.
Methyl dichlorostearate	HK.
Methyl pentachlorostearate	HK.
Methyl stearate	CHL.
All other stearic acid esters	ARC, FMP, HPC, PRP, RCI, **RH, WM.**
Sucrose acetate isobutyrate	EKT.
Tetraethylene glycol di(2-ethylhexanoate)	UCC.
*Triethylene glycol di(caprylate-caprate)	DRW, FOR, HAL, RUB.
Triethylene glycol di-2-ethylbutyrate	UCC.
Triethylene glycol di(2-ethylisohexoate)	EKT.
Trimethyl pentanediol diisobutyrate	EKX.
All other acyclic plasticizers	ARC, EMR, HAL, HPC, LEH, **PFZ, RH, RUB,** TKL, UCC, WM.

Surface-Active Agents

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Surface-active agents for which separate statistics are given in table 19A are marked below with an asterisk (*); products not so marked do not appear in table 19A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Chemical	Manufacturers' identification codes (according to list in table 22)
BENZENOID SURFACE-ACTIVE AGENTS	
Not Sulfated or Sulfonated	
*Amides, amines, and quaternary ammonium salts:	
*Benzyldimethyl(mixed alkyl)ammonium chloride	AAC, BC, BRD, CUL, FIN, ONX, PCS, PG, RH, RTF, TXT, VAC, WSN.
*Benzyldimethyloctadecylammonium chloride	APX, ONX, PCS, RET, WSN.
*Benzyldodecyldimethylammonium chloride	DEP, FIN, ONX, SDH, WSN.
*(3,4-Dichlorobenzyl)dodecyldimethylammonium chloride	CUL, FIN, ONX, VAC, WSN.
*(Dodecylbenzyl)trimethylammonium chloride	BC, CUL, NLC, RCD, WTC.
*Heterocyclic compounds:	
1-Benzyl-2-(coconut oil alkyl)-1-(2-hydroxyethyl)-2-imidazolinium chloride.	NLC.
*1-Benzyl-2-heptadecyl-1-(2-hydroxyethyl)-2-imidazolinium chloride.	PCS, TXT, UVC.
1-Benzyl-1-(2-hydroxyethyl)-2-nor(tall oil alkyl)-2-imidazolinium chloride.	NLC.
1-Benzyl-2-picolinium bromide	FIN.
1-Benzylpyridinium chloride	DEP.
2-Dodecylisoquinolinium bromide	CUL, ONX.
1-Dodecylpyridinium chloride	BC, HK.
2-(2-Lauroyloxyethyl)carbamoyl-1-methylpyridinium chloride.	WTC.
1-Methyl-2-(2-stearoyloxyethyl)carbamoylpyridinium chloride.	WTC.
*Oxygen-containing compounds (except heterocyclic):	
Benzylbis(2-hydroxyethyl)(2-stearamidomethoxyethyl)-ammonium chloride.	CIB.
Benzyl(coconut oil alkyl)bis(2-hydroxyethyl)ammonium chloride.	CIB.
Benzyl(coconut oil amidopropyl)dimethylammonium chloride.	TXT.
Benzyl(ethoxylated coconut oil alkyl)dimethylammonium chloride.	G.
(Ethoxybenzyl)dimethyl(octylphenoxy)ammonium chloride	RH.
(Ethoxybenzyl)dimethyl(octyltolyloxy)ammonium chloride	RH.
N-(2-Hydroxyethyl)-1,2-diphenylethylenediamine	APX.
o-Isopropoxyphenyl N-methylcarbamate	x.
(Tridecylbenzyl)diethyl(2-hydroxyethyl)ammonium chloride.	SNW.
*All other:	
Benzylbis(hydrogenated tallow alkyl)methylammonium chloride.	TXT.
Benzyl(coconut oil alkyl)dimethylammonium chloride	BC, CRT.
Benzyldimethyltetradecylammonium chloride	SNW, WSN.
Benzylhexadecyldimethylammonium chloride	ONX, RH.
Benzyl(hydrogenated tallow alkyl)dimethylammonium chloride.	TXT.
Benzyl(soybean oil alkyl)dimethylammonium chloride	TXT.
Benzyltrimethylammonium chloride	COM.
(Dodecylbenzyl)dimethyloctadecylammonium chloride	AML.
(Dodecylbenzyl)triethylammonium chloride	PC.
(Dodecylmethylbenzyl)trimethylammonium chloride	RH.
(Ethylbenzyl)dimethyl(mixed alkyl)ammonium chloride	ONX.
*Carboxylic acid esters and ethers:	
*Dinonylphenol, ethoxylated	G, JCC, STP.
*Dodecylphenol, ethoxylated	G, MON, PCS, UCC.
*Iso-octylphenol, ethoxylated	APX, CIB, DRW, NOP, OMC.
*Nonylphenol, ethoxylated	APD, CIB, CLY, DOW, DRW, G, HPC, JCC, MON, NLC, OMC, PCS, RH, RTF, STP, UCC.
*Phenol, ethoxylated	APD, G, JCC, NOP, UCC.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
BENZENOID SURFACE-ACTIVE AGENTS--Continued	
Not Sulfated or Sulfonated--Continued	
*Carboxylic acid esters and ethers--Continued	
*Other carboxylic acid esters and ethers:	
Alkylphenol - formaldehyde, alkoxylated:	
(Mixed alkyl)phenol - formaldehyde, alkoxylated------	NLC, RTF.
Nonylphenol - formaldehyde, alkoxylated-------------	RTF.
tert-Octylphenol - formaldehyde, ethoxylated--------	SDW.
Pentylphenol - formaldehyde, alkoxylated------------	RTF.
Diisobutylphenol, ethoxylated----------------------	G, RH.
(Mixed alkyl)phenol, ethoxylated-------------------	G, PCS.
(Mixed alkyl)phenol, ethoxylated, butyl ether-------	RH.
(Mixed alkyl)phenoxypoly(ethyleneoxy)ethyl chloride----	G.
Nonylphenol, ethoxylated and propoxylated-----------	STP.
Nonylphenoxypoly(ethyleneoxy)ethyl iodide-----------	G.
n-Octylphenol, ethoxylated-------------------------	ICI.
Pentylphenol, ethoxylated--------------------------	RTF.
Phthalic acid, octadecyl ester, potassium salt------	CIB.
Tetradecylphenol, ethoxylated----------------------	ORO.
Tridecylphenol, ethoxylated------------------------	PCS.
Xylenol, ethoxylated-------------------------------	NLC.
All other--	RH.
*Phosphoric and polyphosphoric acid esters:	
Dinonylphenol, ethoxylated and phosphated----------	G.
Hexylphenol, ethoxylated and phosphated------------	RZL.
*Nonylphenol, ethoxylated and phosphated-----------	G, NLC, RTF, RZL, SEY, TCC, TCI, TXT, WAY, WSN, WTC.
Nonylphenol, ethoxylated and phosphated, barium salt----	G.
Octylphenol, ethoxylated and phosphated------------	RH.
Octylphenol, ethoxylated and phosphated, magnesium salt--	SMC.
Phenol, ethoxylated and phosphated-----------------	G.
Sulfated and Sulfonated	
*Alkylphenols, ethoxylated and sulfated:	
Dodecylphenol, ethoxylated and sulfated------------	G, LEV, TCI.
Dodecylphenol, ethoxylated and sulfated, potassium salt--	STP.
(Mixed alkyl)phenol, ethoxylated and sulfated-------	G.
*Nonylphenol, ethoxylated and sulfated, and salts:	
Nonylphenol, ethoxylated and sulfated--------------	CRT, G, OMC, WTC.
Nonylphenol, ethoxylated and sulfated, ammonium salt---	CIB, MYW, RCD, STP, TXT.
Nonylphenol, ethoxylated and sulfated, sodium salt-----	STP.
Nonylphenol, ethoxylated and sulfated, triethanolamine salt.	x.
n-Octylphenol, ethoxylated and sulfated------------	RH, TXT.
*Benzenesulfonates:	
*Benzene-, cumene-, toluene-, and xylenesulfonates:	
Benzenesulfonic acid, sodium salt------------------	NES, UPF.
Cumenesulfonic acid, ammonium salt-----------------	STP.
2,4-Dinitrobenzenesulfonic acid, sodium salt--------	NES.
Ethylene glycol dibenzenesulfonate-----------------	NES.
Toluenesulfonic acid-------------------------------	RCD.
p-Toluenesulfonic acid, hexadecyltrimethylammonium salt.	FIN.
Toluenesolfonic acid, potassium salt---------------	MYW, NES, RCD, STP, WTC.
Toluenesulfonic acid, sodium salt------------------	CO, NES, PIL, RCD, STP, WTC.
*Xylenesulfonic acid, ammonium salt----------------	ATR, CO, NES, RCD, STP, WTC.
Xylenesulfonic acid, potassium salt----------------	MYW, NES, STP.
*Xylenesulfonic acid, sodium salt------------------	ATR, CO, MYW, NES, PIL, RCD, STP, WTC.
*Branched chain alkylbenzenesulfonates:	
Decylbenzenesulfonic acid, sodium salt-------------	MON.
Didodecylbenzenesulfonic acid----------------------	CO.
Didodecylbenzenesulfonic acid, sodium salt---------	CO.
*Dodecylbenzenesulfonic acid-----------------------	ARD, CO, CRT, LEV, MON, NAC, PIL, RCD, RTF, SEY, STP, TCI, TDC, TEN, TXT, WTC.
Dodecylbenzenesulfonic acid, ammonium salt----------	ARL.
Dodecylbenzenesulfonic acid, butylamine salt-------	WTC.
*Dodecylbenzenesulfonic acid, calcium salt---------	APD, CO, NLC, RCD, RH, RTF, SMC, STP, WTC.
Dodecylbenzenesulfonic acid, diethanolamine condensate, fatty acid monoester.	MAH.
Dodecylbenzenesulfonic acid, diethanolamine salt-------	PCS, VAL, WON.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
BENZENOID SURFACE-ACTIVE AGENTS--Continued	
Sulfated and Sulfonated--Continued	
*Benzenesulfonates--Continued	
*Branched chain alkylbenzenesulfonates--Continued	
Dodecylbenzenesulfonic acid, ethylenediamine salt------	APD.
Dodecylbenzenesulfonic acid, isopropanolamine salt-----	SMC.
*Dodecylbenzenesulfonic acid, isopropylamine salt-------	APD, ARD, RCD, RTF, SNW, STP, WTC.
*Dodecylbenzenesulfonic acid, (mixed alkyl)amine salt---	PCS, RTF, STP, WTC.
Dodecylbenzenesulfonic acid, potassium salt----------	VAL.
Dodecylbenzenesulfonic acid, propoxylated ethylene-diamine salt.	PCS.
*Dodecylbenzenesulfonic acid, sodium salt----------	AAC, APX, ARD, ARL, ATR, CO, CP, CRT, DEP, EFH, EMK, HLI, HRT, ICI, LEV, MON, NAC, NOP, PG, PIL, RCD, SEY, STP, SWT, TEN, TXT, WIC, WON, WTC.
Dodecylbenzenesulfonic acid, strontium salt----------	RTF.
*Dodecylbenzenesulfonic acid, triethanolamine salt------	AML, ARD, ARL, ATR, CRT, HLI, NAC, PCS, PEK, PIL, RCD, RTF, SOS, STP, SWT, TXT, VAC, WON, WTC.
Nonylbenzenesulfonic acid, sodium salt----------	WTC.
Pentadecylbenzenesulfonic acid, potassium salt---------	STP.
Pentadecylbenzenesulfonic acid, sodium salt----------	CP.
Pentylbenzenesulfonic acid, sodium salt----------	MON.
Tridecylbenzenesulfonic acid----------	RCD.
Tridecylbenzenesulfonic acid, ammonium salt----------	RCD.
Tridecylbenzenesulfonic acid, sodium salt----------	CP, TXT, WTC.
*Straight chain alkylbenzenesulfonates:	
*Dodecylbenzenesulfonic acid----------	ARD, CO, HLI, LEV, NAC, PIL, PRX, RCD, RTF, RZL, STP, TCI, TXT.
Dodecylbenzenesulfonic acid, ammonium salt----------	CTL, TXT.
Dodecylbenzenesulfonic acid, isopropylamine salt-------	CTL, RCD.
*Dodecylbenzenesulfonic acid, sodium salt----------	ARD, ATR, CO, CP, CTL, LEV, NAC, PG, PIL, PRX, RCD, STP, SWT, TXT, UNP.
*Dodecylbenzenesulfonic acid, triethanolamine salt------	ARD, ATR, CTL, NAC, RCD, RZL, STP, SWT, TXT.
Tridecylbenzenesulfonic acid----------	RCD.
Tridecylbenzenesulfonic acid, sodium salt----------	BLA, CP, PRX, RCD, TXT, UCC.
*Lignosulfonates:	
Lignosulfonic acid, aluminum salt----------	MAR.
Lignosulfonic acid, ammonium salt----------	CRZ.
*Lignosulfonic acid, calcium salt----------	CRZ, CWP, LKY, LPC, MAR, PSP.
Lignosulfonic acid, chromium salt----------	MAR, PSP.
Lignosulfonic acid, iron salt----------	CRZ, PSP.
Lignosulfonic acid, magnesium salt----------	LPC, MAR.
*Lignosulfonic acid, sodium salt----------	CRZ, CWP, MAR, WVA.
*Naphthalenesulfonates:	
Benzylnaphthalenesulfonic acid----------	G.
Butylnaphthalenesulfonic acid----------	SCP.
*Butylnaphthalenesulfonic acid, sodium salt----------	CLD, CMG, GGY, PFZ.
Dibutylnaphthalenesulfonic acid----------	G, MRA, S.
Didodecylnaphthalenesulfonic acid, sodium salt----------	PFZ.
*Diisopropylnaphthalenesulfonic acid----------	DUP, G, GRD, NAC.
Diisopropylnaphthalenesulfonic acid, sodium salt---------	G, PFZ.
Dipentylnaphthalenesulfonic acid----------	GGY.
Dipentylnaphthalenesulfonic acid, ammonium salt---------	NLC.
Dipentylnaphthalenesulfonic acid, (mixed alkyl)amine salt	NLC.
Isopropylnaphthalenesulfonic acid----------	DUP, NOP, ONX.
Methylenebis(2-naphthalenesulfonic acid)----------	DUP.
6,6'-Methylenebis(2-naphthalenesulfonic acid), calcium salt.	DUP.
Methylnaphthalenesulfonic acid, sodium salt----------	UDI.
Methylnonylnaphthalenesulfonic acid, sodium salt---------	UDI.
Tetrahydronaphthalenesulfonic acid, sodium salt---------	DUP.
*Other benzenoid surface-active agents, sulfated and sulfonated:	
Butylhydroxybiphenylsulfonic acid----------	ICO, RBC.
Dodecyldiphenyloxidedisulfonic acid, sodium salt---------	DOW.
Heptadecylmethylbenzimidazolinesulfonic acid, sodium salt.	CIB.
n-Octylphenol, ethoxylated and sulfonated----------	RH.
Petroleumsulfonic acid, water soluble (acid layer), sodium salt.	SIN, SON.
5-Sulfophthalic acid, dialkyl ester, potassium salt------	UPF.
Trichlorophenol sulfate, ethanolamine salt----------	G.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS	
Not Sulfated or Sulfonated	
*Amides, amines, and quaternary ammonium salts:	
*Amines, amine oxides, and amine salts (except heterocyclic):	
*Amine salts of fatty acids (anionic):	
Coconut oil acids, triethanolamine salt	EMR.
Oleic acid, diethylamine salt	WTC.
Oleic acid, N-(tallow alkyl)trimethylenediamine salt.	FOR.
Oleic acid, triethanolamine salt	DOM, HAL, TCC, TXT.
Stearic acid, N,N,N′,N′-tetrakis(2-hydroxyethyl)-ethylenediamine salt.	ICI.
Stearic acid, triethanolamine salt	AML, GLY, TCC.
*Amines, not containing oxygen, and salts thereof:	
*Amine salts (cationic):	
(Coconut oil alkyl)amine acetate	ADM, ARC, FOR.
N-(Coconut oil alkyl)trimethylenediamine acetate	ARC.
(Hydrogenated tallow alkyl)amine acetate	ADM, ARC.
(9-Octadecenyl)amine acetate	GNM.
Octadecylamine acetate	ACY, ARC.
Octylamine acetate	ARC.
(Soybean oil alkyl)amine acetate	ARC.
(Tallow alkyl)amine acetate	ADM, ARC, FOR, GNM.
N-(Tallow alkyl)trimethylenediamine acetate	ARC, FOR.
N-(Tallow alkyl)trimethylenediamine naphthenate	APD, FOR.
*Diamines and polyamines:	
N-(Coconut oil alkyl)trimethylenediamine	ARC, FOR, GNM.
N-(Mixed alkyl)polyethylenepolyamine	CCW.
*N-(9-Octadecenyl)trimethylenediamine	ARC, FOR, GNM.
N-(Soybean oil alkyl)trimethylenediamine	ARC.
N-(Tallow alkyl)dipropylenetriamine	GNM.
*N-(Tallow alkyl)trimethylenediamine	ARC, FOR, GNM.
*Primary monoamines:	
*(Coconut oil alkyl)amine	ADM, ARC, CGL, FOR, GNM.
(Cottonseed oil alkyl)amine	FOR.
*Dodecylamine	ADM, ARC, FOR, GNM.
Hexadecylamine	ADM, ARC, FOR.
*(Hydrogenated tallow alkyl)amine	ADM, ARC, CGL, FOR, GNM, HUM, VGC.
(Mixed alkyl)amine	GNM.
9-Octadecenylamine	ARC, FOR, GNM.
*Octadecylamine	ADM, ARC, FOR, GNM.
Octylamine	ARC, RH, UCC.
(Soybean oil alkyl)amine	ARC, CGL.
(Tall oil alkyl)amine	FOR, GNM.
*(Tallow alkyl)amine	ADM, ARC, CGL, FOR, GNM, HUM.
*Secondary and tertiary monoamines:	
Bis(coconut oil alkyl)amine	ARC, FOR.
Bis(hydrogenated tallow alkyl)amine	ARC.
N,N-Dimethyl(coconut oil alkyl)amine	PG.
N,N-Dimethyldodecylamine	BC.
N,N-Dimethylhexadecylamine	ARC, BC.
N,N-Dimethyl(hydrogenated tallow alkyl)amine	ARC.
N,N-Dimethyl(mixed alkly)amine	BRD, PG, SDH, x.
N,N-Dimethyloctadecylamine	ARC, BC, PG.
N,N-Dimethyl(soybean oil alkyl)amine	ARC.
N,N-Dimethyltetradecylamine	ARC, BC.
N-Methylbis(coconut oil alkyl)amine	FOR, GNM.
N-Methylbis(hydrogenated tallow alkyl)amine	ARC, FOR, GNM.
N-Methyldioctadecylamine	FOR.
Tridodecylamine	GNM.
Trioctylamine	GNM.
Tris(hydrogenated tallow alkyl)amine	GNM.
*Oxygen-containing amines and amine oxides:	
N,N-Bis(2-hydroxyethyl)dodecylamine	FIN.
N,N-Bis(2-hydroxyethyl)octadecylamine	FIN.
N,N-Bis(2-hydroxyethyl)octylamine	FIN.
N,N-Bis(2-hydroxyethyl)(tallow alkyl)amine	FIN.
N,N-Bis(2-hydroxyethyl)(tallow alkyl)amine acetate	PG.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Not Sulfated or Sulfonated--Continued	
*Amides, amines, and quaternary ammonium salts--Continued	
*Amines, amine oxides, and amine salts (except heterocyclic)--Continued	
*Oxygen-containing amines and amine oxides--Continued	
(Coconut oil alkyl)amine, ethoxylated	APD, ARC, NLC, VAC.
(Coconut oil alkyl)amine, ethoxylated, acetate	RPC.
Hexadecyldimethylamine oxide	ONX.
(Hydrogenated tallow alkyl)amine, ethoxylated	CIB, TCH, VAC.
N-(2-Hydroxyethyl)-N,N',N'-tris(2-hydroxypropyl)-ethylenediamine.	NLC.
3-Lauramido-N,N-dimethylpropylamine oxide	SNW.
*(Mixed alkyl)amine, ethoxylated	APD, CIB, G, NOP, RH.
Octadecylamine, ethoxylated	ARC, ICI.
Polyethylenepolyamine, alkoxylated	NLC.
Rosin amine, ethoxylated	HPC, PCS, RTF.
(Soybean oil alkyl)amine, ethoxylated	ARC, VAC.
*(Tallow alkyl)amine, ethoxylated	ADM, ARC, CIB, DUP.
N-(Tallow alkyl)trimethylenediamine, ethoxylated	ARC.
N,N,N',N'-Tetrakis(2-hydroxyethyl)ethylenediamine	NLC.
N,N,N',N'-Tetrakis(2-hydroxypropyl)ethylene-diamine, propoxylated and ethoxylated.	WYN.
Triethanolamine, ethoxylated	JCC.
All other	x.
*Fatty acid - alkanolamine condensates:	
*Diethanolamine condensates:	
*Capric acid	GGY, PCS, RZL.
Castor oil acids	PCS, VAL.
*Coconut oil acids (amine/acid ratio=2/1)	AML, ARD, BSC, CIB, CLI, CRT, CTL, DEP, DRW, EFH, HLI, HRT, JOR, KNP, LEV, LUR, MOA, NOP, ONX, PC, PCS, PNX, RCD, RZL, SBC, SEY, STP, SWT, TCC, TXC, UNN, UVC, VAC, VND, WIC, WTC.
*Coconut oil acids (amine/acid ratio=1/1)	APX, ARD, ARL, CLI, CTL, DRW, EMK, GGY, HLI, MOA, MRV, NOP, ONX, PCS, PEK, QCP, RCD, RTF, RZL, SBC, SEY, STP, TXT, VAC.
Coconut oil acids (all other ratios)	JRG, PCS.
Coconut oil and tallow acids (amine/acid ratio=2/1)	PG.
*Lauric acid	ARD, CLI, CTL, HLI, MOA, ONX, PCS, PG, RCD, RTF, RZL, SBC, STP, TXT, WON, WTC.
Lauric and myristic acids	CLI.
Linoleic acid	VND.
Mixed fatty acids	BSC, HLI, STP, WTC.
*Oleic acid (amine/acid ratio=2/1)	CCW, CLI, HLI, MRA, ONX, SEY, STP, UVC, VAC, WTC.
*Oleic acid (amine/acid ratio=1/1)	CUL, GGY, NOP, PCS, SBC, SCP, SEY, SWT, TCC, TXT, VAC.
Palmitic acid	CMG.
Pelargonic acid	EMR.
*Stearic acid	AML, BSC, CLI, DEP, EMR, GGY, GLY, JOR, MRA, NOP, ONX, RPC, SCO, SEY, TXC, UVC, VAL, WTC.
*Tall oil acids	EFH, MRA, MRV, UVC, WTC.
Tallow acids	PCS, RPC.
*Other alkanolamine condensates:	
*Coconut oil acids - ethanolamine condensate	APX, CCL, CTL, HRT, MOA, PCS, PG, STP, TXT, UVC, VND.
Coconut oil acids - isopropanolamine condensate	LEV, STP.
*Lauric acid - ethanolamine condensate	CTL, PCS, TXT, WTC.
*Lauric acid - isopropanolamine condensate	ARD, CLI, MOA, PCS, WTC.
Lauric and myristic acids - isopropanolamine condensate.	TXT.
Myristic acid - ethanolamine condensate	WTC.
Myristic acid - isopropanolamine condensate	ARD.
Oleic acid - ethanolamine condensate	ARD.
Oleic acid - isopropanolamine condensate	WTC.
*Stearic acid - ethanolamine condensate (amine/acid ratio=1/1).	ARC, ARD, MOA, VND, WTC.
Stearic acid - ethanolamine condensate (amine/acid ratio=1/2).	GLY, WTC.
All other	CLI, GLY.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Not Sulfated or Sulfonated--Continued	
*Amides, amines, and quaternary ammonium salts--Continued	
*Fatty acid - diamine and polyamine condensates:	
Adipic and stearic acids - diethylenetriamine condensate.	APX.
Coconut oil acids - diethylenetriamine condensate------	APX, NOP.
Coconut oil acids - N,N-dimethyltrimethylenediamine condensate.	JRG, TXT.
Mixed fatty acid - polyalkylenepolyamine condensate----	NLC.
Oleic acid - (2-aminoethyl)piperazine condensate-------	PCS.
*Oleic acid - diethylenetriamine condensate----------	APD, HDG, PCS, TXT.
Oleic acid - diethylenetriamine condensate, acetic acid salt.	PCS.
Oleic acid - N,N-dimethyltrimethylenediamine condensate.	CCW, SNW.
Oleic acid - N,N-dimethyltrimethylenediamine condensate, caproic acid salt.	RCD.
*Oleic acid - ethylenediamine condensate (amine/acid ratio=1/2).	CCW, GLY, HDG.
Pelargonic acid - tetraethylenepentamine condensate----	ICI.
Stearic acid - diethylenetriamine condensate----------	APX, CRT, DEP, HRT, ONX, QCP, S.
Stearic acid - N,N-diethylethylenediamine condensate---	CBP.
Stearic acid - N,N'-diethylethylenediamine condensate (amine/acid ratio=1/2).	SNW.
Stearic acid - dipropylenetriamine condensate----------	JOR.
Stearic acid - ethylenediamine condensate (amine/acid ratio=1/2).	CCW, CTN, GLY, ICI, NOP.
Stearic acid - tetraethylenepentamine condensate-------	ICI, ONX.
Tall oil acids - diethylenetriamine condensate--------	NCW.
All other----------	EMR, TXT, VAL, VND, WM.
*Fatty acid - diamine and polyamine condensates, alkoxylated:	
Coconut oil acids - diethylenetriamine condensate, polyethoxylated.	TCC.
Coconut oil acids - ethylenediamine condensate, monoethoxylated.	NOP, RPC.
Mixed fatty acids - alkylenediamine condensate, polyethoxylated.	NLC.
*Oleic acid - ethylenediamine condensate, monoethoxylated.	CLD, DEX, NOP, SOC, TNA.
Palm oil acids - ethylenediamine condensate, monoethoxylated.	APX.
Stearic acid - diethylenetriamine condensate, polyethoxylated.	TCC.
*Stearic acid - ethylenediamine condensate, monoethoxylated.	AML, CLD, CMG, CST, DEP, DEX, ICI, MRA, NOP, S, SNW.
Stearic acid - ethylenediamine condensate, polyethoxylated.	APD, TCC.
*Heterocyclic amines and quaternary ammonium salts:	
*Imidazoline derivatives:	
1-(2-Aminoethyl)-2-heptadecyl-2-imidazoline----------	TXT.
1-(2-Aminoethyl)-2-(mixed alkyl)-2-imidazoline-------	RTF.
1-(2-Aminoethyl)-2-nor(tall oil alkyl)-2-imidazoline-	NLC.
1,1-Bis(carboxymethyl)-2-undecyl-2-imidazolinium chloride, disodium salt.	PCS.
1,1-Bis(carboxymethyl)-2-undecyl-2-imidazolinium hydroxide, disodium salt.	MIR.
1-Carboxymethyl-2-heptadecyl-1-(2-hydroxyethyl)-2-imidazolinium hydroxide, sodium derivative, sodium salt.	MIR.
1-Carboxymethyl-1-(2-hydroxyethyl)-2-nonyl-2-imidazolinium chloride, sodium salt.	PCS.
1-Carboxymethyl-1-(2-hydroxyethyl)-2-nonyl-2-imidazolinium hydroxide, sodium derivative, sodium salt.	MIR.
1-Carboxymethyl-1-(2-hydroxyethyl)-2-undecyl-2-imidazolinium hydroxide, sodium derivative, sodium salt.	MIR.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Not Sulfated or Sulfonated--Continued	
*Amides, amines, and quaternary ammonium salts--Continued	
*Heterocyclic amines and quaternary ammonium salts--Con.	
*Imidazoline derivatives--Continued	
1-Ethyl-2-(8-heptadecenyl)-1-(2-hydroxyethyl)-2-imidazolinium bromide.	BC.
2-(8-Heptadecenyl)-1-(2-hydroxyethyl)-2-imidazoline--	GGY, NLC, PCS, UVC.
2-(8-Heptadecenyl)-2-imidazoline----------	UVC.
*2-Heptadecyl-1-(2-hydroxyethyl)-2-imidazoline--------	GGY, HDG, MOA, ONX, RZL, TXT.
2-Heptadecyl-2-imidazoline----------	SCO.
1-(2-Hydroxyethyl)-2-nonyl-2-imidazoline----------	PCS.
1-(2-Hydroxyethyl)-2-nor(coconut oil alkyl)-2-imidazoline.	MOA.
1-(2-Hydroxyethyl)-2-nor(tall oil alkyl)-2-imidazoline.	NLC.
1-(2-Hydroxyethyl)-2-tridecyl-2-imidazolinium chloride.	GGY.
1-(2-Hydroxyethyl)-2-undecyl-2-imidazoline----------	GGY, PCS, UVC.
2-(11-Hydroxy-8-heptadecenyl)-2-imidazoline----------	GRD.
Rosinpolyamidoimidazoline----------	UVC.
3-[2-(2-Undecyl-2-imidazolin-1-yl)ethoxy]propionic acid.	UVC.
*Morpholine, oxazoline, and piperazine derivatives:	
N-Dodecylmorpholine----------	BC.
2-(8-Heptadecenyl)-4,4-bis(hydroxymethyl)-2-oxazoline.	COM, UVC.
2-(8-Heptadecenyl)-4-hydroxymethyl-4-methyl-2-oxazoline.	COM, UVC.
N-Hexadecylmorpholine----------	APD.
Mixed fatty piperazines----------	TXT.
N-(Soybean oil alkyl)morpholine----------	APD.
*Quaternary ammonium salts (except heterocyclic):	
*Bis(coconut oil alkyl)dimethylammonium chloride--------	ARC, FOR, GNM, VAC.
*Bis(hydrogenated tallow alkyl)dimethylammonium chloride.	ADM, ARC, FOR, GNM, VAC.
*Dimethyldioctadecylammonium chloride----------	FOR, GNM, PC.
*Dodecyltrimethylammonium chloride----------	ARC, FOR, GNM.
*Oxygen-containing compounds:	
Bis(2-hydroxyethyl, ethoxylated)methyl(9-octadecenyl)ammonium chloride.	ARC.
Bis(2-hydroxyethyl, ethoxylated)methyloctadecylammonium chloride.	ARC.
N-(3-Coconut oil amidopropyl)betaine----------	RCD.
(Coconut oil alkyl)betaine----------	CUL.
(Coconut oil alkyl)bis(2-hydroxyethyl, ethoxylated)-methylammonium chloride.	ARC, VAC.
C-Decylbetaine----------	DUP.
C-Dodecylbetaine----------	DUP.
N-Dodecylbetaine----------	RCD.
C-Hexadecylbetaine----------	DUP.
(2-Hydroxyethyl)dimethyl(stearamidopropyl)ammonium dihydrogen phosphate.	ACY.
(2-Hydroxyethyl)dimethyl(stearamidopropyl)ammonium nitrate.	ACY.
2-Hydroxytrimethylenebis[(coconut oil alkyl)dimethylammonium chloride].	CIB.
Mixed fatty betaines----------	TXT.
C-Octadecylbetaine----------	DUP.
Triethyl(octadecyloxymethyl)ammonium chloride--------	DAN.
*Other quaternary ammonium salts:	
(Coconut oil alkyl)trimethylammonium chloride--------	ARC, GNM.
Didodecyldimethylammonium bromide----------	ONX.
Dimethylbis(soybean oil alkyl)ammonium chloride------	ARC.
Dodecyltrimethylammonium bromide----------	DUP.
Ethyldimethyl(9-octadecenyl)ammonium bromide---------	ONX.
Ethyldimethyl(soybean oil alkyl)ammonium bromide-----	BC.
Ethylhexadecyldimethylammonium bromide----------	FIN.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Not Sulfated or Sulfonated--Continued	
*Amides, amines, and quaternary ammonium salts--Continued	
*Quaternary ammonium salts (except heterocyclic)--Con.	
*Other quaternary ammonium salts--Continued	
Hexadecyltrimethylammonium bromide	DUP, FIN, ICI.
Hexadecyltrimethylammonium chloride	ARC.
Hexadecyltrimethylammonium stearate	FIN.
(Hydrogenated tallow alkyl)trimethylammonium chloride.	ARC, FOR.
Methyltrioctylammonium chloride	GNM.
Methyltris(mixed alkyl)ammonium chloride	VAC.
N,N,N',N',N'-Pentamethyl-N-(tallow alkyl)trimethylenebis[ammonium chloride].	ARC, GNM.
Trimethyl(mixed alkyl)ammonium chloride	GNM.
Trimethyloctadecylammonium chloride	ARC, GNM.
Trimethyl(soybean oil alkyl)ammonium chloride	ARC, FOR.
Trimethyl(tallow alkyl)ammonium chloride	ARC, FOR, GNM.
All other	CGL.
*N-Substituted amino acids and polypeptides:	
N-[2-(Carboxymethylamino)ethyl]-N-(2-hydroxyethyl)-coconut oil amide, sodium salt.	TCC.
N-(Coconut oil acyl)sarcosine	GGY.
N-(Coconut oil acyl)sarcosine, sodium salt	HMP.
N-(Coconut oil alkyl)-β-alanine	GNM.
N-Dodecyl-3-iminodipropionic acid	GNM.
N-Dodecyl-3-iminodipropionic acid, sodium salt	GNM.
N-(2-Hydroxyethyl)-N-(2-lauramidoethyl)-β-alanine	UVC.
N-(2-Hydroxyethyl)-N-(2-stearamidoethyl)glycine	G.
N-Lauroylpolypeptide	MYW.
*N-Lauroylsarcosine, sodium salt	CP, GGY, HMP, ONX.
N-Oleoylpolypeptide	MYW.
N-Oleoylpolypeptide, sodium salt	LMI.
N-Oleoylsarcosine, sodium salt	G, GGY.
Polypeptide	MYW.
N-Stearoylsarcosine, sodium salt	GGY.
N-(Tallow alkyl)-3-iminodipropionic acid, sodium salt	GNM.
*Other amides, amines, and quaternary ammonium salts:	
N,N-Bis(2-hydroxyethyl)-2-(stearamidomethoxy)ethylamine.	CIB.
N,N-Bis(2-hydroxyethyl)-2-(stearamidomethoxy)ethylamine - melamine ether condensate.	CIB.
Bis[octadecenyloxypolyethylene glycol]ester of 1,6-hexamethylenedicarbamic acid.	CIB.
Coconut oil acids - ethanolamine condensate, ethoxylated.	DRW, STP.
Coconut oil acids - isopropanolamine condensate, ethoxylated and propoxylated.	STP.
*Hydrogenated tallow acids - ethanolamine condensate, ethoxylated.	ARC, DRW, NOP.
*Oleic acid - ethanolamine condensate, ethoxylated	ARC, DRW, G.
Oleic acid - methanolamine condensate, ethoxylated	G.
Stearic acid - N-(2-cyanoethyl)diethylenetriamine condensate (amine/acid ratio=1/2).	CIB.
Tall oil acids - ethanolamine condensate, ethoxylated	JCC.
*Carboxylic acid esters:	
*Ethylene glycol and diethylene glycol esters:	
Diethylene glycol distearate	ARC.
Diethylene glycol monoester of coconut oil acids	DRW.
Diethylene glycol monoester of tallow acids	DRW.
*Diethylene glycol monolaurate	ARC, CCW, DRW, EMR, GLY, HAL, HDG, KAL, NOP, WTC.
*Diethylene glycol mono-oleate	ARC, HAL, WTC.
Diethylene glycol monoricinoleate	GLY.
*Diethylene glycol monostearate	AML, ARC, CCW, CLI, HAL, NOP, PCS, QCP, SEY, UVC, VAL, VND, WTC.
Diethylene glycol sesquilaurate	GLY.
Diethylene glycol sesquioleate	GLY.
Diethylene glycol sesquistearate	GLY, WM.
Diethylene glycol tall oil ester	HDG, QCP, WTC.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Not Sulfated or Sulfonated--Continued	
*Carboxylic acid esters--Continued	
*Ethylene glycol and diethylene glycol esters--Continued	
*Ethylene glycol distearate	ARC, EMR, HAL, HDG.
Ethylene glycol mono-oleate	PCS.
*Ethylene glycol monostearate	ARC, CCW, CLI, EFH, GLY, HAL, HDG, KNP, VND, WM.
Ethylene glycol sesquistearate	WM.
*Glycerol esters:	
*Complex glycerol esters:	
Glycerol diacetyl tartrate monostearate	DRW, PCS, WTC.
Glycerol lactate palmitate	DRW, GLD.
Glycerol lactate stearate	APD, GLD.
Glycerol maleate mono-oleate	NOP, WTC.
Glycerol monoester, acetylated	EK.
Glycerol mono-oleate, acetylated	x.
*Glycerol esters of chemically defined acids:	
Glycerol dioleate	ARC, HAL.
Glycerol distearate	APX, ARC, PCS.
Glycerol monocaprylate	ARC.
*Glycerol monolaurate	ARC, GLY, HAL, KNP.
*Glycerol mono-oleate	APD, ARC, CCW, DRW, EFH, EK, EMR, GLY, HAL, HDG, SWT, WM.
Glycerol monoricinoleate	CCW.
*Glycerol monostearate	ARC, CCW, CHL, CRT, DRW, EK, EMR, GLY, HAL, HDG, JRG, LUR, MRA, NOP, NW, PCS, PG, SNW, SWT, TCC, UVC, VND, WM, WTC, x.
*Glycerol esters of mixed acids:	
Glycerol diester of lard acids	PCS.
Glycerol monoester of coconut oil acids	DRW, GLY, HDG, SWT, WM.
Glycerol monoester of cottonseed oil acids	DRW, EK, PCS.
Glycerol monoester of hydrogenated cottonseed oil acids.	LEV.
Glycerol monoester of hydrogenated soybean oil acids	DRW.
Glycerol monoester of lard acids	EK, GLD, PCS.
Glycerol monoester of mixed fatty acids	EFH, EK, GLD, HDG, LEV, SWT, WTC.
Glycerol monoester of peanut oil acids	DRW.
Glycerol sesquiester of mixed fatty acids	APD.
*Polyethylene glycol esters:	
*Polyethylene glycol esters of chemically defined acids:	
*Polyethylene glycol dilaurate	ARC, DEX, EFH, GLY, HAL, HDG, JOR, NOP, PCS, WM.
*Polyethylene glycol dioleate	ARC, CLD, EFH, GGY, GLY, HAL, HDG, NOP, PCS, RZL, SM, UVC, VND.
*Polyethylene glycol distearate	ARC, GLY, HAL, HDG, PCS, QCP.
Polyethylene glycol methylcarbitol maleate	CCA.
*Polyethylene glycol monolaurate	AAC, ARC, BSC, CCA, DEX, DRW, GGY, GLY, HAL, HDG, JOR, KNP, NOP, PCS, SYC, TCH, TXT, UVC, WM.
*Polyethylene glycol mono-oleate	AAC, ARC, CCA, CLD, CRC, CRT, DEX, DRW, EMR, G, GGY, GLY, HAL, HDG, ICI, NOP, ONX, PCS, SM, SWT, SYC, TCH, UVC, VAC, WM, WTC.
Polyethylene glycol monopalmitate	APD.
Polyethylene glycol monoricinoleate	AAC, ARC, BAC, NOP.
*Polyethylene glycol monostearate	AML, APD, ARC, CRT, DEP, DEX, DRW, EMR, G, GGY, GLY, HAL, HDG, ICI, KNP, NOP, ONX, PC, PCS, PD, RH, TCC, TCH, VND, WTC.
Polyethylene glycol pelargonate	EMR.
Polyethylene glycol sesquioleate	PCS.
*Polyethylene glycol esters of mixed acids:	
*Polyethylene glycol ester of castor oil acids	G, GGY, GLY, HAL, NOP, WTC.
*Polyethylene glycol ester of coconut oil acids	ARC, ARL, DRW, EMR, GLY, NOP, ONX, PG, VND.
*Polyethylene glycol ester of rosin acids	APD, HPC, NLC, QCP.
*Polyethylene glycol ester of tall oil acids	AML, APD, APX, ARC, DRW, GLY, HDG, MON, NOP, RTF, SOS, TCH, WTC.
*Polyethylene glycol ester of tallow acids	DRW, ONX, SOS.
Polyethylene glycol monoester of soybean oil acids	DRW.
All other	GLY, PCS, SYC.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Not Sulfated or Sulfonated--Continued	
*Carboxylic acid esters--Continued	
*Polyglycerol esters:	
Polyglycerol distearate	PCS.
Polyglycerol lactate oleate	DRW.
Polyglycerol monoester of cottonseed oil acids	DRW.
Polyglycerol oleate	DRW, HDG, VND, WTC.
*Other carboxylic acid esters:	
Anhydrosorbitol esters:	
Anhydrosorbitol dioleate	APD.
Anhydrosorbitol mixed fatty acid ester	GLY.
Anhydrosorbitol monolaurate	AAC, APD, GLY, HDG, PCS.
Anhydrosorbitol mono-oleate	AAC, APD, DRW, GLY, HDG, PCS.
Anhydrosorbitol monopalmitate	APD, GLY, PCS.
Anhydrosorbitol monostearate	AAC, APD, DRW, GLY, HDG, PCS.
Anhydrosorbitol sesquioleate	GLY.
*Anhydrosorbitol tall oil ester	APD, GLY, HDG, RTF.
Anhydrosorbitol tetrastearate	APD.
*Anhydrosorbitol trioleate	AAC, APD, GLY, HDG, PCS.
Anhydrosorbitol triricinoleate	APD.
*Anhydrosorbitol tristearate	APD, DRW, GLY, HDG, PCS.
Ethoxylated anhydrosorbitol esters:	
Ethoxylated anhydrosorbitol castor oil ester	APD.
*Ethoxylated anhydrosorbitol monolaurate	AAC, APD, DRW, GLY, HDG, PCS, TCH.
*Ethoxylated anhydrosorbitol mono-oleate	AAC, APD, ARC, DRW, GLY, HDG, PCS, TCH.
*Ethoxylated anhydrosorbitol monopalmitate	AAC, APD, GLY, TCH.
*Ethoxylated anhydrosorbitol monostearate	AAC, APD, DRW, GLY, HDG, PCS, TCH.
Ethoxylated anhydrosorbitol tall oil ester	APD, RTF, TCH.
*Ethoxylated anhydrosorbitol trioleate	AAC, APD, GLY, TCH.
*Ethoxylated anhydrosorbitol tristearate	AAC, APD, DRW, GLY, PCS, TCH.
Ethoxylated sorbitol esters:	
Ethoxylated sorbitol beeswax ester	APD.
Ethoxylated sorbitol distearate	APD.
Ethoxylated sorbitol hexaoleate	APD.
Ethoxylated sorbitol hexa(tall oil) ester	APD.
Ethoxylated sorbitol lanolin ester	APD.
Ethoxylated sorbitol mono-oleate	APD.
Ethoxylated sorbitol oleate stearate	APD.
Ethoxylated sorbitol pentalaurate	APD.
Ethoxylated sorbitol pentaoleate, acetylated	APD.
Ethoxylated sorbitol penta(tall oil) ester	APD.
Ethoxylated sorbitol tetra(laurate, oleate)	APD.
Ethoxylated sorbitol tetra(tall oil) ester	APD.
All other:	
Anhydrosorbitol glycerol monolaurate	APD.
Calcium stearolactate	GLY.
Coconut oil acids, ethoxylated methanol ester	DRW, JOR.
Diisobutylene maleate	RH.
Ethoxylated glucose oleate	APD.
Ethoxylated glycerol mono- and diester of mixed fatty acid.	APD.
Ethoxylated 1,2-propanediol stearate	APD.
Methyl glucoside laurate	HDG.
Methyl glucoside oleate	HDG.
Pentaerythritol distearate	VAL.
Polyalkylene glycol diglycolate	NLC, RTF.
Polyalkylene glycol dimaleate	NLC.
Polyalkylene glycol naphthenate	APD.
1,2-Propanediol distearate	HAL, PCS.
1,3-Propanediol monoester of coconut oil acids	DRW.
*1,2-Propanediol monolaurate	ARC, HAL, SBC, WM.
1,2-Propanediol mono-oleate	ARC, HAL.
*1,2-Propanediol monostearate	APD, ARC, CCW, EK, GLY, HAL, HDG, JRG, PCS, PG, WTC.
Propylene glycol monoesters	GLD.
Sucrose esters of fatty acids	SUG.
*Ethers:	
*Castor oil, ethoxylated	AAC, APD, BAC, DRW, ICI, NLC, NOP, PCS, RTF, TCH, VAC.
n-Decyl alcohol, ethoxylated	G, ICI, PCS.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Not Sulfated or Sulfonated--Continued	
*Ethers--Continued	
n-Decyl and n-octyl alcohols, ethoxylated	G.
Decyloxypoly(ethyleneoxy)ethyl chloride	G.
*n-Dodecyl alcohol, ethoxylated	AAC, APD, DRW, DUP, GLY, JCC, NAC, OMC, PCS, UCC.
Glucose, ethoxylated	RH.
n-Hexadecyl alcohol, ethoxylated	ADM, APD, CIB, ICI.
Hydrogenated castor oil, ethoxylated	APD, VAC.
*Lanolin, ethoxylated	AAC, APD, DRW, VAC.
*Mixed linear alcohols, ethoxylated	CO, G, JCC, MON, NLC, RH, RTF, SHC, STP, TCH, UCC, WYN.
Mixed linear alcohols, ethoxylated and propoxylated	STP.
*9-Octadecenyl alcohol, ethoxylated	AAC, ADM, APD, CIB, DUP, G, ICI, NOP, TCH, VAC.
*n-Octadecyl alcohol, ethoxylated	AAC, APD, CIB, DUP, HDG.
Polyethylene glycol tert-dodecyl thioether	MON.
Poly(mixed ethylene, propylene) glycol	NLC, UCC, VAC.
Polypropylene glycol, ethoxylated	NLC, WYN.
Ricinoleyl alcohol, propoxylated and ethoxylated	PCS.
Rosin alcohol, ethoxylated	HPC.
Sorbitol, ethoxylated	VAC.
Sperm oil alcohol, ethoxylated	DUP.
Tallow alcohol, ethoxylated	ADM.
*Tridecyl alcohol, ethoxylated	AAC, APD, DRW, EFH, G, ICI, JCC, MON, NLC, OMC, PCS, RTF, TCH, UCC.
Tridecyl alcohol, propoxylated and ethoxylated	JCC, PCS.
Trimethylheptanol, ethoxylated	PCS.
Trimethylnonyl alcohol, ethoxylated	UCC.
Trimethylolpropane, alkoxylated	RTF.
All other	JCC, UCC, VAC, VPC.
*Fatty, rosin, and tall oil acids, potassium and sodium salts:	
Castor oil acids, potassium salt	BAC, SEA.
Castor oil acids, sodium salt	MRV.
*Coconut oil acids, potassium and sodium salts:	
Potassium salt	CP, JRG, LUR, PCH, PG, SWT.
Sodium salt	CON, CP, JRG, LEV, PG, PRX.
Corn oil acids, potassium salt	ARL, PCH.
Corn oil acids, sodium salt	LUR.
Lauric acid, potassium salt	BSC, DRW, NOP, USR, VAL.
Mixed vegetable fatty acids, potassium salt	AML, ARL, PCH, SWT.
*Oleic acid, potassium salt	AML, BSC, CCL, CIB, CPY, DAN, GYR, NOP, QCP, S, SHP, USR, WIC, WTC, x.
*Oleic acid, sodium salt	LEV, LUR, MRV, NOP, SEA, SWT, USR, WTC, x.
Olive oil acids, sodium salt	LUR.
Palm oil acids, sodium salt	LUR.
Peanut oil acids, potassium salt	KAL, SLC.
Rosin acids, potassium salt	ASY, FRS, HPC.
Rosin acids, sodium salt	ASY, CRT, HPC, MRA, PLC, PRX, QCP.
Soybean oil acids, potassium salt	CON, DRW.
*Stearic acid, potassium and sodium salts:	
Potassium salt	GYR, WTC.
Sodium salt	GYR, LEV, MAL, NOP, WTC.
*Tall oil acids, potassium and sodium salts:	
*Tall oil acids, potassium salt	ASY, BSC, CON, DRW, FRS, GYR, HPC, LUR, PNX, QCP, TXT, USR, VAL.
*Tall oil acids, sodium salt	CPY, GYR, HPC, PCS, PRX, QCP, UNP.
Tallow acids, potassium salt	ASY, CPY, GYR, PG, SWT.
*Tallow acids, sodium salt	ASP, CON, CP, FRS, GYR, JRG, LEV, LUR, NOP, PG, PLC, PRX, QCP, SWT.
All other	SLC.
*Phosphoric and polyphosphoric acid esters:	
Decyl, dodecyl, and octyl phosphate, morpholine salt	DUP.
Decyl and octyl phosphate	UVC.
Decyl polyphosphate, triethanolamine salt	RCD.
Dodecyl alcohol, ethoxylated and phosphated	G.
2-Ethylhexanol, ethoxylated and phosphated	WAY.
*2-Ethylhexyl phosphate, sodium salt	RZL, SEY, UCC, UVC.
*2-Ethylhexyl polyphosphate	SEY, TCI, UVC.
2-Ethylhexyl polyphosphate, sodium salt	SF.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Not Sulfated or Sulfonated--Continued	
*Phosphoric and polyphosphoric acid esters--Continued	
Hexyl polyphosphate, potassium salt	CST, DEX.
Mixed alkyl phosphate, diethanolamine salt	DUP.
Mixed linear alcohols, ethoxylated and phosphated	G.
Mixed mono- and dialkyl phosphate	CST, DUP.
Mixed mono- and dioctyl phosphate	DUP.
Mixed mono- and dioctyl phosphate, potassium salt	DUP.
9-Octadecenyl alcohol, ethoxylated and phosphated	G.
9-Octadecenyl phosphate	DUP.
Octadecyl phosphate, triethanolamine salt	RCD.
Octyl phosphate, alkylamine salt	DUP, TXT.
Octyl phosphate, ethoxylated	DUP.
Octyl polyphosphate	BCN, DEX, TXT.
Octyl polyphosphate, potassium salt	x.
Octyl polyphosphate, sodium salt	SF.
Tridecyl alcohol, ethoxylated and phosphated	G, LUR.
Tris(castor oil alkyl) phosphate	GLY.
All other	NLC, SF, WTC.
Other nonbenzenoid surface-active agents, not sulfated or sulfonated:	
n-Decyl alcohol, ethoxylated and carbonated	G.
3,5-Dimethyl-1-hexyn-3-ol	CUC.
3,6-Dimethyl-4-octyne-3,6-diol	CUC.
2,4,7,9-Tetramethyl-5-decyne-4,7-diol	CUC.
Tridecyl alcohol, ethoxylated and carbonated, sodium salt.	S.
All other	G, GLY, STC.
Sulfated and Sulfonated	
*Alcohols, sulfated:	
*n-Dodecyl sulfate salts:	
n-Dodecyl sulfate, 2-amino-2-methylpropanol salt	DUP.
*n-Dodecyl sulfate, ammonium salt	AAC, CTL, DUP, ONX, PCS, RCD, STP, TXT.
n-Dodecyl sulfate, diethanolamine salt	AAC, CUL, DUP, HLI, JRG, ONX, RCD, STP.
n-Dodecyl sulfate, N,N-diethylcyclohexylamine salt	DUP.
n-Dodecyl sulfate, isopropanolamine salt	JRG, PCS.
n-Dodecyl sulfate, magnesium salt	AAC, HLI, STP.
n-Dodecyl sulfate, potassium salt	HLI, PG, RCD.
*n-Dodecyl sulfate, sodium salt	AAC, CUL, DUP, HLI, JRG, LAK, MYW, ONX, PCI, PCS, PG, RCD, RET, STP, TXT.
*n-Dodecyl sulfate, triethanolamine salt	AAC, CTL, CUL, DUP, HLI, MYW, ONX, PCS, PG, RCD, RET, STP, TXT.
*All other sulfated alcohols:	
sec-Alkyl sulfate, ammonium salt	UCC.
Branched hexadecyl sulfate, sodium salt	APX.
Coconut oil and sperm oil alkyl sulfate, sodium salt	DUP.
Decyl and octyl sulfate, sodium salt	PCS.
n-Decyl sulfate, sodium salt	CTL, DUP, ONX, PCS.
n-Decyl sulfate, triethanolamine salt	DUP.
3,9-Diethyl-6-tridecyl sulfate	UCC.
2-Ethylhexyl sulfate, sodium salt	AAC, UCC, WTC.
7-Ethyl-2-methyl-4-undecyl sulfate	UCC.
n-Hexadecyl sulfate	AAC, DUP.
Hexyl sulfate, potassium salt	DEX.
Nonyl sulfate	TEN.
n-Octadecyl sulfate	DUP, EMK.
n-Octadecyl sulfate, sodium salt	ONX, PG.
n-Octadecyl sulfate, triethanolamine salt	DUP.
n-Octyl sulfate, sodium salt	DUP, PCS.
n-Tetradecyl sulfate, sodium salt	ONX,
Tridecyl sulfate, sodium salt	AAC, DUP.
*Amides, amines, and quaternary ammonium salts, sulfated and sulfonated:	
Fatty acid - alkanolamine condensates, sulfated:	
*Coconut oil acids - ethanolamine condensate, sulfated, potassium salt.	DEX, EMK, HRT, ONX.
Coconut oil acids - isopropanolamine condensate, sulfated, sodium salt.	APX.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Sulfated and Sulfonated--Continued	
*Amides, amines, and quaternary ammonium salts, sulfated and sulfonated--Continued	
Fatty acid - alkanolamine condensates, sulfated--Con.	
Oleic acid - ethanolamine condensate, sulfated	SCP.
Stearic acid, diethanolamine condensate, methyl sulfate.	DUP.
*Quaternary ammonium sulfates:	
(2-Aminoethyl)ethyl(hydrogenated tallow alkyl)(2-hydroxyethyl)ammonium ethyl sulfate.	LUR.
Bis(hydrogenated tallow alkyl)dimethylammonium methyl sulfate.	x.
Dimethyldioctadecylammonium methyl sulfate	ONX.
Ethyldimethyl(mixed alkyl)ammonium ethyl sulfate	JOR.
1-Ethyl-2-(8-heptadecenyl)-1-(2-hydroxyethyl)-2-imidazolinium ethyl sulfate.	APD.
N-Ethyl-N-hexadecylmorpholinium ethyl sulfate	APD.
N-Ethyl-N-(soybean oil alkyl)morpholinium ethyl sulfate.	APD.
2-Heptadecyl-1-(2-stearamidoethyl)-2-imidazolinium methyl sulfate.	CUL.
(3-Lauramidopropyl)trimethylammonium methyl sulfate	ACY.
Mixed fatty sulfobetaines	TXT.
Trimethyl(3-oleamidopropyl)ammonium methyl sulfate	CIB.
*Sulfosuccinamic acid derivatives:	
N-(1,2-Dicarboxyethyl)-N-octadecylsulfosuccinamic acid, tetrasodium salt.	ACY.
N-(2-Hydroxyethyl)-N-(tallow alkyl)sulfosuccinamide	SCP.
N-Octadecylsulfosuccinamide, disodium salt	ACY.
N-(Oleoyloxyisopropyl)sulfosuccinamide	WTC.
Taurine derivatives:	
N-Cyclohexyl-N-palmitoyltaurine	G.
N-Methyl-N-(coconut oil acyl)taurine	G.
*N-Methyl-N-oleoyltaurine	CRC, CRT, DEP, DRW, G, HRT, MRA, NOP, PCI.
N-Methyl-N-palmitoyltaurine	G.
N-Methyl-N-(tall oil acyl)taurine, sodium salt	G.
N-Methyl-N-(tallow acyl)taurine	G.
Other amides, amines, and quaternary ammonium salts, sulfated and sulfonated:	
N-(2-Hydroxyethyl)-N,N',N'-tris(2-hydroxypropyl)-ethylenediamine, distearate methyl sulfate.	DUP.
Lauric acid, 2-sulfoacetamidoethyl ester, potassium salt.	WTC.
N-(Mixed alkyl sulfonyl)glycine, sodium salt	G.
Mixed primary amines, ethoxylated and sulfated	RH.
Oleic acid - ethylenediamine condensate, propoxylated and sulfated, sodium salt.	S.
Stearic acid - ethylenediamine condensate, monoethoxylated, ethyl sulfate.	WTC.
Tall oil acids - polyalkylenepolyamine condensate, sulfated.	NLC.
N,N,N',N'-Tetrakis(2-hydroxypropyl)ethylenediamine dioleate methyl sulfate.	DUP.
*Carboxylic acid esters (except natural fats and oils), sulfated and sulfonated:	
*Esters of sulfated oleic acid:	
2-Butoxyethyl oleate, sulfated	S.
Butyl oleate, sulfated	ICI, ONX, PC.
Ethyl oleate, sulfated	G, KAL.
Glycerol trioleate, sulfated	MRV, SCP.
*Isopropyl oleate, sulfated	BRY, DEX, EMR, HRT, ICI, LEA, LUR.
Methyl oleate, sulfated	ICI.
*Propyl oleate, sulfated	ACY, BSC, EFH, MRV.
*Sulfosuccinic acid esters:	
Sulfosuccinic acid, bis(2,6-dimethyl-4-heptyl)ester, sodium salt.	G.
*Sulfosuccinic acid, bis(2-ethylhexyl)ester	ACY, CRC, CRT, CST, DAN, EFH, EMK, GGY, HRT, ICI, MOA, MRA, PC, SBC.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Sulfated and Sulfonated--Continued	
*Carboxylic acid esters (except natural fats and oils), sulfated and sulfonated--Continued	
*Sulfosuccinic acid esters--Continued	
Sulfosuccinic acid, bis(tallow monoglyceride)ester-----	ACY.
*Sulfosuccinic acid, dihexyl ester-----	ACY, MOA, SNW, TCI.
Sulfosuccinic acid, dioctyl ester, sodium salt-----	RH.
Sulfosuccinic acid, dipentyl ester, sodium salt-----	ACY.
*Sulfosuccinic acid, ditridecyl ester, sodium salt-----	ACY, MOA, WTC.
*Other carboxylic acid esters, sulfated and sulfonated:	
Coconut oil isethionate-----	DRW.
Coconut oil isethionate, sodium salt-----	G, LEV.
Dodecyl sulfoacetate-----	NAC.
Glycerol mono(coconut oil)ester, sulfated, ammonium salt.	CP.
Glycerol mono(coconut oil)ester, sulfated, sodium salt.	AAC, CP.
Glycerol monostearate sulfoacetate-----	WTC.
2-Lauroyloxy-1-propanesulfonic acid-----	SDH.
All other-----	EMR.
*Ethers, sulfated and sulfonated:	
n-Dodecyl alcohol, ethoxylated and sulfated, ammonium salt.	AAC, LAK, ONX, RCD.
*n-Dodecyl alcohol, ethoxylated and sulfated, sodium salt.	AAC, DUP, ONX, PCS, RCD, RET, STP.
n-Dodecyl alcohol, ethoxylated and sulfated, tri-ethanolamine salt.	PG.
Dodecyl and tetradecyl alcohols, ethoxylated and sulfated, ammonium salt.	LEV, TXT.
Dodecyl and tetradecyl alcohols, ethoxylated and sulfated, potassium salt.	TXT.
2-Hexyloxypropyl sulfate, sodium salt-----	S.
Mixed linear alcohols, ethoxylated and sulfated-----	CO, G, SHC.
Mixed linear alcohols, ethoxylated and sulfated, ammonium salt.	NLC, STP.
Mixed linear alcohols, ethoxylated and sulfated, potassium salt.	STP.
Mixed linear alcohols, ethoxylated and sulfated, sodium salt.	RTF.
Sperm oil alcohol, ethoxylated and sulfated-----	DUP.
Tridecyl alcohol, ethoxylated and sulfated, sodium salt--	AAC, ARL, RCD.
All other-----	APX, PG.
*Natural fats and oils, sulfated:	
*Castor oil, sulfated-----	AAE, ACT, ACY, AML, APX, BRY, BSC, CRT, DEX, DRW, DUP, G, HRT, ICI, KAL, KNG, LEA, LUR, MRA, MRD, MRV, NOP, ONX, PC, PCI, S, SCO, SCP, SEA, SLC, WHI, WHW.
*Coconut oil, sulfated-----	ACY, MRD, NOP, RTC, SEA, WHW.
*Cod oil, sulfated-----	ACT, CRT, DRW, MRD, NOP, S, SEA, WAW, WHI, WHW.
Cottonseed oil, sulfated-----	NOP, RTC.
*Grease, other than wool, sulfated-----	CRT, NOP, SEA, WHI, WHW.
Herring oil, sulfated-----	WHI.
Lard, sulfated-----	WAW.
Mixed fish oils, sulfated-----	AML, SCO.
Mixed vegetable oils, sulfated-----	LEA.
Mustard seed oil, sulfated-----	LUR, NOP.
*Neat's-foot oil, sulfated-----	ACT, CRT, KAL, LUR, MRD, NOP, PC, SEA, WHI, WHW.
*Peanut oil, sulfated-----	ACY, CRT, ICI, LEA, LUR, NOP, SCP, SLC, SOS.
Rice-bran oil, sulfated-----	EFH, KNG, LUR, NOP.
*Soybean oil, sulfated-----	APX, CRT, DRW, HRT, KAL, LEA, MRD, NOP, ONX.
*Sperm oil, sulfated-----	ACT, CLD, CRT, DRW, HRT, KAL, KNG, LEA, MRD, NOP, ONX, RTC, S, SEA, WAW, WHI, WHW.
*Tallow, sulfated-----	ACT, ACY, BRY, DRW, EFH, ICI, KAL, LEA, LUR, MRA, MRD, NOP, ONX, PC, PCI, SCP, SEY, SID, SNW, SOS, WHI.
Whale oil, sulfated-----	KNG.

TABLE 19B.--*Surface-active agents for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
NONBENZENOID SURFACE-ACTIVE AGENTS--Continued	
Sulfated and Sulfonated--Continued	
Other nonbenzenoid surface-active agents, sulfated and sulfonated:	
Acetyloleic acid, sulfated	DUP.
Mixed alkanesulfonic acids	VPC.
Mixed alkanesulfonic acids, sodium salt	DUP.
*Oleic acid, sulfated	ACT, ACY, CRT, DEX, DRW, EMR, G, LEA, LUR, MRV, NOP, PCI, SCO, TEN, WHI, WHW.
Oleostearin, sulfated	SEA.
Ricinoleic acid, sulfated	NOP.
α-Sulfostearic acid	RCD.
*Tall oil, sulfated	ACY, APX, CRT, ICI, NOP, SEA, WHI, WHW.

Pesticides and Other Organic Agricultural Chemicals

TABLE 20B. -- *Pesticides and other organic agricultural chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Pesticides and other organic agricultural chemicals for which separate statistics are given in table 20A are marked below with an asterisk (*); products not so marked do not appear in table 20A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Chemical	Manufacturers' identification codes (according to list in table 22)
PESTICIDES AND OTHER ORGANIC AGRICULTURAL CHEMICALS, CYCLIC	
*Fungicides:	
2,6-Bis(dimethylaminomethyl)cyclohexanone	MRK.
2-sec-Butyl-4,6-dinitrophenyl-3,3-dimethylacrylate (Binapacryl).	FMN, FMP.
5-Chloro-2-mercaptobenzothiazole, laurylpyridium salt	VNC.
2,4-Dichloro-6-o-chloroanilino-s-triazine	CHG.
1,4-Dichloro-2,5-dimethoxybenzene	DUP.
2,3-Dichloro-1,4-naphthoquinone (Dichlone)	USR.
Diphenylammonium propionate	MRK.
3,3'-Ethylenebis(tetrahydro-4,6-dimethyl-2H-1,3,5,5-thiadiazine-2-thione).	DUP.
2-Heptadecyl-2-imidazoline acetate (Glyodin)	UCC.
2-Mercaptobenzothiazole, monoethanolamine salt	VNC.
*Mercury fungicides:	
2-Chloro-4-(hydroxymercuri)phenol	DUP.
Chloromethoxypropylmercuric acetate	TRO.
N-(Ethylmercuri)-p-toluenesulfonanilide	DUP.
4-(Hydroxymercuri)-2-nitrophenol	DUP.
8-(Methylmercurioxy)quinoline	MRK.
2-(Phenylmercuriamino)ethyl acetate	CLY.
Phenylmercuriammonium acetate	TRO.
N-Phenylmercuriformamide	VIN.
Phenylmercury hydroxide	MRK.
Phenylmercury lactate	WRC.
Phenylmercury naphthenate	MRK.
Phenylmercury oleate	CLY, HNX, MRK, TRO.
Phenylmercury propionate	MRK.
Tris(2-hydroxyethyl)(phenylmercuri)ammonium lactate	CLY.
2-(1-Methylheptyl)-4,6-dinitrophenyl crotonate	RH.
*Naphthenic acid, copper salt	CCA, FER, HNX, MCI, MLD, SHP, SM, SOC, SRR, TGL, TRO, WTC.
Pentachloronitrobenzene	MON, OMC.
*Pentachlorophenol (PCP)	EXT, DOW, FRO, MON, RCI, SFD.
*Pentachlorophenol, sodium salt	DOW, MON, RCI, SFD.
8-Quinolinol (8-Hydroxyquinoline), copper salt	GAM, HNX, MRK.
Tetrachloro-p-benzoquinone (Chloranil)	USR.
2,3,4,6-Tetrachlorophenol	DOW.
Tetrahydro-3,5-dimethyl-2H,1,3,5-thiadiazine-2-thione	CLY, MRK, SF, WRC.
N-(Trichloromethylthio)-4-cyclohexene-1,2-dicarboximide (Captan).	CHO.
N-(Trichloromethylthio)phthalimide (Folpet)	CHO.
*2,4,5-Trichlorophenol	DA, DOW, HK.
*2,4,5-Trichlorophenol, ethanolamine salt	G.
*2,4,5-Trichlorophenol, sodium salt	DA, DOW.
2,4,6-Trichlorophenol	DOW.
All other cyclic fungicides	CWN, DUP.
*Herbicides and plant hormones:	
5-Bromo-3-sec-butyl-7-methyluracil	DUP.
1-Butyl-3-(3,4-dichlorophenyl)-1-methylurea (Neburon)	DUP.
2-sec-Butyl-4,6-dinitrophenol (DNBP)	CIS, DOW, FMN, TNA.
*2-sec-Butyl-4,6-dinitrophenol, ammonium salt	CIS, DOW, FMN.
2-sec-Butyl-4,6-dinitrophenol, triethanolamine salt	CIS, DOW, FMN.
N-Butyl-N-ethyl-α,α,α,-trifluoro-2,6-dinitro-p-toluidine (Benefin).	LIL.
2-Chloro-4,6-bis(ethylamino)-s-triazine (Simazine)	GGY.
2-Chloro-4,6-bis(isopropylamino)-s-triazine (Propazine)	GGY.
4-Chloro-2-butynyl m-chlorocarbanilate (Barban)	SPN.
2-Chloro-4-ethylamino-6-isopropylamino-s-triazine (Atrazine).	GGY.
N-(3-Chloro-4-methylphenyl)-2-methylpentanamide (Solan)	FMN.
3-(p-Chlorophenyl)-1,1-dimethylurea (Monuron)	DUP.

TABLE 20B.--*Pesticides and other organic agricultural chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
PESTICIDES AND OTHER ORGANIC AGRICULTURAL CHEMICALS, CYCLIC--Continued	
*Herbicides and plant hormones--Continued	
3-(p-Chlorophenyl)-1,1-dimethylurea trichloroacetate----	ACG.
2,5-Dichloro-3-aminobenzoic acid, ammonium salt--------	G.
3,6-Dichloro-2-anisic acid----------	VEL.
2-(2,4-Dichlorophenoxy)ethanol sulfate, sodium salt-----	G.
3-(3,4-Dichlorophenyl)-1,1-dimethylurea (Diuron)--------	DUP.
3-(3,4-Dichlorophenyl)-1-methoxy-1-methylurea (Linuron)-	DUP.
2,4-Dichlorophenyl-4-nitrophenyl ether----------	RH.
3,4-Dichloropropionanilide----------	MON, RH.
1,2-Dihydro-3,6-pyridazinedione (Maleic hydrazide)------	ACY, USR.
N,N-Dimethyl-2,2-diphenylacetamide (Diphenamide)--------	LIL, x.
1,1-Dimethyl-3-phenylurea (Fenuron)----------	DUP.
1,1-Dimethyl-3-phenylurea trichloroacetate----------	ACG.
Dimethyl tetrachloroterephthalate----------	DA.
4,6-Dinitro-o-cresol (DNOC)----------	CIS, FMN.
4,6-Dinitro-o-cresol, sodium salt----------	CIS, FMN.
2,6-Dinitro-N,N-di-n-propyl-α,α,α-trifluoro-p-toluidine (Trifluralin).	LIL.
Diphenylacetonitrile----------	LIL.
Gibberellic acid----------	ABB, MRK.
3-(Hexahydro-4,7-methanoindan-5-yl)-1,1-dimethylurea (Norea).	HPC.
Indolebutyric acid----------	ARA.
Isopropyl carbanilate (Isopropyl N-phenylcarbamate) (IPC).	PPG.
Isopropyl 3-chlorocarbanilate (Isopropyl N-(3-chloro-phenyl)carbamate) (CIPC).	PPG.
N-(2-Mercaptoethyl)benzenesulfonamide S-(O,O-diisopropyl phosphorodithioate) (Betasan).	SF.
1-(2-Methyl-cyclohexyl)-3-phenylurea (Siduron)----------	DUP.
1-Naphthaleneacetic acid and derivatives:	
1-Naphthaleneacetamide----------	AMC.
1-Naphthaleneacetic acid----------	AMC, COK.
1-Naphthaleneacetic acid, methyl ester----------	AMC.
1-Naphthaleneacetic acid, sodium salt----------	AMC, BKL.
N-1-Naphthylphthalamic acid (NPA)----------	USR.
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid, disodium salt (Endothal).	PAS.
Phenoxyacetic acid derivatives:	
(4-Chloro-o-tolyloxy)acetic acid (MCPA)----------	CHC, CLY, DOW, RIV.
(4-Chloro-o-tolyloxy)acetic acid, potassium salt------	GTH.
*(2,4-Dichlorophenoxy)acetic acid (2,4-D)----------	CHC, DA, DOW, HPC, MON.
*(2,4-Dichlorophenoxy)acetic acid esters and salts:	
(2,4-Dichlorophenoxy)acetic acid, 2-butoxyethyl ester.	AMC.
(2,4-Dichlorophenoxy)acetic acid, butoxypolypropyleneglycol ester.	DOW.
*(2,4-Dichlorophenoxy)acetic acid, n-butyl ester-----	AMC, DA, DOW, HPC, IMR, MON, RIV, TMH.
(2,4-Dichlorophenoxy)acetic acid, sec-butyl ester---	CHC, MON.
*(2,4-Dichlorophenoxy)acetic acid, dimethylamine salt	ALC, AMC, CHC, DA, DOW, HPC, RIV, TMH.
(2,4-Dichlorophenoxy)acetic acid, ethanolamine and isopropanolamine salt.	DOW.
*(2,4-Dichlorophenoxy)acetic acid, ethyl ester-------	AMC, DOW, MON.
(2,4-Dichlorophenoxy)acetic acid, 2-ethylhexyl ester	DA, HPC.
*(2,4-Dichlorophenoxy)acetic acid, iso-octyl ester---	CHC, DOW, MON, RIV, TMH.
*(2,4-Dichlorophenoxy)acetic acid, isopropyl ester---	AMC, CHC, DA, DOW, HPC, MON, RIV.
(2,4-Dichlorophenoxy)acetic acid, lithium salt------	GTH.
(2,4-Dichlorophenoxy)acetic acid, sodium salt-------	DOW.
All other (2,4-Dichlorophenoxy)acetic acid esters and salts.	CWN, HPC.
*(2,4,5-Trichlorophenoxy)acetic acid (2,4,5-T)---------	DA, DOW, HPC, MON.
*(2,4,5-Trichlorophenoxy)acetic acid esters and salts:	
(2,4,5-Trichlorophenoxy)acetic acid, amyl ester-----	HPC.
(2,4,5-Trichlorophenoxy)acetic acid, 2-butoxyethyl ester.	AMC.
(2,4,5-Trichlorophenoxy)acetic acid, butoxypolypropyleneglycol ester.	DOW.
*(2,4,5-Trichlorophenoxy)acetic acid, n-butyl ester--	DA, DOW, HPC, MON, RIV.
(2,4,5-Trichlorophenoxy)acetic acid, sec-butyl ester	MON.

TABLE 20B.--*Pesticides and other organic agricultural chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
PESTICIDES AND OTHER ORGANIC AGRICULTURAL CHEMICALS, CYCLIC--Continued	
*Herbicides and plant hormones--Continued	
Phenoxyacetic acid derivatives--Continued	
*(2,4,5-Trichlorophenoxy)acetic acid esters and salts--Continued	
(2,4,5-Trichlorophenoxy)acetic acid, 2-ethylhexyl ester.	DA, HPC.
*(2,4,5-Trichlorophenoxy)acetic acid, iso-octyl ester	CIS, DOW, MON, RIV, TMH.
(2,4,5-Trichlorophenoxy)acetic acid, isopropyl ester	DA.
(2,4,5-Trichlorophenoxy)acetic acid, triethylamine salt.	DOW, HPC, RIV.
*Phenylmercury acetate (PMA)----------	BKM, CLY, MRK, TRO, WRC.
Polychloro-tetrahydro-methanoindene (Polychlorodicyclopentadiene) isomers.	VEL.
N-Tolylphthalamic acid----------	USR.
Tributyl(2,4-dichlorobenzyl)phosphonium chloride--------	SM.
2-(2,4,5-Trichlorophenoxy)propionic acid (Silvex)-------	DOW, HPC, RIV.
2-(2,4,5-Trichlorophenoxy)propionic acid, 2-ethylhexyl ester.	HPC.
Tris[2-(2,4-dichlorophenoxy)ethyl]phosphite (2,4-DEP)---	USR.
All other cyclic herbicides and plant hormones----------	HPC, LIL.
Insect attractants:	
2,4-Bis(isopropylamino)-6-methoxy-s-triazine (Prometone).	GGY.
tert-Butyl 4(and 5)-chloro-2-methylcyclohexane-carboxylate.	TBK.
2-Ethylamino-4-isopropylamino-6-methylmercapto-s-triazine (Ametryne).	GGY.
*Insecticides:	
Allethrin (Allyl homolog of Cinerin I)----------	BPC.
Benzyl thiocyanate----------	HK.
Chlorinated insecticides:	
*Aldrin-toxaphene group:	
Heptachloro-tetrahydro-methanoindene (Heptachlor)---	VEL.
Hexachloro-epoxy-octahydro-endo, endo-dimethano-naphthalene (Endrin).	SHC, VEL.
Hexachloro-epoxy-octahydro-endo, exo-dimethano-naphthalene (Dieldrin).	SHC.
Hexachloro-hexahydro-endo, exo-dimethanonaphthalene (Aldrin).	SHC.
Octachloro-tetrahydro-methanoindan (Chlordan)-------	VEL.
Terpene polychlorinates----------	HN.
Toxaphene (Chlorinated camphene)----------	HPC.
1,1-Bis(p-chlorophenyl)-2-nitrobutane----------	COM.
1,1-Bis(p-chlorophenyl)-2-nitropropane----------	COM.
2-(p-tert-Butylphenoxy)isopropyl-2'-chloroethyl sulfite.	USR.
2-(p-tert-Butylphenoxy)-1-methylethyl 2-chloroethyl sulfite.	USR.
p-Chlorophenyl p-chlorobenzenesulfonate (Ovex)-------	AMP, CIS, DOW.
p-Chlorophenyl 2,4,5-trichlorophenyl sulfone----------	FMN, FMP.
4,4'-Dichlorobenzilate----------	GGY.
1,1-Dichloro-2,2-bis(p-chlorophenyl)ethane (DDD) (TDE)	ACG, RH.
1,1-Dichloro-2,2-bis(p-ethylphenyl)ethane----------	RH.
4,4'-Dichloro-α-(trichloromethyl)benzhydrol----------	RH.
*Hexachlorocyclohexane (Benzene hexachloride)----------	DA, FRO, HK, PPG.
*Hexachlorocyclohexane, 100% γ-isomer (Lindane)--------	HK.
Hexachloro-hexahydro-methano-benzodioxathiepinoxide (Endosulfan).	HK.
*1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane (DDT)---	ACG, DA, GGY, LEB, MTO, OMC.
1,1,1-Trichloro-2,2-bis(p-methoxyphenyl)ethane (Methoxychlor).	CHF, DUP.
All other chlorinated insecticides----------	LIL, SHC.
N,N-Diethyltoluamide----------	HPC, PFZ.
Isobornyl thiocyanatoacetate----------	CIS, HPC.
1-Naphthyl methylcarbamate----------	UCC.
*Organophosphorus insecticides:	
4-tert-Butyl-2-chlorophenyl methyl methylphosphoramidate.	DOW.
3-Chloro-7-hydroxy-4-methylcoumarin O,O-diethyl phosphorothioate.	CHG.

TABLE 20B.--*Pesticides and other organic agricultural chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
PESTICIDES AND OTHER ORGANIC AGRICULTURAL CHEMICALS, CYCLIC--Continued	
*Insecticides--Continued	
*Organophosphorus insecticides--Continued	
S-(p-Chlorophenylthio)methyl O,O-diethyl phosphorodithioate (Carbophenothion).	SF.
O,O-Diethyl O-(2-isopropyl-4-methyl-6-pyrimidinyl) phosphorothioate (Diazinon).	GGY.
*O,O-Diethyl O-(p-nitrophenyl) phosphorothioate (Parathion).	ACY, AMP, MON, SF, SHC.
O,O-Dimethyl O-[4-(methylthio)-m-tolyl] phosphorothioate.	CHG.
*O,O-Dimethyl O-(p-nitrophenyl) phosphorothioate (Methyl parathion).	AMP, MON, SF, SHC.
O,O-Dimethyl S-(4-oxo-1,2,3-benzotriazin-3(4H)-ylmethyl) phosphorodithioate.	CHG.
O,O-Dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel).	DOW.
p-Dioxane-2,3-diyl ethyl phosphorodithioate----------	HPC.
O-Ethyl O-(p-nitrophenyl)phenyl phosphonothioate------	SF.
α-Methylbenzyl 3-hydroxy-cis-crotonate, dimethyl phosphate ester.	SHC.
All other organophosphorus insecticides--------------	SF.
Nematocides:	
O-2,4-Dichlorophenyl O,O-diethyl phosphorothioate------	SM.
O,O-Diethyl O-2-pyrazinyl phosphorothioate (Thionozin)--	ACY.
*Rodenticides:	
3-(Acetonylbenzyl)-4-hydroxycoumarin----------	PEN.
2-Isovaleryl-1,3-indandione, calcium salt----------	MOT.
2-Pivaloyl-1,3-indandione----------	MOT, PIC.
PESTICIDES AND OTHER ORGANIC AGRICULTURAL CHEMICALS, ACYCLIC	
*Fungicides:	
Bis-1,4-bromoacetoxy-2-butene----------	VIN.
Cadmium succinate----------	MAL.
1-Chloro-2-nitropropane (Korax)----------	FMN, FMP.
Disodium cyanodithioimidocarbonate----------	BKM.
Dithiocarbamic acid fungicides:	
*Dimethyldithiocarbamic acid, ferric salt (Ferbam)-----	DUP, FMN, RBC, WRC.
Dimethyldithiocarbamic acid, manganese salt----------	FMN.
Ethylene bis(dithiocarbamic acid), diammonium salt----	CIS, RBC.
*Ethylene bis(dithiocarbamic acid), disodium salt (Nabam).	CIS, DUP, FMN, RBC, RH.
Ethylene bis(dithiocarbamic acid), manganese salt (Maneb).	CIS, DUP, RH.
*Ethylene bis(dithiocarbamic acid), zinc salt (Zineb)--	CIS, DUP, FMN, RH.
Polyethylenethiuram disulfide (PETD)----------	FMN.
All other dithiocarbamic acid fungicides----------	VNC.
Dodecylguanidine acetate (Dodine)----------	ACY.
Mercury fungicides:	
3-Ethyl(mercurithio)-1,2-propanediol----------	DUP.
Ethylmercury acetate----------	DUP.
Ethylmercury chloride----------	DUP.
Ethylmercury phosphate----------	DUP.
3-Methyl(mercurithio)-1,2-propanediol----------	DUP.
Methylmercury acetate----------	DUP.
Methylmercury hydroxide----------	MRT.
Methylmercury nitrile----------	WRC.
All other mercury fungicides----------	MAL.
All other acyclic fungicides----------	LIL, MLD, SHC.
*Herbicides and plant hormones:	
Cacodylic acid----------	ASL.
2-Chloroallyl diethyldithiocarbamate (CDEC)----------	MON.
N,N-Diallyl-2-chloroacetamide (CDAA)----------	MON.
2,3-Dichloroallyl diisopropylthiocarbamate----------	MON.
2,2-Dichloropropionic acid, sodium salt----------	DOW.
Diethyl dithiobis(thionoformate)----------	RBC.
S-Ethyl dipropylthiocarbamate (EPTC)----------	SF.
Hexachloroacetone----------	ACG.

TABLE 20B.--*Pesticides and other organic agricultural chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
PESTICIDES AND OTHER ORGANIC AGRICULTURAL CHEMICALS, ACYCLIC--Continued	
*Herbicides and plant hormones--Continued	
Methanearsonic acid, disodium salt	ASL, CLY, VIN.
Methanearsonic acid, dodecyl- and octylammonium salts	CLY, VIN.
S-Propyl butylethylthiocarbamate	SF.
S,S,S-Tributyl phosphorotrithicate	CHG.
Tributyl phosphorotrithioite	SM.
Trichloroacetic acid, sodium salt (TCA)	DOW.
2,3,3-Trichloroallyl diisopropylthiocarbamate	MON.
All other acyclic herbicides and plant hormones	SF, USR.
*Insecticides:	
2-(2-Butoxyethoxy)ethyl thiocyanate	RH.
Butoxypolypropylene glycol (Fly repellent)	UCC.
Metaldehyde	COM.
*Organophosphorus insecticides:	
Bis(dialkoxyphosphinothioyl) disulfides	FMN.
S-[1,2-Bis(ethoxycarbonyl)ethyl] O,O-dimethyl phosphorodithioate (Malathion).	ACY.
1,2-Dibromo-2,2-dichloroethyl dimethyl phosphate (Naled).	SHC.
2,2-Dichlorovinyl dimethyl phosphate (DDVP)	SHC.
O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorodithioate	CHG.
O,O-Diethyl O-[2-(ethylthio)ethyl] phosphorothioate	CHG.
O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorothioate	CHG.
O,O-Diethyl S-[(ethylthio)methyl] phosphorodithioate	ACY.
Dimethyl 3-hydroxycrotonate, dimethyl phosphate ester	SHC.
O,O-Dimethyl S-(N-methylcarbamoylmethyl) phosphorodithioate (Dimethoate).	ACY.
Ethyl methylene phosphorodithioate (Ethion)	FMN, FMP.
Ethyl pyrophosphate (Tetraethyl pyrophosphate) (TEPP)	ALC, AMP, OTH.
S-2-(Ethylsulfinyl)ethyl O,O-dimethyl phosphorodithioate.	CHG.
Methyl 3-hydroxycrotonate, dimethyl phosphate ester	SHC.
All other organophosphorus insecticides	AMP, SHC.
2-Thiocyanatoethyl laurate	RH.
*Rodenticides: Sodium fluoroacetate	RBC.
*Soil conditioners:	
Polyacrylonitrile, hydrolyzed, sodium salt	ACY.
All other soil conditioners	SF.
*Soil fumigants:	
*Bromomethane (Methyl bromide)	AMP, DOW, FRO, GTL, MCH.
Chloropicrin (Trichloronitromethane)	DOW, IMC.
*1,2-Dibromo-3-chloropropane	AMP, DOW, SHC.
1,3-Dichloropropene	DOW.
1,3-Dichloropropene, 1,2-dichloropropane	DOW, SHC.
N-Methyldithiocarbamic acid, sodium salt	DUP, RH, SF.
All other soil fumigants	SF.

Miscellaneous Chemicals

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*

[Miscellaneous chemicals for which separate statistics are given in table 21A are marked with an asterisk (*); chemicals not so marked do not appear in table 21A because the reported data are accepted in confidence and may not be published. Manufacturers' identification codes shown below are taken from table 22. An x signifies that the manufacturer did not consent to his identification with the designated product]

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, CYCLIC	
6-Acetoxy-2,4-dimethyl-m-dioxane	GIV.
Adenosine phosphates	PLB.
2-Aminobenzothiazole	FMT.
3-Amino-4-bromobenzotrifluoride	PIC.
1-(2-Aminoethyl)piperazine	JCC.
1-(3-Aminopropyl)morpholine	JCC.
Anisaldehyde bisulfite	GIV.
Arylalkyl phosphites	WES.
Aziranephosphine oxide	CEM.
Barium octylphenate	CCA.
Benzoic acid salts:	
Barium benzoate	CCW.
Cadmium benzoate	CCW.
Cobalt benzoate	SHP.
*Sodium benzoate, tech	HN.
*Sodium benzoate, U.S.P	HK, HN, MON, PFZ, VEL.
Zinc benzoate	CCW.
p-Benzoquinone (p-Quinone)	EKT.
Benzothiazole	ACY.
*Benzoyl peroxide	AZT, CAD, NOC, OXY, RCI, SDH, UPR, WTL.
Biological stains	HLC, NAC.
Bis(2,4-dichlorobenzoyl) peroxide	CAD.
Boron fluoride-phenol complex	ACG.
3-Bromo-4-chlorobenzotrifluoride	PIC.
α-[2-(2-Butoxyethoxy)ethoxy]-4,5-methylenedioxy-2-propyltoluene (Piperonyl butoxide).	FMN, FMP.
Butyl benzoate	FRO, VEL.
p-tert-Butylbenzoic acid, barium bis-salt	CCA.
2(and 3)-tert-Butyl-4-methoxyphenol	EKT.
p-tert-Butyl-α-methylcinnamaldehyde	GIV.
tert-Butyl peroxybenzoate	WTL.
4-tert-Butylphenyl salicylate	DOW.
4-tert-Butylpyrocatechol	BKL, DOW.
Camphene	GLD, HPC.
Catecholdisulfonic acid, disodium salt	ICO.
Catecholdisulfonic acid, sodium salt	SDW.
Centralite-1 (N,N'-Diethyl-N,N'-diphenylurea)	OTC, PAS.
Chemical indicators	EK, HLC, LAM, NAC.
Chemical reagents	ACG, CLB, EK, GFS, HLC, NAC, PIC.
Chloramine B (Sodium derivative of N-chlorobenzenesulfonamide).	NES.
Chlorinated terphenyls	KPS, KPT.
1-(3-Chloroallyl)-3,5,7-triaza-1-azon iaadamantane chloride.	DOW.
4-Chloro-3-cyanobenzotrifluoride	PIC.
5-Chloro-2-hydroxybenzophenone	DOW.
Chlorophyllin, sodium-potassium-copper	KCH.
Cobalt phthalocyaninedisulfonic acid	NAC.
Cumene hydroperoxide	HPC.
Cyanuric acid	FMB.
Cyclohexanone peroxide	NOC, WTL.
Cyclohexene-1,2-dicarboxylic acid (Tetrahydrophthalic acid) disubstituted, polyester salts: Barium and cadmium salts.	RCI.
1,4-Cyclohexylenedimethanol	EKT.
*Cyclopropane	MAL, OH, OMS, TAE.
Cytidine and derivatives	PLB.
Decahydronaphthalene (Decalin)	DUP.
Decyl diphenyl phosphite	HK.
Dehydroacetic acid, sodium salt	GAN.
2,5-Di-tert-amylhydroquinone	EKT.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, CYCLIC--Continued	
1,4-Diazabicyclo[2.2.2]octane (Triethylenediamine)	HOU.
Diazodinitrophenol	HPC.
2,4-Dibenzoylresorcinol	DOW.
2,4-Di-tert-butyl-p-cresol	PRD.
2,6-Di-tert-butyl-p-cresol:	
*Food grade	CAT, EKT, HPC, KPT, SHC.
*Tech	CAT, EKT, HPC, KPT, SHC.
2,5-Di-tert-butylhydroquinone	EKT.
1,1-Dichloro-2-(o-chlorophenyl)-2-(p-chlorophenyl)ethane	ALD, EDC.
1,3-Dichloro-5,5-dimethylhydantoin	GLY.
Dichloro-s-triazine-2,4,6(1H,3H,5H)trione (Dichloroisocyanuric acid).	MON.
Dichloro-s-triazine-2,4,6(1H,3H,5H)trione, potassium salt	FMB, MON.
Dichloro-s-triazine-2,4,6(1H,3H,5H)trione, sodium salt	FMB, MON.
Dicyclohexylammonium nitrite	OMC.
Dicyclopentadienyliron	TNA.
Didecyl phenyl phosphite	HK.
Digitonin	PEN.
2,2'-Dihydroxy-4,4'-dimethoxybenzophenone	G.
2,6-Dihydroxyisonicotinic acid (2,6-Dihydroxy-4-carboxypyridine).	EK.
2,2'-Dihydroxy-4-methoxybenzophenone	ACY.
2,2'-Dihydroxy-4-(octadecyloxy)benzophenone	ACY.
3,5-Diiodosalicylic acid	MRT.
Diisopropylbenzene hydroperoxide, mixed isomers	HPC.
Diisopropyl-m,p-cresols	GIV.
Diisopropyl-m,p-cresols, mixed	GIV.
p-Dimethoxybenzene (Dimethyl ether of hydroquinone)	ASL, EKT, G, ICO.
2,5-Dimethyl-2,5-di(peroxyphenyl)hexane	WTL.
2,5-Dimethylhexane-2,5-diperoxybenzoate	UPR.
2,6-Dimethylmorpholine	DOW.
4,4-Dinitrocarbanilide-4,6-dimethyl-2-pyrimidinol	MRK.
Dioxane (1,4-Diethylene oxide)	DOW, UCC.
2,5-Diphenyl-p-benzoquinone	EKT.
Diphenyl phosphite	HK.
4-(Dodecyloxy)-2-hydroxybenzophenone	DUP, EKT.
Enzymes:	
Hydrolytic:	
Amylases	BAX, CRN, OMS, PMP, RH, WBC.
Proteases	BAX, PMP, RH, WBC.
Other	RH, WBC.
Nonhydrolytic	FMO, MLS, WBC.
Other	PLB.
1,2-Epoxy-3-phenoxypropane (Glycidyl phenyl ether)	SHC.
6-Ethoxy-m-anol (Propenylmethylguaethol)	ICO.
Ethylglucosyl p-aminobenzoate	VND.
2-Ethylhexyl octylphenyl phosphite	SM.
Ethyl hydrocaffeate	ICO.
*4-Ethylmorpholine	BC, JCC, UCC.
Fenchone	HNW.
*Flotation reagents:	
Dicresylphosphorodithioic acid (Dicresylthiophosphoric acid).	ACY.
Dicresylphosphorodithioic acid, ammonium salt	ACY.
Dicresylphosphorodithioic acid, sodium salt	KCU.
2,2'-Dimethylthiocarbanilide (Di-o-tolylthiourea)	DUP, RBC.
Rosin amines	HPC.
Thiocarbanilide (Diphenylthiourea)	ACY, NAC.
Fluorinated benzenoid chemicals	PIC.
o-Fluorobenzoic acid	PIC.
4-Fluoro-2-methylaniline	PIC.
5-Fluoro-2-nitrotoluene	PIC.
Furan derivatives:	
2-Furaldehyde (Furfural)	QKO.
Tetrahydrofurfuryl alcohol	QKO.
Gallic acid, all grades	MAL.
*Gasoline additives:	
N,N'-Bis(1,4-dimethylpentyl)-p-phenylenediamine	EKT.
2,6-Di-tert-butylphenol	TNA.
*N,N'-Di-sec-butyl-p-phenylenediamine	DUP, EKT, UPM.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, CYCLIC--Continued	
Gasoline additives--Continued	
N,N'-Diisopropyl-p-phenylenediamine	DUP, EKT.
*N,N'-Disalicylidene-1,2-propanediamine	DUP, EKT, SM, TX, UPM.
Methylcyclopentadienylmanganese tricarbonyl	TNA.
2,2'-Thiobis[6-tert-butyl-4-methylphenol]	CAT.
All other	EKT, TNA, UPM.
Glyceryl p-aminobenzoate	VND.
Guanosine phosphates	PLB.
Heterocyclic compounds	ALD.
5,6,7,8,9,9-Hexachloro-1,2,3,4,4a,5,8,8a-octahydro-5,8-methano-2,3-naphthalic anhydride (Cloran).	WSN.
Hexa(2-methylaziridinyl)-1,3,5-phosphotriazine	ICO.
*Hexamethylenetetramine, tech	BOR, DUP, HKD, HMP, HN, PLS, UCP.
Hydrocinnamic acid	ICO.
o-(2-Hydroxy-p-anisoyl)benzoic acid	ACY.
N-(2-Hydroxyethyl)gentisamide	ICO.
Hydroxyethylpiperazine	JCC.
2-Hydroxy-4-methoxybenzophenone	ACY, G.
2-Hydroxy-4-methoxy-5-sulfobenzophenone trihydrate	ACY.
Hydroxymethyl-5,5-dimethylhydantoin	GLY.
2-Hydroxymethyl-5-norbornene	ICO.
2-(2'-Hydroxy-5'-methylphenyl)benzotriazole	GGY.
2-Hydroxy-4-n-octoxybenzophenone	ACY.
Hydroxyphenylbenzotriazole derivative	GGY.
2-(2-Hydroxyphenyl)-4(3)-quinazolone	x.
1-Hydroxy-2-pyridine (Omadine)	OMC.
2-Imidazolidinethione (1,3-Ethylene-2-thiourea)	PAS.
Inosine and phosphates	PLB.
Isoamyl p-dimethylaminobenzoate	VND.
Isocyanuric acid	MON.
Isocyanuric acid, sodium salt (Sodium isocyanurate)	FMB.
Isophorone	UCC.
Isopropyl-o-cresol	CP.
p-Isopropyl-α-methylcinnamaldehyde	GIV.
Isosorbide	APD.
Ketene, dimer	EKT.
*Lubricating oil and grease additives:	
Chlorosulfurized and sulfurized compounds:	
Alicyclic compounds, sulfurized	SOI.
Heterocyclic compounds, sulfurized	ORO.
Liquid disulfide	HK.
Tall oil ester, sulfurized	LUB.
Terpenes, sulfurized	LUB.
Oil-soluble petroleum sulfonates:	
Oil-soluble petroleum sulfonate, ammonium salt	SIN.
*Oil-soluble petroleum sulfonate, barium salt	CO, LUB, SON, TX, x.
*Oil-soluble petroleum sulfonate, calcium salt	CO, LUB, ORO, SHO, SON, x.
*Oil-soluble petroleum sulfonate, sodium salt	ENJ, MOR, NOP, PAR, SHO, SOC, SOI, SON, TX.
All other	CO.
Phenol salts:	
Barium salt of dodecylphenol	TX.
Barium salt of nonylphenol	CCA.
Calcium salt of octylphenol-formaldehyde	SHC.
Calcium salt of polypropylphenol	ORO.
All other phenol salts	ENJ, LUB, MON, ORO, SIN, x.
All other	ENJ, LUB, MON, ORO, SIN, SM, TNA, TX, x.
p-Menthane	HPC.
8-p-Menthyl hydroperoxide	HNW, HPC.
4-Methallylbenzenesulfonic acid	CCW.
Methoxybenzyl alcohol	ICO.
p-Methoxybenzylidenemalonic acid, dimethyl ester	ACY.
4-Methoxyphenol	ASL, EKT.
N-Methylanthranilic acid	GIV.
2-Methylaziridine	ICO.
2,2'-Methylenebis[4-chlorophenol] (Dichlorophene)	GIV.
4,4'-Methylenebis[2,6-di-tert-butylphenol]	SHC.
Methylenebis[5,5-dimethylhydantoin]	GLY.
2,2'-Methylenebis[3,4,6-trichlorophenol] (Hexachlorophene)	GIV.
2,2'-Methylenedi-p-cresol (Bis(5-methyl-2-hydroxyphenyl) methane).	GIV.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, CYCLIC--Continued	
Methyl gallate	HSH.
Methylglucoside	CRN.
4-Methylmorpholine	JCC, UCC.
5-Methyl-5-norbornene-2,3-dicarboxylic anhydride (Methylbicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic anhydride).	ICO.
Methyl phenyl phosphates	TNA.
1-Methyl-2-pyrrolidone, monomer	G.
*Morpholine	DOW, JCC, UCC.
Morpholine salt of p-toluenesulfonic acid	AMB.
*Naphthenic acid salts:	
Aluminum naphthenate	HSH, WTC.
Barium naphthenate	CCA, QCP.
Cadmium naphthenate	CCA.
*Calcium naphthenate	CCA, FER, HNX, HSH, MCI, MLD, MR, SHP, SM, SOC, SRR, SW, TRO, WTC.
Cobalt lead manganese naphthenate	HNX, HSH, SW.
*Cobalt naphthenate	CCA, CCC, FER, HNX, HSH, MCI, MLD, MON, MR, SHP, SM, SOC, SRR, SW, TRO, WTC.
*Iron naphthenate	CCA, HNX, HSH, MCI, MLD, SOC, TRO, WTC.
Lead manganese naphthenate	CCA.
*Lead naphthenate	CCA, CCC, CCW, FER, HNX, HSH, MCI, MLD, MR, SHP, SM, SOC, SRR, SW, TRO, WTC.
Lithium naphthenate	CCA.
*Manganese naphthenate	CCA, CCC, FER, HNX, HSH, MLD, SHP, SM, SOC, SRR, SW, TRO, WTC.
Nickel naphthenate	CCA.
Rare earths naphthenate	CCA, HNX.
Sodium naphthenate	CCA.
Strontium naphthenate	CCA.
*Zinc naphthenate	CCA, CCC, FER, HNX, HSH, MCI, MLD, SHP, SOC, SRR, SW, TRO, WTC.
o-Nitrobenzoic acid and sodium salt	WAY.
5-Norbornene-2-methylacrylate (Bicyclo[2.2.1]hept-5-ene-2-acrylate).	ICO.
1-Octadecenyl-2-naphthenyltetrahydropyrimidine	SM.
Octylphenyl acid phosphate	SM.
Organic mercury compounds:	
Phenyl mercuric borate	WRC.
Pyridyl mercuric acetate	MAL.
1,10-Phenanthroline	COK.
Phenolthiosulfonic acid	G.
2-Phenoxyethanol (Ethylene glycol monophenyl ether)	DOW, JCC.
2-(2-Phenoxyethoxy)ethanol (Diethylene glycol phenyl ether).	DOW.
2,2'-(p-Phenylene)diethanol	EKT.
m-Phenyleneisophthalamide	x.
Phenyl hydrogen phosphate	SM.
Phenyltrimethylammonium chloride	BKL.
Photographic chemicals:	
N-(o-Acetamidophenethyl)-1-hydroxy-2-naphthamide	EKT.
2-(4-Amino-N-ethyl-m-toluidino)ethyl sulfate	EKT.
4-Amino-6-methylguaiacol (2-Methyl-6-methoxy-4-aminophenol hydrochloride).	x.
3-Amino-1,2,4-triazole (5-Amino-1,3,4-triazole)	FMT.
*Benzotriazole	EK, FMT, MEE, MRT.
p-Benzylaminophenol hydrochloride	EK.
Catechol (Pyrocatechin)	KPT.
3-Chloro-4-diethylaminobenzenediazonium chloride (p-Diazo-2-chloro-N,N-diethylaniline) - zinc chloride.	FMT.
2-Chloro-N,N-diethyl-p-phenylenediamine hydrochloride	IDC.
2,4-Diaminophenol dihydrochloride (Amidol)	VPC.
N-(4-Diazo-2,5-dibutoxyphenyl)morpholine, zinc chloride salt.	IDC.
N-(4-Diazo-2,5-diethoxyphenyl)morpholine, zinc chloride salt.	IDC.
4-Diazo-1-morpholine benzene	FMT.
2,5-Diethoxy-4-morphinyldiazonium chloride - zinc chloride double salt.	G.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, CYCLIC--Continued	
Photographic chemicals--Continued	
*p-Diethylaminobenzenediazonium chloride (p-Diazo-N,N-diethylaniline) - zinc chloride.	FMT, G, IDC, MRT.
p-Diethylaminobenzenediazonium (p-Diazo-N,N-diethylaniline) fluoroborate.	IDC.
N,N-Diethyl-p-phenylenediamine hydrochloride	EKT, FMT.
*N,N-Diethyltoluene-2.5-diamine, monohydrochloride	EKT, FMT, IDC.
2,5-Dihydroxy-p-benzenedisulfonic acid, dipotassium salt	x.
2,5-Dihydroxybenzenesulfonic acid	EK.
2,7-Dihydroxy-3,6-naphthalene sulfonate	FMT.
p-Dimethylaminobenzenediazonium chloride (p-Diazo-N,N-dimethylaniline) - zinc chloride.	FMT, IDC.
4-(2′,6′-Dimethylmorpholinyl)benzenediazonium chloride - zinc chloride.	IDC.
p-Diphenylaminediazonium sulfate	FMT.
p-(N-Ethylbenzimido)benzenediazonium chloride (p-Diazo-N-benzyl-N-ethylaniline) - zinc chloride.	FMT, MRT.
p-[Ethyl(2-hydroxyethyl)amino]benzenediazonium chloride (p-Diazo-N-ethyl-N-hydroxyethylaniline) - zinc chloride.	FMT, IDC.
N-Ethyl-N-hydroxyethyl-p-phenylenediamine sulfate	IDC.
N-Ethyl-N-(β-methanesulfonamidoethyl)toluene-2,5-diamine sulfate.	EKT.
Hydroquinone (Hydroquinol)	EKT.
p-[(2-Hydroxyethyl)methylamino]benzenediazonium chloride (p-Diazo-N-hydroxyethyl-N-methylaniline) - zinc chloride.	FMT, IDC.
1-Hydroxy-N-(2-hydroxyethyl)-2-naphthamide (2,3-Oxynaphthoic-monc-ethanolamide).	FMT.
1-(3-Hydroxyphenyl)urea	FMT, IDC.
4-Methoxy-1-naphthol	x.
p-Methylaminophenol sulfate (Metol)	EK.
5-Methylbenzotriazole	EK.
2-Methylbenzoxazole	FMT.
4-Methyl-1-phenyl-3-pyrazolidinone	WAY.
4-Morpholinylbenzenediazonium chloride - zinc chloride salt.	IDC.
4-Morpholinylbenzenediazonium fluoroborate	IDC.
6-Nitrobenzimidazole	EK, FMT.
Octylphenyl salicylate	EKT.
Phenylmercaptotetrazole	TNC.
Phenyl-5-mercaptotetrazole	FMT.
1-Phenyl-3-pyrazolidinone	GGY, WAY.
4-Phenylpyrocatechol	x.
2-Resorcylic monoethanolamide	FMT.
4,4′-Thiodiresorcinol (Diresorcyl sulfide)	BKC.
1-(2,4,6-Trichlorophenyl)-3-(4-nitroanilino)-2-pyrazolin-5-one.	EKT.
All other	EK, EKT, FMT.
Phthalic acid, lead salt, dibasic	NTL.
*Pinene	CBY, GLD, HNW, HPC.
Poly-4-(2-acryloxy ethoxy)-2-hydroxybenzophenone	ACY.
Polyethylene terephthalate	DUP, EK.
Poly-2-hydroxy-4-methacryloxybenzophenone	DUP.
Polyvinyl phthalate	EK.
*Propyl gallate	EKT, HN, HSH.
Pyrogallol (Pyrogallic acid)	MAL.
Resorcinol monobenzoate	EKT.
Rosin acid salts:	
Aluminum resinate	JMS.
Calcium resinate	JMS, SW.
Copper resinate	JMS.
Iron resinate	HSH, JMS.
Lead resinate	JMS, MCI.
Manganese resinate	JMS.
Zinc resinate	JMS, SW.
All other	JMS.
Salicylanilide	DUP, FIN, MEE, PCW.
Salicyclic acid, lead salt	NTL.
Silicones	DCC.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, CYCLIC--Continued	
Sodium cresoxide (Cresylic acid, sodium salt)	DEX, GOC.
Sodium ferric ethylenediamine di-o-hydroxyphenylacetate	GGY.
Sucrose benzoate	VEL.
Sulfosalicylic acid	MON, MRK.
Tall oil fatty acid chloride	G.
*Tall oil salts (Linoleic-rosin acid salts):	
Barium zinc tallate	HSH.
*Calcium tallate	CCA, HNX, HSH, MCI, MLD, TRO, WTC.
*Cobalt tallate	CCA, CCC, FER, HNX, MCI, MLD, SHP, SRR, TRO, WTC.
Copper tallate	MCI, MLD, SHP, SRR.
*Iron tallate	CCA, MCA, MCI, MLD, SRR, WTC.
Lead manganese tallate	HSH, MCI.
*Lead tallate	CCA, CCC, FER, HNX, HSH, MCI, MLD, SHP, SM, SRR, TRO, WTC.
*Manganese tallate	CCA, CCC, FER, HNX, HSH, MCI, MLD, SHP, SRR, TRO, WTC.
*Zinc tallate	CCA, HSH, MCI.
Tannic acid	HSH, MAL.
*Tanning materials, synthetic:	
Hydroxytoluenesulfonic acid, formaldehyde condensate (Cresol-formaldehyde sulfonate), sodium salt.	GGY.
*2-Naphthalenesulfonic acid, formaldehyde condensate and salts.	AKS, GRD, NOP, NYC, RH.
1-Phenol-2-sulfonic acid, formaldehyde condensate (Phenol-formaldehyde, sulfonated).	NAC, NOP, RH.
1-Phenol-4-sulfonic acid, formaldehyde condensate	AKS.
Styrene maleic anhydride interpolymer, partial sodium salt.	DUP.
Sulfonyldiphenolsulfonic acid, formaldehyde condensate	G.
All other	GGY.
Tetra(n-butyl)ammonium picrate	MED.
3,3',4,4'-Tetrachlorophenylurea	OTC.
1,2,3,4-Tetrahydronaphthalene (Tetralin)	DUP.
Tetrahydrothiophene	ORO, PAS.
Tetramethylaminoethylpiperazine	JCC.
Tetraphenyltin	x.
*Textile chemicals, other than surface-active agents:	
1,3-Bis(hydroxymethyl)-2-imidazolidone (Dimethylol ethylene urea).	ACY, AKS.
N',N'-Diphenyl-1,2-propanediamine	SNW.
1-[(Octadecyloxy)methyl]pyridinium chloride	DUP.
Phenol, sulfurated	G.
Tetrahydro-3,5-bis(methoxymethyl)-4H-1,3,5-oxadiazin-4-one (1,3-Bis(methoxymethyl)uron).	DEX.
2,2',4,4'-Tetrahydroxybenzophenone	G.
All other	AKS, x, x.
2,2'-Thiobis[4-chlorophenol]	GIV.
2,2'-Thiobis[4,6-dichlorophenol]	MON, SDH.
[2,2'-Thiobis(4-octylphenolate)]-n-butylamine nickel	ACY.
o-Toluidine formaldehyde hydrochloride	RBC.
Triallyl cyanurate	ACY.
Triaryl phosphites	WES.
3,4',5-Tribromosalicylanilide	DOW, FIN, MEE, TRO.
3,4',5-Tribromosalicylanilide and dibromosalicylanilide mixtures.	FIN.
3,4,4'-Trichlorocarbanilide	MON.
Trichloromelamine	WTH.
1,3,5-Trichloro-s-triazine-2,4,6(1H,3H,5H)trione (Trichloroisocyanuric acid).	FMB, MON.
Tri-(m,p)-cresyl borate	USB.
p-Trifluoromethylbenzonitrile	PIC.
s-Trioxane	CEL.
Triphenyl phosphite	HK, MON.
Triphenylphosphorus	x.
Triphenyltin acetate	x.
Triphenyltin chloride	x.
Tris(1-aziridinyl)phosphine oxide	DOW.
2,4,6-Tris(2-hydroxy-4-octyloxyphenyl)-s-triazine	x.
Uridine derivatives	PLB.
1-Vinyl-2-pyrrolidinone, monomer and polymer	G.
1-Vinyl-2-pyrrolidinone - vinyl acetate copolymer	G.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC	
*Acetaldehyde	CEL, COM, DIX, DUP, EKT, HPC, MON, PUB, SHC, UCC.
Acetamide	ACG.
Acetamidine hydrochloride	MRK.
Acetamidoethanol (N-Acetylethanolamine)	RBC.
*Acetic acid, synthetic, 100%	CEL, EKT, HPC, PUB, SNC, UCC.
*Acetic acid salts:	
Aluminum acetate	ACY, UCC.
Aluminum subacetate	MAL.
Ammonium acetate	ACG, BKC, MAL, WSN.
Barium acetate	ACG, BKC, MAL.
Cadmium acetate	MAL, SHP.
Calcium acetate	ACG, BKC, MAL, WSN.
Chromium acetate	ACY.
Cobalt acetate	BKC, HSH, SHP.
*Copper acetate	ACG, BKC, UCC.
Lead acetate	ACG, BKC, MAL, SRR, SW.
Lead subacetate	ACG, BKC, MAL.
Lead tetraacetate	ARA.
Magnesium acetate	ACG, BKC.
Manganese acetate	HSH, SHP.
Mercuric acetate	BKC, MAL.
Methylmercury acetate	DUP.
Nickel acetate	BKC, HSH, SHP.
*Potassium acetate	ACG, BKC, CWL, MAL, UCC, WSN.
Silver acetate	MAL.
*Sodium acetate	ACG, BKC, CEL, DAN, EKT, MAL, UCC, WSN.
Sodium diacetate	UCC.
Strontium acetate	BKC.
Uranyl acetate	BKC.
*Zinc acetate	ACG, BKC, HSH, MAL, SNW, UCC.
*Zirconium acetate	HSH, NTL, SNW.
*Acetic anhydride, 100%:	
From acetaldehyde	HPC.
From acetic acid, other than recovered, by the vapor-phase process.	CEL, EKT.
From acetic acid, recovered, by the vapor-phase process	CEL.
From ethylene	UCC.
Acetin:	
Mono	ARC, HAL.
Tri	EKT, WM.
Acetoacetamidoacetamide	RBC.
*Acetone:	
*From cumene	ACP, CLK, HPC, MON, SHC, SKO, SOC.
*From isopropyl alcohol	EKT, ENJ, SHC, UCC.
*All other	CEL, DIX, HPC, TBK.
Acetone, dimethyl acetal (2,2-Dimethoxypropane)	DOW.
Acetone semicarbazone	NOR.
Acetonitrile	EKX, SOH, UCC.
Acetyl chloride	TBK.
Acetyl peroxide	WTL.
Aconitic acid	PCW.
Acrolein (Acrylaldehyde)	SHC, UCC.
*Acrylic acid	BFG, CEL, DBC, MMM, UCC.
Acrylic monomers	RH.
*Acrylonitrile	ACY, BFG, DUP, MON, SOH, UCC.
*Adipic acid	CEL, DUP, MON, NAC, RH.
Adiponitrile	DUP, MON.
*Alcohols, monohydric, unsubstituted:	
*Alcohols C_9 or lower:	
Allyl alcohol	DOW, OMC, SHC.
Amyl alcohols:	
Unmixed:	
2-Methyl-2-butanol (tert-Amyl alcohol)	PAS, UCC.
3-Methylbutanol	UCC.
1-Pentanol	TBK, UCC.
2-Pentanol	UCC.
3-Pentanol	EK.
Mixed:	
Fusel oil, refined	PUB.
Other than fusel oil	CEL, PAS, UCC.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
*Alcohols, monohydric, unsubstituted--Continued	
*Alcohols C_9 or lower--Continued	
*Butyl alcohols:	
Primary:	
*Iso (Isopropylcarbinol)	CEL, DBC, EKX, ENJ, SHC, UCC.
*Normal (n-Propylcarbinol)	CEL, CO, DBC, EKX, ENJ, SHC, UCC.
Secondary (Methylethylcarbinol)	ENJ, SHC.
Tertiary (Trimethylcarbinol)	SHC.
Mixed	CEL, DBC, EKX.
*Ethyl alcohol, synthetic	CEL, DUP, EKX, ENJ, HPC, PSP, SHC, UCC, USI.
2-Ethyl-1-butanol (sec-Hexyl alcohol)	UCC.
*2-Ethyl-1-hexanol	CEL, EKX, ENJ, SHC, UCC.
2-Ethyl-4-methyl-1-pentanol	EKX.
4-Ethyl-1-octyn-3-ol	CUC.
Heptyl alcohol	EKX.
*Hexyl alcohol	EKX, ENJ, UCC.
3-Hexyne-2-ol	LIL.
*Iso-octyl alcohols	EKX, ENJ, GOC, HOU, OXO, TID, UCC.
*Isopropyl alcohol	ENJ, SHC, TBK, UCC.
*Methanol, synthetic	ACN, BOR, CEL, COM, DUP, ESC, GYR, HPC, MON, RH, SPN, UCC.
2-Methyl-3-buten-2-ol	CUC.
2-Methyl-3-butyn-2-ol	CUC.
4-Methyl-2-pentanol (1-Methylisobutylcarbinol)	SHC, UCC.
3-Methyl-1-pentyn-3-ol (Methylparafynol)	CUC.
1-Octanol	DUP.
2-Octanol	PG, RH, WTH.
Octanols, other	IFF.
Propyl alcohol (Propanol)	CEL, UCC.
2-Propyn-1-ol	G.
All other	CEL, CO, PG, TNA.
*Alcohols C_{10} or higher:	
*Decyl alcohols	DUP, ENJ, GOC, HOU, OXO, PG, TBK, TID, TNK, UCC.
3,9-Diethyl-6-tridecanol	UCC.
Dodecyl alcohol (Lauryl alcohol) (95%)	DUP, PG, RH.
7-Ethyl-2-methyl-4-hendecanol	UCC.
*1-Hexadecanol (Cetyl alcohol) (95%)	ADM, DUP, ENJ, GIV, PG, RH.
*1-Octadecanol (Stearyl alcohol) (95%)	ADM, DUP, PG, RH.
cis-9-Octadecen-1-ol (Oleyl alcohol)	ADM, DUP.
Tallow alcohol	ADM.
Tetradecanol	PG.
1-Tridecanol	ENJ, GOC.
Tridecanol mixed isomers	UCC.
2,6,8-Trimethyl-4-nonanol	UCC.
All other	ADM, CO, EKX, PG, RH, SHC, TNA.
Aldol (Acetaldol)	UCC.
Alkane and alkene hydrocarbons	HMY.
Alkyl and alkylene hydrocarbons	ADM, GOC.
Alkyl sulfides, mixed	ORO.
1-Allyl-3-(2-hydroxyethyl)-2-thiourea (N-β-Hydroxyethyl-N'-allylthiourea).	FMT, IDC.
Allyl isocyanate	CTN.
Allyl isothiocyanate, nonflavoring grade	ICO.
Allyl methacrylate	SAR.
Allyl nitrile (Allyl cyanide)	KF.
1-(Allyloxy)-2,3-epoxypropane (Allyl glycidyl ether)	SHC.
3-(Allyloxy)-1,2-propanediol (Allyl glyceryl ether)	SHC.
Aluminum isopropoxide (Aluminum isopropylate)	CHT, SFA.
Amidinourea (Guanylurea) phosphate and sulfate	ACY.
*Amines:	
*Butylamine	EKT, PAS, UCC, VGC.
tert-Butylamine	MON, RH.
n-Butylethylamine	PAS.
Butylmethylamine	PAS.
Diallylamine	SHC.
*Dibutylamine	PAS, UCC, VGC.
Dibutylmethylamine (Methylbutylbutylamine)	UCC.
*Diethylamine	DUP, PAS, UCC, VGC.
Diethylamine hydrochloride	x.
Diethylaminopropylamine	UCC.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
*Amines--Continued	
Diethylenetriamine	DOW, JCC, UCC.
N,N-Diethylethylenediamine	ALB, COK.
N^1,N^1-Diethyl-1,4-pentanediamine (Novoldiamine)	SDH.
N,N-Diethyl-1,3-propanediamine	JCC.
Diisobutylamine	PAS.
Diisopropylamine	PAS, UCC, VGC.
*Dimethylamine	COM, DUP, PAS, RH.
Dimethylamine hydrochloride	GAM, TNC.
Dimethylamine sulfate	RH.
Dimethylaminopropylamine	UCC.
Dipentylamine (Diamylamine)	PAS, VGC.
Dipropylamine	PAS, UCC.
Dipropylenetriamine	UCC.
*Ethylamine	ESC, PAS, UCC, VGC.
Ethylenediamine	DOW, JCC, UCC.
Ethylenediamine sulfate	EK.
n-Heptylamine	ALB.
1,6-Hexanediamine (Hexamethylenediamine)	CEL, DUP, MON.
N-Hexylamine	VGC.
3,3'-Iminobispropylamine	JCC, UCC.
Isobutylamine	PAS, VGC.
*Isopropylamine	ESC, PAS, UCC.
Methylamine hydrochloride	RBC.
*Methylamine, mono-	COM, DUP, ESC, G, PAS, RH.
N-Methylethylenediamine	ALB.
N-Methyl-1,3-propanediamine	ALB.
Methyltriethylenediamine	JCC.
Pentaethylenehexamine	DOW.
Pentylamine (Monoamylamine)	EK, PAS.
1,2-Propanediamine (Propylenediamine)	JCC, UCC.
1,3-Propanediamine	UCC.
Propylamine	PAS, UCC.
Tetraethylenepentamine	DOW, UCC.
N,N,N',N'-Tetramethyl-1,3-butanediamine	UCC.
Tetramethylethylenediamine	RH.
Tributylamine	PAS, VGC.
Triethylamine	PAS, UCC.
Triethylenetetramine	CCW, DOW, UCC.
*Trimethylamine	COM, DUP, PAS, RH.
Tripentylamine	PAS.
All other	ALB, DUP, ONX, UCC.
2-Amino-1-butanol	COM.
1-Aminoethanol (Acetaldehyde ammonia)	PAS.
Aminoethoxyethanol	JCC.
2-(2-Aminoethylamino)ethanol (Aminoethylethanolamine)	DOW, JCC, UCC.
2-Aminoethyl vinyl ether	MEE, RH.
Aminoguanidine bicarbonate	TRJ.
2-Amino-2-(hydroxymethyl)-1,3-propanediol (Tris(hydroxymethyl)aminomethane).	COM.
2-Amino-2-methyl-1-propanol hydrochloride	SNW.
2-Amino-1-propanol	LIL.
3-Amino-1-propanol	UCC.
Amyl acetates, 90%:	
Amyl acetate (n-Pentyl acetate)	PUB, TBK.
Isopentyl acetate (Isoamyl acetate)	FB, NW.
Mixed	CEL, PAS, UCC.
Azelaic acid	EMR.
1,1'-Azobisformamide (Azodicarbonamide)	FMT, NPI, USR.
2,2'-Azobis(2-methylpropionamidine) hydrochloride	x.
Behenamide (Docosanamide)	HUM.
Behenic acid	ADM.
Bis(2-butoxyethyl) ether (Diethylene glycol di-n-butyl ether).	DOW, UCC.
Bis(2-chloroethoxy)methane (Dichloroethylformal)	TKL.
*Bis(2-chloroethyl) ether (Dichlorodiethyl ether)	DOW, JCC, OMC, UCC.
Bis(2-chloroethyl) and bis(2-chloro-1-methylethyl) ethers, mixed.	WYN.
Bis(chloromethyl) ether	G.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
Bis(2-chloro-1-methylethyl) ether (Dichloroisopropyl ether).	DOW.
Bis(2-ethoxyethyl) ether (Diethylene glycol diethyl ether)	UCC.
Bis(hydroxyethyl) ether butynediol	G.
1,3-Bis(hydroxymethyl)urea (Dimethylolurea)	DEX, GLY, x.
Bis[2-(2-methoxyethoxy)ethyl] ether (Tetraethylene glycol dimethyl ether).	ASL.
Bis(2-methoxyethyl) ether (Diethylene glycol dimethyl ether).	ASL, OMC.
Bis(tributyltin) oxide	CCW, x.
Biuret	SW.
Boron organic compounds:	
Boron fluoride ethyl ether complex	ACG.
Boron trifluoride monoethylamine complex	ACG.
tert-Butylaminoborane	CAL.
Triethylborane	CAL, TNA.
Triethyl borate	USB.
Trimethoxyboroxine	CAL.
Trimethylaminoborane	CAL.
All other	CAL, SFA, USB.
N-Bromoacetamide	ARA.
β-Bromopropionic acid	ABB.
1,2(and 1,3)-Butanediol (Butylene glycol)	CEL.
1,4-Butanediol	G.
2,3-Butanediol (2,3-Butylene glycol)	ABB.
2,3-Butanedione 2-oxime	EK.
1,2,4-Butanetriol	G.
*2-Butanone (Methyl ethyl ketone)	CEL, DIX, ENJ, SHC, SPI, UCC.
Butanone mixture	CEL.
*2-Butanone oxime	ALB, CCA, MLD, NAC, TRO.
*2-Butanone peroxide	AZT, CAD, NOC, RIC, UPR, WTL.
2-Butene-1,4-diol	G.
1-Butoxy-2,3-epoxypropane (Butyl glycidyl ether)	DOW, SHC.
2-Butoxyethanol (Ethylene glycol monobutyl ether)	JCC, OMC, SHC, UCC.
2-(2-Butoxyethoxy)ethanol (Diethylene glycol monobutyl ether).	JCC, OMC, SHC, UCC.
2-[2-(2-Butoxyethoxy)ethoxy]ethanol (Triethylene glycol monobutyl ether).	DOW, OMC, UCC.
2-(2-Butoxyethoxy)ethyl acetate	UCC.
1-Butoxyethoxy-2-propanol	UCC.
2-Butoxyethyl acetate	UCC.
*Butyl acetates:	
Iso	CEL, EKT, UCC.
*Normal	CEL, EKT, ENJ, PUB, UCC.
Secondary	EK, ENJ, HPC, PUB, SHC.
Tertiary	ENJ.
Mixed	CEL.
Butyl acrylate	CEL, DBC, UCC.
Butylene oxide	DOW, UCC.
Butyl ether (Di-n-butyl ether)	UCC.
Butylethylthiourea	PAS.
*tert-Butyl hydroperoxide	AZT, CAD, UPR, WTL.
2,2'-(Butylimino)diethanol (N,N-Bis(2-hydroxyethyl)butylamine).	PAS.
Butyl isocyanate	CTN, UPJ.
Butyl lactate	COM, CWN, UPC.
n-Butyllithium	FTE.
sec-Butyllithium	FTE.
Butyl maleate, mono-	RUB.
Butyl oxalate partial ester	DUP.
*tert-Butyl peroxide (Di-tert-butyl peroxide)	AZT, CAD, SHC, UPR, WTL.
tert-Butyl peroxyacetate	WTL.
tert-Butyl peroxyisobutyrate	WTL.
tert-Butyl peroxyisopropyl carbonate	PPG.
tert-Butyl peroxypivalate	WTL.
Butyl vinyl ether	UCC.
1-Butyne (Ethylacetylene)	CUC.
2-Butyne-1,4-diol	G.
Butyraldehyde	CEL, EKX, UCC.
Butyraldehyde oxime	NAC.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
*Butyric acid	CEL, EKT, UCC.
Butyric anhydride	EKT, UCC.
Butyrolactone	G.
Butyronitrile	EKX.
Butyryl chloride	HK.
*Caprolactam (Hexahydro-2H-azepin-2-one)	DBC, DUP, NAC.
Caprolactone	UCC.
*Carbon disulfide	ACG, EKT, FMB, PAS, PPG, SF.
*Cellulose esters:	
*Cellulose acetate	AV, CEL, DUP, EKT.
Cellulose acetate butyrate	EKT.
Cellulose acetate propionate	EKT.
Cellulose propionate	CEL.
Nitrocellulose (Cellulose nitrate)	DUP, HPC.
*Cellulose ethers:	
Ethylcellulose	DOW, HPC.
Ethylhydroxyethylcellulose	HPC.
Hydroxyethylcellulose	HPC, UCC.
Methylcellulose	DOW.
*Sodium carboxymethylcellulose, 100%	BUK, DUP, HPC, KON, WYN.
Sodium carboxymethylhydroxyethylcellulose	HPC.
Cetyl chloride	BC.
Cetyl lactate	VND.
*Chloral (Trichloroacetaldehyde)	DA, FMB, GGY, MTO.
Chloroacetamide	HPC, DOW.
*Chloroacetic acid, mono-	BUK, DA, DOW, HPC, MON.
Chloroacetic acid, mono-, derivatives:	
Butyl chloroacetate	MON.
Ethyl chloroacetate	DOW, KF, MON.
2-Ethylhexyl chloroacetate	MON.
*Methyl chloroacetate	HPC, DOW, KF.
Sodium chloroacetate	DOW.
Chloroacetonitrile	HPC.
Chloroacetyl chloride	DOW, DUP.
β-Chloroallyl-N-methylamine	LIL.
Chlorocholine chloride	ACY.
2-Chloro-1,1-dimethoxyethane (Dimethyl chloroacetal)	LIL.
*2-Chloro-N,N-dimethylethylamine (Dimethylaminoethyl chloride) hydrochloride.	ABB, GAM, HEX, MCH, NES, PAS.
2-Chloro-N,N-dimethylpropylamine	SK.
3-Chloro-N,N-dimethylpropylamine hydrochloride	MCH.
2-Chloroethanol (Ethylene chlorohydrin)	OMC, UCC.
2-Chloroethylamine	ICI.
2-Chloroethyl chloroformate	CTN.
2-Chloroethyl vinyl ether	UCC.
Chloromethyl methyl ether	HK, x.
1-Chloro-1-penten-3-one (β-Chlorovinyl ethyl ketone)	ABB.
3-Chloro-1,2-propanediol (Glycerol α-chlorohydrin)	EVN, ICO, OTC.
1-Chloro-2-propanone (Chloroacetone)	EK, MRK.
N-Chlorosuccinimide (Succinichlorimide)	ARA, NAC.
2-Chlorotriethylamine hydrochloride	MCH, PAS, x.
Chlorotrimethylsilane	DCC.
Choline base	RH.
Citric acid	MLS, PFZ.
Citric acid salts:	
Ammonium citrate	MAL, PFZ.
Calcium citrate	PFZ.
Ferric ammonium citrate	MAL, PFZ.
Ferric citrate	MAL.
Ferrous calcium citrate	x.
Potassium citrate	MLS, PFZ.
Sodium citrate	MLS, PFZ.
All other	MLS.
Coconitrile	FOR.
Coconut oil amide	ARC, CRT, PG.
Cottonseed oil acids, ammonium salt	GLY.
Cottonseed oil nitrile	FOR.
Creatine and creatinine	PFN.
Crotonaldehyde	CEL, EKT, UCC.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
Crotonic acid (2-Butenoic acid)	EKT.
Crotononitrile	KF.
2-Cyanoacetamide	KF.
Cyanoacethydrazide	KF.
Cyanoacetic acid	KF.
Cyanogen bromide	EK.
3-Cyanopropylamine	EKT.
1,10-Decanediol	NEP.
Decanoyl chloride	TBK, UCC.
*Decanoyl peroxide	CAD, UPR, WTL.
Dialdehyde starch	MLS.
Diallylcyanamide	ACY.
Diallyl maleate	FMP.
1,2-Dibutoxyethane (Ethylene glycol di-n-butyl ether)	DOW.
2-Dibutylaminoethanol	AAC, PAS.
*Dibutyl fumarate	MON, PCC, PFZ, RCI, RUB.
*Dibutyl maleate	CUC, DUP, GRH, MON, PCC, RCI, RUB.
1,3-Dibutyl-2-thiourea	PAS, RBC.
Dibutyltin compounds:	
Dibutylmethoxytin (Dibutyltin methoxide)	CCA.
Dibutyltin bis(lauryl mercaptide)	x.
Dibutyltin dichloride	CCW, x.
Dibutyltin dilaurate	CCA, x.
Dibutyltin maleate	CCA, x.
Dibutyltin mercaptopropionate	CCA, x.
Dibutyltin oxide	x.
All other	x.
Dichloroacetaldehyde	FMB.
Dichloroacetic acid	KF.
2,2-Dichloro-1,1-difluoroethyl methyl ether	DOW.
Dichlorodimethylsilane	DCC.
Dichloromethylsilane	DCC.
Dichloromethylvinylsilane	DCC.
1,3-Dichloro-2-propanol	EK.
Dicyanobutene	x.
Diethyl allyl(1-methylbutyl)malonate	BPC.
Diethylaluminum chloride	TNA, TSA.
Diethylaluminum iodide	TSA.
Diethylaminoethanethiol	EVN.
*2-Diethylaminoethanol	AAC, PAS, UCC.
2-(2-Diethylaminoethoxy)ethanol	PAS.
2-Diethylaminoethyl methacrylate	DUP.
Diethylaminopropionamide	x.
Diethyl sec-butylethylmalonate	ABB.
Diethyl butylmalonate	BPC.
Diethyl sec-butylmalonate	ABB.
Diethylcarbamoyl chloride	GAM.
Diethyl carbonate (Ethyl carbonate)	CTN, FMP.
Diethyl diethylmalonate (Diethyl malonic ester)	BPC.
*Diethylene glycol	ACN, CAU, DIX, DOW, G, HCH, JCC, OMC, UCC, WYN.
Diethylene glycol, borated	GLY.
Diethylene glycol chloroformate	PPG.
Diethyl (ethoxymethylene)malonate	KF.
Diethyl ethylisopentylmalonate	LIL.
Diethyl ethylmalonate (Ethyl malonic ester)	BPC, LIL.
Diethyl ethyl(1-methylbutyl)malonate	ABB, BPC.
Diethyl ethyl(3-methylbutyl)malonate	BPC.
Diethyl ethyl(1-methylpropyl)malonate	BPC.
Di-2-ethyl-1-hexyl fumarate	RUB.
Di-2-ethyl-1-hexyl maleate	RUB.
Diethylhydroxylamine	PAS.
N,N-Diethylhydroxylamine sulfate	EK.
Diethyl maleate	ACY, ICO, UCC.
Diethyl malonate (Malonic ester)	ABB, KF, LIL.
Diethyl (1-methylbutyl)malonate	ABB, BPC, LIL.
Diethyl (3-methylbutyl)malonate	BPC.
Diethyl (1-methylpropyl)malonate	BPC.
Diethyl oxalate (Ethyl oxalate)	FMP.
Diethyl phosphorochloridothioate	MON, SF.
1,3-Diethyl-2-thiourea	PAS, RBC.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
Diethylzinc	TNA.
Diglycolic acid	DUP.
Dihexyl fumarate	FB.
Dihydropseudoionone	GIV.
2,4-Dihydroxy-3,3-dimethylbutyric acid, γ-lactone (Pantolactone).	CKL.
1,3-Dihydroxy-2-propanone (Dihydroxy acetone)	BAX, PFZ.
Diisobutylaluminum chloride	TSA.
Diisobutylaluminum hydride	TSA.
Diisononyl maleate	RUB.
Diiso-octyl fumarate	RUB.
2-Diisopropylaminoethanol (N,N-Diisopropylethanolamine)	PAS, UCC.
Diisopropylammonium nitrite	OMC.
Diisopropylcarbodiimide	G.
Diisopropyl peroxydicarbonate (Isopropyl percarbonate)	PPG.
1,3-Diisopropyl-2-thiourea	G.
*Dilauryl 3,3'-thiodipropionate (Didodecyl thiodipropionate).	ACY, CCW, EVN, HAB.
Dimethoxyethane (Ethylene glycol dimethyl ether)	ASL.
N,N-Dimethylacetamide	DUP, MON.
N,N-Dimethylacetoacetamide	EKT.
*2-Dimethylaminoethanol	AAC, JCC, PAS, RH, UCC.
Dimethylaminoethyl methacrylate	AAC.
Dimethylamino-2-propanol	COM, UCC.
3-Dimethylaminopropionitrile	ACY.
N-(3-Dimethylaminopropyl)oleamide	DUP.
Dimethylcarbamoyl chloride	OTC.
Dimethyl carbonate	CTN.
2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane	WTL.
2,5-Dimethyl-2,5-di(tert-butylperoxy)hexyne-3	WTL.
N,N-Dimethylformamide	DUP.
2,6-Dimethyl-4-heptanol (Diisobutylcarbinol)	UCC.
2,5-Dimethyl-2,5-hexanediol	CUC.
2,5-Dimethylhexane-2,5-diperoctoate	UPR.
2,5-Dimethyl-3-hexyne-2,5-diol	CUC.
1,1-Dimethylhydrazine	FMP.
Dimethyl malonate	KF.
Di(4-methyl-2-pentyl) maleate	RUB.
O,O-Dimethyl phosphorochloridothioate	MON, SF.
2,2-Dimethyl-1,3-propanediol (Neopentyl glycol)	EXX.
Dimethylthiophosphoryl chloride	TBK.
Dioctanoyl peroxide (Capryloyl peroxide)	CEM.
Dioctyl fumarate	MON.
*Dioctyl maleate	CRT, MON, PCC, RCI.
*Dipropylene glycol	CEL, DOW, JCC, OMC, UCC, WYN.
Distearyl 3,3'-thiodipropionate	ACY, CCW, EVN.
Dithiobis(stearylpropionate) (Distearyl dithiodipropionate).	EVN.
2,5-Dithiobiurea	ACY.
Dithiooxamide	MAL.
Ditridecyl maleate	RUB.
n-Dodecane	HMY.
Dodecenylsuccinic anhydride	HMY, MON, NAC.
tert-Dodecyldisuccinamide	SM.
n-Eicosane	HMY.
Epichlorohydrin	DOW, SHC, UCC.
*Erucamide	ADM, ARC, FIN, HUM.
Ethanedithiol	RBC.
*Ethanolamines:	
*2-Aminoethanol (Monoethanolamine)	ACN, DOW, JCC, UCC.
*2,2'-Iminodiethanol (Diethanolamine)	ACN, DOW, JCC, UCC.
*2,2',2''-Nitrilotriethanol (Triethanolamine)	ACN, DOW, JCC, UCC.
Ethanolamine hydrochloride	WSN.
Ethanolamine sulfate	EVN.
Ethanolamine sulfite	SUM.
Ethanolamine trihydrochloride	TNC.
*2-Ethoxyethanol (Ethylene glycol monoethyl ether)	DOW, JCC, OMC, UCC.
*2-(2-Ethoxyethoxy)ethanol (Diethylene glycol monoethyl ether).	DOW, JCC, OMC, UCC.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
*2-[2-(2-Ethoxyethoxy)ethoxy]ethanol (Triethylene glycol monoethyl ether).	DOW, OMC, UCC.
2-(2-Ethoxyethoxy)ethyl acetate	UCC.
2-Ethoxyethyl acetate	DOW, EKT, UCC.
Ethoxymethylene malononitrile	KF.
Ethoxypropanol	UCC.
3-Ethoxypropionitrile	ACY.
1-Ethoxy-1,3,3-trimethoxypropane	KF.
Ethyl acetamidocyanoacetate	SDW.
Ethyl acetamidomalonate	SDW.
*Ethyl acetate, 85%	CEL, EKT, ENJ, HPC, MON, PUB, UCC.
Ethyl acetoacetate	EKT, FMP, UCC.
*Ethyl acrylate	CEL, DBC, RH, UCC.
Ethyl allyl-(1-methyl-2-pentyl) cyanoacetate	LIL.
Ethylaluminum dichloride	TNA, TSA.
Ethylaluminum sesquichloride	TNA, TSA.
2-Ethylaminoethanol (Ethylmonoethanolamine)	PAS.
2-Ethylbutyraldehyde	UCC.
2-Ethylbutyric acid (Diethylacetic acid)	UCC.
Ethyl carbamate	BKL, FMP.
Ethyl carbodiimide	OTC.
Ethyl chloroformate	CTN, FMP.
Ethyl 3-(chloroformyl)propionate (β-Carbethoxypropionyl chloride).	ABB.
Ethyl cyanoacetate	KF.
Ethylene, from ethyl alcohol	OH.
Ethylene carbonate	DOW, JCC, UCC.
Ethylenediamine, propoxylated	PCS.
*Ethylene glycol	ACN, APD, CAU, CEL, DOW, DUP, G, HCH, JCC, OMC, UCC, WYN.
Ethylene glycol diacetate	UCC.
Ethylene glycol dimethacrylate	SAR.
*Ethylene oxide	ACN, CAU, DOW, G, HCH, JCC, OMC, SNO, UCC, WYN.
Ethylene trithiocarbonate	EVN.
*Ethyl ether:	
Absolute	MAL.
Tech	ENJ, HPC, UCC, USI.
U.S.P.	MAL, OMS.
Ethylethoxymethylene cyanoacetate	KF.
Ethyl formate	COM, FB.
2-Ethylhexanal (α-Ethylcaproaldehyde)	EKX, UCC.
2-Ethyl-1,3-hexanediol	UCC.
2-Ethylhexanoic acid (α-Ethylcaproic acid)	EKT, UCC.
*2-Ethylhexanoic acid (α-Ethylcaproic acid) salts:	
Aluminum 2-ethylhexanoate	WTC.
Barium 2-ethylhexanoate	CCA.
Cadmium 2-ethylhexanoate	CCA, SYP.
*Calcium 2-ethylhexanoate	CCA, FER, HNX, HSH, MCI, MLD, SRR, SW, WTC.
*Cobalt 2-ethylhexanoate	CCA, FER, HNX, HSH, MCI, MLD, SHP, SRR, SW, WTC.
Copper 2-ethylhexanoate	CCA, MLD, SRR.
Dibutyltin di-2-ethylhexanoate	x.
Iron 2-ethylhexanoate	CCA.
*Lead 2-ethylhexanoate	CCA, HNX, HSH, MCI, MLD, SHP, SRR, SW, WTC.
*Manganese 2-ethylhexanoate	CCA, HNX, MCI, MLD, SHP, SRR.
Nickel 2-ethylhexanoate	MCI.
Potassium 2-ethylhexanoate	CCA.
Rare earths 2-ethylhexanoate	CCA.
Stannous 2-ethylhexanoate	WTC, x.
Strontium 2-ethylhexanoate	CCA.
*Zinc 2-ethylhexanoate	CCA, HNX, HSH, MCI, SRR, SYP, WTC.
Zirconium 2-ethylhexanoate	CCA, HNX, WTC.
*2-Ethyl-1-hexyl acetate	CEL, EKT, UCC.
*2-Ethyl-1-hexyl acrylate	CEL, DBC, UCC.
2-Ethylhexyl cyanoacetate	G.
2-Ethylhexyl methacrylate	x.
Ethyl 2-hydroxy-3-methylbutyrate (Ethyl α-hydroxyisovalerate).	RH.
2-Ethyl-2-(hydroxymethyl)-1,3-propanediol (Trimethylolpropane).	CEL.
2-Ethyl-2-(hydroxymethyl)-1,3-propanediol allyl ethers	CEL.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
Ethylidine diacetate	CEL.
2,2′-(Ethylimino)diethanol (N-Ethyldiethanolamine)	UCC.
2-(Ethylmercapto)ethanol	PAS.
Ethylmercuric chloride	LIL.
Ethyl (1-methyl-2-pentyl)cyanoacetate	LIL.
Ethyl propionate	FB, NW, TEK.
Ethyl silicate (Tetraethoxysilane)	MTR, SFA, UCC.
Ethyl sulfate (Diethyl sulfate)	UCC.
Ethyl vinyl ether	UCC.
Fats and oils, chemically modified:	
Lard oil, nitrated	SM.
Vegetable oils, brominated	DOM.
Other	CHL, x.
Fatty acids, chemically modified:	
α-Bromo(lauric-stearic) acids	DUP.
Castor oil fatty acids, dehydrated	BAC.
All other	ABB, RH, RT, x.
Fatty acid esters, not included with plasticizers or surface-active agents:	
Ethyl stearate	ICO.
Hexadecyl stearate	ARC, ICI.
Isopropyl linoleate	VND.
Isopropyl myristate	TEK.
Isopropyl oleate	CRT.
Methyl ester of coconut oil	STP.
Methyl esters of tallow	BFR, CHL.
Methyl 12-hydroxystearate	BAC.
Methyl stearate	ICO.
All other	DRW, EMR, ICI, PCS, PG, RT.
Fish oil fatty acid amide	ADM.
Flotation reagents:	
Phosphorodithioates (Dithiophosphates):	
Potassium dihexyl phosphorodithioate	ACY.
Sodium di-sec-butyl diethyl phosphorodithioate	ACY.
Sodium di-sec-butyl phosphorodithioate	ACY.
Sodium diethyl phosphorodithioate	ACY.
Sodium dihexyl phosphorodithioate	ACY.
Sodium diisopropyl phosphorodithioate	ACY.
Other	ACY.
Xanthates:	
Potassium n-butylxanthate	USR.
Potassium ethylxanthate	ACY, DOW.
Potassium hexylxanthate	DOW.
Potassium isopropylxanthate	DOW.
Potassium pentylxanthates	ACY, DOW.
Potassium sec-pentylxanthate	DOW.
Sodium n-butylxanthate	KCC, USR.
Sodium sec-butylxanthate	ACY, DOW.
Sodium ethylxanthate	ACY, DOW.
Sodium isobutylxanthate	DOW.
Sodium isopropylxanthate	ACY, DOW.
All other	ACY, DOW.
*Formaldehyde, 37% by weight	ACN, BOR, CBC, CEL, COM, DUP, G, HKD, HN, HPC, ICI, MON, RCI, RH, SPN, TRJ, UCP.
Formamide	DUP.
Formamidine disulfide dihydrochloride	WAY.
*Formic acid, 90%	DUP, HN, SF, SNC, UCC.
*Formic acid salts:	
Aluminum formate	SF, SNW, UCC.
Ammonium formate	ACG, WSN.
Calcium formate	TRJ.
Chromic formate	G.
Chromium formate	NAC.
Copper formate	CTN.
Lead formate	NTL.
Nickel formate	HSH.
Potassium formate	TNC.
Sodium formate, refined	ACG, BKC, SF.
Sodium formate, tech	HN, HPC.
Thallous formate	EK.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
*Fumaric acid	HN, MON, NAC, PCC, PFZ, PTT, SOC, STP.
Fumaric acid, lead salt	NTL.
Geranyl crotonate	FB.
Glucoheptonolactone	PFN.
*Gluconic acid, tech	CWL, DLI, IBI, PFZ.
Gluconic acid, ammonium salt	PFZ.
*Gluconic acid, sodium salt, tech	CWL, DLI, IBI, PFZ, PMP.
Glucono-delta-lactone	DLI, PFZ.
Glutaraldehyde	UCC.
Glutaraldehyde bis[sodium bisulfite]	IDC, RZL.
Glutaric anhydride	UCC.
Glycerol, synthetic	APD, DOW, SHC.
Glycidol (2,3-Epoxy-1-propanol)	DIX, OTC.
Glycine (Aminoacetic acid), tech	EPC, CHT.
Glycine, cupric salt	EPC.
Glycine ethyl ester hydrochloride	EPC.
Glycine, potassium and sodium salts	EPC.
Glycol adipate	x.
Glycolic acid (Hydroxyacetic acid)	DUP.
Glycolic acid salts:	
Aluminum glycolate	CIB.
Sodium glycolate	MED, TNC.
Glycolonitrile	ACY.
Glyoxal	UCC.
Guanidine hydrochloride	ACY.
4-Guanyl-1-isonitrosoguanyl-1-tetrazene	RHM.
*Halogenated hydrocarbons:	
*1-Bromobutane (n-Butyl bromide)	ABB, EPC, DOW, MCH.
2-Bromobutane (sec-Butyl bromide)	ABB, EPC.
Bromochloromethane	DOW.
1-Bromo-3-chloropropane (Trimethylenechlorobromide)	DOW, MCH.
2-Bromo-2-chloro-1,1,1-trifluoroethane	ICI.
1-Bromodecane	G.
1-Bromododecane	DUP.
Bromoethane (Ethyl bromide)	DOW, MCH.
1-Bromohexadecane (Cetyl bromide)	EK.
1-Bromohexane (n-Hexyl bromide)	EPC.
1-Bromo-2-methylbutane	LIL.
1-Bromo-3-methylbutane	EPC, LIL.
1-Bromo-octadecane	DUP, G.
1-Bromopentane (n-Amyl bromide)	EPC, EK, OPC.
2-Bromopentane (1-Methylbutyl bromide)	ABB, EPC, LIL.
1-Bromopropane (n-Propyl bromide)	DOW, EK.
2-Bromopropane (Isopropyl bromide)	EPC.
2-Bromopropene	CLB.
3-Bromopropene (Allyl bromide)	DOW.
3-Bromopropyne	G.
Bromotrifluoromethane	DUP.
*Carbon tetrachloride	ACG, ACS, DA, DOW, FMB, FRO, PPG, SF.
*Chlorinated paraffins:	
Less than 35% chlorine	HK.
35%-64% chlorine	CCH, DA, DVC, HK, HPC, KPS, KPT, WOI.
65% or more chlorine	DA, DVC, WOI.
1-Chlorobutane (n-Butyl chloride)	PUB, UCC.
2-Chlorobutane (sec-Butyl chloride)	ICO, PLC.
1-Chloro-1,1-difluoroethane	ACG, DUP.
*Chlorodifluoromethane	ACG, DUP, KAI, PAS, UCC.
*Chloroethane (Ethyl chloride):	
Tech	AME, DOW, DUP, HPC, TNA, USI.
U.S.P	DOW, SHC.
*Chloroform:	
Tech	ACS, DA, DOW, DUP, FRO, SF.
U.S.P	ACS, DA, DOW.
2-Chloro-3-hexyne	LIL.
*Chloromethane (Methyl chloride):	
Crude	DCC, DOW, TNA.
Refined (refrigerant grade)	ACS, ANM, DOW, DUP, FRO.
2-Chloro-2-methylpropane (tert-Butyl chloride)	EK.
3-Chloro-2-methylpropene (Methallyl chloride)	FMP.
Chloropentafluoroethane	DUP.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
*Halogenated hydrocarbons--Continued	
2-Chloropropane (Isopropyl chloride)	DOW.
3-Chloropropene (Allyl chloride)	DOW, SHC.
Chlorotrifluoroethylene (Trifluorovinyl chloride)	ACG, MMM.
Chlorotrifluoroethylene, polymerized	HK, MMM.
Chlorotrifluoromethane	ACG, DUP, PAS.
1,2-Dibromo-1,1-dichloroethane	DOW.
Dibromodifluoromethane	DOW.
1,2-Dibromoethane (Ethylene dibromide)	DOW, ETD, HCH, MCH.
Dibromomethane (Methylene bromide)	DOW.
1,2-Dibromo-1,1,2,2-tetrafluoroethane	DUP.
Dichlorobutadiene	DUP.
1,4-Dichlorobutene	DUP.
*Dichlorodifluoromethane	ACG, DUP, KAI, PAS, UCC.
*1,2-Dichloroethane (Ethylene dichloride)	AME, DA, DOW, DUP, JCC, MON, OMC, PPG, TNA, UCC, WYN.
*Dichloromethane (Methylene chloride)	ACS, DA, DOW, DUP, FRO, SF.
Dichloropentanes, mixed isomers	PAS.
*1,2-Dichloropropane (Propylene dichloride)	DOW, JCC, UCC.
2,3-Dichloropropene	DOW, UCC, WYN.
*Dichlorotetrafluoroethane	ACG, DUP, PAS, UCC.
1,1-Difluoroethane	ACG, DUP.
Difluorotetrachloroethane	DUP.
Diiodomethane (Methylene iodide)	NTB, SDW.
Hexachloroethane	NES.
Hexafluoro-2-propene	DUP.
Hexafluoropropylene, monomer	DUP.
Hexamethylene dibromide	CLB.
Iodoethane (Ethyl iodide), tech	EK, FMT.
Iodoform (Triiodomethane)	NTB.
*Iodomethane (Methyl iodide)	CLB, EK, FMT, RSA.
1-Iodoperfluorohexane	x.
*Lauryl chlorides	BC, HK, SDH.
Octafluorocyclobutane	DUP.
1,1,2,2-Tetrabromoethane (Acetylene tetrabromide)	DOW.
Tetrabromomethane	DOW.
1,1,2,2-Tetrachloroethane (Acetylene tetrachloride)	DUP, PPG.
*Tetrachloroethylene (Perchloroethylene)	DA, DOW, DUP, FRO; HK, PPG, SF, TTX.
Tetrafluoroethylene, monomer	DUP.
Tetrafluoroethylene, polymer	DUP.
Tetrafluoromethane	DUP.
1,1,1-Trichloroethane (Methyl chloroform)	DOW, PPG, TNA.
1,1,2-Trichloroethane (Vinyl trichloride)	DOW, UCC.
*Trichloroethylene	DOW, DUP, HK, PPG, TTX.
*Trichlorofluoromethane	ACG, DUP, KAI, PAS, UCC.
1,2,3-Trichloropropane	DOW, SHC.
1,2,3-Trichloropropene	DOW.
Trichlorotrifluoroethane	ACG, DUP, PAS, UCC.
*Vinyl chloride, monomer (Chloroethylene)	ACS, AME, BFG, CUC, DA, DOW, GNT, GYR, MNO, MON, TNA, UCC.
Vinyl fluoride	x.
Vinylidene chloride, monomer (1,1-Dichloroethylene)	DOW, TMC, TNA.
Vinylidene fluoride	x.
All other	DUP, EK, KPS, KPT.
2-Heptanone (Methyl amyl ketone)	UCC.
Hexadecane	HMY.
n-Hexadecenyl succinic anhydride	HMY.
n-Hexadecyl disulfide	PAS.
Hexadecyl nitrile	FOR.
Hexamethylenediammonium adipate	CEL, MON.
1,6-Hexanediol	CEL.
Hexanediol bischloroformate	PPG.
2,5-Hexanedione (Acetonylacetone)	ACI, RBC.
1,2,6-Hexanetriol	UCC.
1,2,6-Hexanetriol octoate	ARC.
Hexanoic acid (Caproic acid)	FB.
2-[2-(Hexyloxy)ethoxy]ethanol	UCC.
Hydracrylonitrile (Ethylene cyanohydrin)	UCC.
Hydrazine and salts	FMT, OMC.
2-Hydrazinoethanol	NOR.
Hydroxyethyl carbamate	JCC.
Hydroxyethyl methacrylate	AAC, JCC.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
2-(Hydroxymethyl)-2-methyl-1,3-propanediol (Trimethylol ethane).	TRJ.
2-(Hydroxymethyl)-2-nitro-1,3-propanediol (Tris(hydroxymethyl)nitromethane).	COM.
N-(Hydroxymethyl)octadecanamide (N-Hydroxymethylstearamide).	DUP.
*4-Hydroxy-4-methyl-2-pentanone (Diacetone alcohol)	CEL, SHC, UCC.
Hydroxyneopentyl hydroxypivalate	EKT.
Hydroxypropyl methacrylate	JCC.
Iodoacetic acid, sodium salt	RSA.
Iodomethylmercury iodide	NTB.
Isethionic acid (2-Hydroxyethanesulfonic acid)	G.
Isoascorbic acid	MRK, PFZ.
*Isoascorbic acid, sodium salt	BAX, MRK, PFZ.
Isobutoxyethanol	UCC.
1-Isobutoxy-2-propanol (Propylene glycol isobutyl ether)	DOW.
Isobutyl acrylate	DBC.
Isobutyl isobutyrate	EKX.
Isobutyraldehyde	EKX, UCC.
Isobutyric acid and anhydride	EKT, UCC.
Isobutyronitrile	EKX.
Isodecaldehyde, mixed isomers	UCC.
Isodecanoic acid, mixed isomers	UCC.
Isodecyl acrylate	UCC.
Iso-octanoic acid	UCC.
Isopentyl ether (Isoamyl ether)	GIV.
Isoprenylaluminum	TSA.
Isopropanolamines:	
1-Amino-2-propanol (Monoisopropanolamine)	DOW, UCC.
1,1'-Iminodi-2-propanol (Diisopropanolamine)	DOW, UCC.
1,1',1''-Nitrilotri-2-propanol (Triisopropanolamine)	DOW, UCC.
*Isopropyl acetate	EKT, ENJ, HPC, UCC.
2-Isopropylaminoethanol	PAS.
Isopropyl chloroformate	CTN, PPG.
*Isopropyl ether	ENJ, SHC, UCC.
Isovaleric anhydride	ICO.
Isovalerone (Diisobutyl ketone)	EKT, UCC.
Itaconic acid (Methylenesuccinic acid)	PFZ.
Lactic acid, 100%:	
Edible	CLN, DUP, MON.
Technical	CLN, MON.
Lactic acid salts:	
Aluminum lactate	TNC.
Aluminum sodium chlorohydroxylactate	REH.
Aluminum sodium lactate	REH.
Calcium lactate	SHF.
Sodium lactate	PFN.
Lactic anhydride	FB.
Lactide (3,6-Dimethyl-2,5-p-dioxanedione)	CLN.
Lactonitrile	MON.
Lauric acid salts	BCN, CCW, SYP.
Lauronitrile	FOR.
Lauroyl bromide	DOW.
*Lauroyl chloride	CAD, G, ONX, TBK, THC, UPR, WTL.
*Lauroyl peroxide	AZT, CAD, UPR, WTL.
Lauryl lactate	VND.
Levulinic acid	CRZ.
*Linoleic acid salts:	
*Calcium linoleate	CCA, LEF, SHP, SRR.
*Cobalt linoleate	HSH, SHP, SRR.
Copper linoleate	WTC.
Iron linoleate	HSH.
Lead linoleate	SHP, SRR.
Lead manganese linoleate	SDH, SRR.
Manganese linoleate	SHP, SRR.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
*Lubricating oil additives:	
Chloronaphtha xanthate	MON.
Chlorosulfurized hydrocarbon	ENJ.
Chlorosulfurized lard oil	CCW.
Chlorosulfurized sperm oil	CCW.
Oxidized hydrocarbons	ALX.
*Phosphorodithioates (Dithiophosphates):	
2-Pinene phosphorodithioate	TX.
Zinc di(butylhexyl) phosphorodithioate	ORO.
Zinc dihexyl phosphorodithioate	MON.
Zinc diisopropylhexyl phosphorodithioate	TX.
Zinc diisopropyl phosphorodithioate	SIN.
All other	ENJ, LUB, MON, SIN.
Sulfurized butenes	LUB.
*Sulfurized lard oil	CCW, GOC, NLC, SIN.
Sulfurized methyl oleate	SIN.
*Sulfurized sperm oil	CCW, LUB, QCP, SIN, SOI, x.
All other	CCW, ENJ, HK, LUB, MON, ORO, SIN, SOI, x.
Magnesium methylate	MRT, SFA.
Maleic acid	NAC, PFN.
Maleic acid, tribasic lead salt	NTL.
*Maleic anhydride	HN, KPS, MON, NAC, PCC, PTT, RCI.
Malic acid	EK, NAC, PFN.
Malonic acid	KF.
Malonic acid salts	EK, GIV.
Malononitrile	KF.
Maltol (Hydroxy methyl pyrone)	PFZ.
Mannitol	APD.
*Mercaptoacetic acid (Thioglycolic acid)	EVN, HAB, RET.
*Mercaptoacetic acid (Thioglycolic acid) derivatives:	
*2-Aminoethyl mercaptoacetate (Monoethanolamine thioglycolate).	EVN, HAB, RET.
*Ammonium mercaptoacetate (Ammonium thioglycolate)	EVN, HAB, RET, TNI.
Antimony mercaptoacetate	CCA.
Calcium mercaptoacetate	EVN.
Dibutyltin bis(iso-octylmercaptoacetate)	x.
Dibutyltin mercaptoacetate	CCA.
*Iso-octyl mercaptoacetate	CCW, EVN, HAB.
Potassium mercaptoacetate	EVN.
Sodium mercaptoacetate	EVN.
3-Mercapto-1,2-propanediol (Thioglycerol)	EVN.
β-Mercaptopropionic acid	EVN.
Mercaptosuccinic acid (Thiomalic acid)	EVN.
Metal soaps of oxidized hydrocarbons	ALX.
Methacrylamide	RH, x.
Methacrylate copolymers	x.
Methacrylate monomers, above methyl	DUP.
Methacrylic acid	DUP, RH.
Methacrylic acid esters, other	SAR.
Methallylidene diacetate	UCC.
Methanesulfanol	PAS.
Methanesulfonic acid	PAS.
*2-Methoxyethanol (Ethylene glycol monomethyl ether)	DOW, JCC, OMC, UCC.
*2-(2-Methoxyethoxy)ethanol (Diethylene glycol monomethyl ether).	DOW, JCC, OMC, UCC.
*2-[2-(2-Methoxyethoxy)ethoxy]ethanol (Triethylene glycol monomethyl ether).	DOW, OMC, UCC.
2-(2-Methoxyethoxy)ethyl 2-methoxyethyl ether (Triethylene glycol dimethyl ether).	ASL.
2-Methoxyethyl acetate	UCC.
4-Methoxy-4-methyl-2-pentanol	SHC.
4-Methoxy-4-methyl-2-pentanone	SHC.
Methoxypolyethylene glycol	UCC.
1-Methoxy-2-propanol	DOW, SHC.
3-Methoxypropanol	UCC.
3-(3-Methoxypropoxy)propanol (Dipropylene glycol methyl ether).	DOW, UCC.
3-[3-(3-Methoxypropoxy)propoxy]propanol (Tripropylene glycol methyl ether).	DOW.
3-Methoxypropylamine	EKT, JCC.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
Methoxytriethyleneglycol acetate	RBC.
*Methyl acetate	BOR, EK, MON, UCC.
Methyl acetoacetate	EKT, UCC.
Methyl acrylate, monomer	CEL, DBC, RH.
Methylal (Dimethoxymethane)	CEL.
Methylaluminum sesquichloride	TNA.
2-Methylaminoethanol (N-Methylethanolamine)	UCC.
Methyl borate	MHI, SFA.
3-Methyl-2-butenoic acid	UCC.
2-Methyl-1-buten-3-yne (Isopropenylacetylene)	CUC.
Methyl butynoxyethanol	CUC.
Methyl carbamate	BKL, FMP.
Methyl chloroformate	CTN.
Methyl cyanoacetate	KF.
Methyl 2-cyanoacrylate	EKT.
Methyl dichloroacetate	KF, PD.
Methyl disulfide (Dimethyl disulfide)	CRZ.
N,N'-Methylenebisacrylamide	ACY.
N,N'-Methylenebisoctadecanamide	ARC.
*Methyl ether (Dimethyl ether)	COM, DUP, UCC.
Methyl formate	DUP.
N-Methylglucamine	DUP.
Methylglycerol	APD.
5-Methyl-2-hexanone (Methyl isoamyl ketone)	EKT, UCC.
2,2'-(Methylimino)diethanol (Methyl diethanolamine)	UCC.
Methyl isocyanate	CTN, OTC.
2-Methyllactic acid (α-Hydroxyisobutyric acid)	EK.
2-Methyllactonitrile (Acetone cyanohydrin)	ACY, x, x.
Methylmagnesium bromide	ARA.
Methylmagnesium chloride	ARA, x.
Methyl methacrylate, monomer	ACY, DUP, RH.
2-Methyl-2-nitro-1,3-propanediol	COM.
2-Methyl-2-nitro-1-propanol	COM.
2-Methyl-2,4-pentanediol (Hexylene glycol)	CEL, EKT, SHC, UCC.
*4-Methyl-2-pentanone (Methyl isobutyl ketone)	EKT, ENJ, SHC, UCC.
4-Methyl-2-pentanone oxime (Methylisobutyl ketoxime)	ALB.
4-Methyl-3-penten-2-one (Mesityl oxide)	SHC.
4-Methyl-2-pentyl acetate	PUB, SHC, UCC.
Methylpolyethanolamine	G.
2-Methyl-2-propyl-1,3-propanediol	ABB, DUP, ICO.
Methylpseudoionone	GIV.
Methyl sulfate (Dimethyl sulfate)	DUP.
Methyl sulfide (Dimethyl sulfide)	CRZ, PAS.
Methyl sulfone	CRZ.
Methyl sulfoxide (Dimethyl sulfoxide)	CRZ.
N-Methyltaurine	G.
N-Methyltaurine, sodium salt	TNA.
N-Methylurea	LIL.
2-Methylvaleraldehyde (2-Methylpentaldehyde)	UCC.
2-Methylvaleric acid	UCC.
Methyl vinyl acetate	UCC.
Methyl vinyl ether	G, UCC.
Mucochloric acid (2,3-Dichloro-3-formylacrylic acid)	EKT.
Myrcene (7-Methyl-3-methylene-1,6-octadiene)	IFF.
Myristoyl chloride	BC.
Myristyl lactate	VND.
2-Nitro-1-butanol	COM.
Nitroethane	COM.
Nitromethane	COM.
1-Nitropropane	COM.
2-Nitropropane	COM.
1,9-Nonanediol	ADM.
Nonanoic acid (Pelargonic acid)	EMR.
Nonanoic acids, cobalt salts	MLD.
Nonenylsuccinic anhydride	HMY.
Nylon, heteropolyamide polymer	DUP.
*Nylon, 6 and 6/6 polymer for fiber	DUP, MON, NAC.
Nylon, sebacamide polymer	DUP.
1-Octadecene	HMY.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification code (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
Octadecyl isocyanate	CWN, ICO, MOB.
n-Octadecyl mercaptan	HMY.
Octadecyl mercaptopropionate	EVN.
1-Octanethiol (n-Octyl mercaptan)	PAS.
Octanoic acid (Caprylic acid) salts:	
Aluminum octanoate	NOP.
Barium octanoate	CCW.
Cadmium octanoate	CCW.
Stannous octanoate	CCW.
Zinc octanoate	BKC.
2-Octanone (Hexyl methyl ketone)	EKT, TBK, WTH.
3-Octanone (Amyl ethyl ketone)	ARA.
Octanoyl chloride	HK, UPR.
1-Octene	ADM.
1(and 2)-Octene	WTH.
2-Octene	HMY.
Octenylsuccinic anhydride	HMY.
Octyltins	x.
Oleamide (Octadecene amide)	ADM, ARC, FIN, HUM.
Oleamides, mixed	FIN.
*Oleic acid salts:	
Aluminum oleate	WTC.
Ammonium oleate	BCN, MCI.
Barium zinc oleate	WTC.
*Copper oleate	MLD, SHP, WTC.
Lead oleate	SHP.
Stannous oleate	CCW, x.
Oleonitrile	ARC, FOR.
Oleoyl chloride	DEP, G, TBK.
Oleoylhydroxamic acid	WAY.
Oleylpalmitamide	FIN.
*Oxalic acid	ACG, MAL, PFZ, SF.
*Oxalic acid salts:	
Ammonium oxalate	ACG, BKC, PFZ.
Calcium oxalate	SF.
Ferric ammonium oxalate	PFZ.
Ferric oxalate	PFZ.
Ferric sodium oxalate	PFZ.
Ferrous oxalate	BKL.
Potassium binoxalate	BKC.
Potassium oxalate	ACG, BKC, PFZ.
Sodium binoxalate	SF.
Sodium oxalate	ACG, BKC, MAL, SF.
Oxidized hydrocarbon mixtures, other than lubricating oil additives.	ALX.
*Palmitic acid salts:	
Aluminum palmitate	ACY, NOP, WTC.
Zinc palmitate	ACY, NOP, WTC.
*Palmitoyl chloride	G, HAL, OPC, TBK.
Paraformaldehyde	CEL, HN, HPC.
Paraldehyde (Paracetaldehyde)	UCC.
*Pentaerythritol	CEL, COM, DCI, HN, HPC, RCI, TRJ.
Pentaerythritol caprylate	DRW.
Pentaerythritol pelargonate	DRW.
*Pentaerythritol tetranitrate	DUP, HPC, TRJ.
2,4-Pentanedione (Acetylacetone)	UCC.
2,4-Pentanedione, metallic complexes:	
Ferric	MAK.
Other	MAK.
2-Pentanone (Methyl propyl ketone)	UCC.
3-Pentanone (Diethyl ketone)	DUP, HEX.
Pentyl nitrate (Amyl nitrate)	TNA.
Peroxyacetic acid	FMB.
*Phosgene (Carbonyl chloride)	CTN, DUP, MOB, NAC, OMC, OTC, PPG, UCC, UPJ, VDM.
*Phosphorus acid esters, not elsewhere specified *(See also* Plasticizers, Surface-active agents, Pesticides, Flotation reagents, and Lubricating oil additives):	
Bis(2-ethylhexyl) hydrogen phosphate	UCC.
Bis(2-ethylhexyl) hydrogen phosphite	SM.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
*Phosphorus acid esters, not elsewhere specified *(See also* Plasticizers, Surface-active agents, Pesticides, Flotation reagents, and Lubricating oil additives)--Continued	
Butyl phosphates (mono- and di-)	SF, SM.
Chloropropyl phosphorothioate	TNA.
Dibutyl butylphosphonate	SM.
Dibutyl hydrogen phosphite	SM.
Didodecyl hydrogen phosphate	DUP.
Diethyl ethylphosphonate	SM.
Diethyl hydrogen phosphite	SM.
Diisopropyl hydrogen phosphite	SM.
Dimethyl hydrogen phosphite	SM.
Dimethyl methylphosphonate	SM.
Dioctyl hydrogen phosphate	DUP, SF.
Dioctyl hydrogen phosphite	HK.
Dipentaerythritol phosphite	HK.
2-Ethylhexyl phosphates (mono- and di-)	SF.
Ethyl phosphates (mono- and di-)	SF, SM.
Iso-octyl hydrogen phosphate	SM.
Isopentyl octyl hydrogen phosphate	SM.
Methyl dihydrogen phosphate	HK.
Methyl phosphates (mono- and di-)	SF, SM.
Pentyl phosphates (Mono- and diamyl phosphates)	SF.
*Tributyl phosphate	COM, FMP, SF, TXT.
Tributyl phosphite	SM.
Tridecyl phosphite	HK.
Triethyl phosphite	SM.
Triiso-octyl phosphite	SM.
Triisopropyl phosphite	SM.
Trimethyl phosphate	TNA.
Trimethyl phosphite	SM.
Tris(2-chloroethyl) phosphite	SM.
Tris(2,3-dibromopropyl) phosphate	MCH.
Tris(2-ethylhexyl) phosphite	HK.
Tris(octadecyl) phosphite	SM.
All other	DUP, MON, SF, SM, x.
Pine oil, synthetic	CBY.
Polyacrylamide	ACY.
Polyacrylic acid	BFG, NOP, RH.
*Polyacrylic acid salts:	
Ammonium polyacrylate	BFG.
Sodium polyacrylate	ALC, BFG, JOR, RH.
All other	BFG.
Polyacrylonitrile	DUP.
Polybutylene glycol	NLC.
Polychlorinated propyl ether	JCC.
Polyethoxyethylglycerol	GLY.
Polyethoxyethylsorbitol	APD, GLY, TCH.
*Polyethylene glycol	ACN, DOW, DUP, G, JCC, OMC, UCC, WYN.
Polyethylene glycol dimethacrylate	SAR.
Polyethylene imine	CEM.
Polyethylene polysulfide	BFG.
Polyglycerol	DRW.
Polyglycols, ethylene glycol and glycol ethers, mixtures	DOW.
Polymethacrylic acid esters	DUP.
*Polypropoxy ethers:	
*Glycerol tri(polyoxypropylene) ether	JCC, OMC, UCC, WYN.
Polypropoxysorbitol	APD.
Other	ACS, APD, WYN.
*Polypropylene glycol	DOW, JCC, NLC, OMC, UCC, WYN.
Polytetramethylene glycol ether	x.
Propanone peroxide (Acetone peroxide)	SDH.
β-Propiolactone	CEL.
Propionaldehyde	EKX, UCC.
*Propionic acid	CEL, COM, EKT, UCC.
Propionic acid salts:	
*Calcium propionate	CEL, HFT, PFZ, UCC, WSN.
*Sodium propionate	CEL, PFZ, UCC, WSN.
Zinc propionate	BKC.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
Propionic anhydride	CEL, EKT, UCC.
Propionyl chloride	ABB, EK, TBK.
Propionyl peroxide	WTL.
Propyl acetate	CEL, EKT, PUB, UCC.
Propylene carbonate	DOW, JCC.
*Propylene glycol (1,2-Propanediol)	APD, CEL, DOW, DUP, JCC, OMC, UCC, WYN.
Propylene glycol, mixed ethers	DOW.
*Propylene oxide	CEL, DOW, JCC, OMC, UCC, WYN.
n-Propyl isocyanate	CWN, OTC.
Propyl nitrate	TNA.
Propyne (Methylacetylene)	CUC.
Pseudoionone	GIV.
Pyruvaldehyde	UCC.
Quaternary ammonium compounds (butyl and lower)	EDC, EK, PAS, RSA.
Rare sugars	PFN.
Ricinolamide	TKL.
Ricinoleic acid salts:	
Calcium ricinoleate	BAC.
Lithium ricinoleate	BAC.
*Sarcosine (N-Methylaminoacetic acid)	ATL, G, HMP, VPC.
*Sarcosine, sodium salt	GGY.
Sebacic acid	WTH, x.
Semicarbazide base and hydrochloride	FMT.
*Sequestering agents:	
(Diethylenetrinitrilo)pentaacetic acid	HMP.
(Diethylenetrinitrilo)pentaacetic acid, monosodium hydrogen ferric salt.	GGY.
*(Diethylenetrinitrilo)pentaacetic acid, sodium salt	CWL, DOW, GGY, HMP, RPC, TCC.
N,N-Dihydroxyethylglycine, sodium salt	CWL, DOW, HMP, MOA.
*(Ethylenedinitrilo)tetraacetic acid (Ethylenediamine-tetraacetic acid).	DOW, GGY, HMP, MOA.
(Ethylenedinitrilo)tetraacetic acid, diammonium salt	DOW.
(Ethylenedinitrilo)tetraacetic acid, dipotassium salt	EK.
(Ethylenedinitrilo)tetraacetic acid, disodium salt	DOW, EK, GGY, HMP, RPC.
(Ethylenedinitrilo)tetraacetic acid, disodium calcium salt.	DOW, GGY.
(Ethylenedinitrilo)tetraacetic acid, disodium copper salt.	GGY.
(Ethylenedinitrilo)tetraacetic acid, disodium zinc salt, dihydrate.	GGY.
(Ethylenedinitrilo)tetraacetic acid, manganese salt	GGY.
*(Ethylenedinitrilo)tetraacetic acid, monohydrogen trisodium salt.	GGY, HMP, NOP.
(Ethylenedinitrilo)tetraacetic acid, monosodium iron salt.	GGY, HMP, RPC.
(Ethylenedinitrilo)tetraacetic acid, tetrapotassium salt	GGY.
*(Ethylenedinitrilo)tetraacetic acid, tetrasodium salt	CRT, CWL, DOW, GGY, HMP, HRT, IBI, RPC, TCC.
Hexahydroxyheptanoic acid, sodium salt	PCW.
(N-Hydroxyethylethylenedinitrilo)triacetic acid	GGY.
(N-Hydroxyethylethylenedinitrilo)triacetic acid, iron sodium salt.	DOW.
*(N-Hydroxyethylethylenedinitrilo)triacetic acid, trisodium salt.	CRT, CWL, DOW, HMP, IBI, MOA, RPC, TCC.
(N-Hydroxyethylethylenedinitrilo)triacetic acid, other salts.	HMP.
Nitrilotriacetic acid, trisodium salt	GGY, HMP.
Sodium salt of sugar acids	PFN.
Silicones	DCC, ORO, UCS.
Sodium ethoxide	FMP.
Sodium ethyl oxalacetate	FMP.
Sodium formaldehydebisulfite	EK, IDC.
*Sodium formaldehydesulfoxylate	HSH, NOP, RH, ROY.
*Sodium methoxide (Sodium methylate)	BFR, DA, DUP, HSH, KF, OMC, RBC, SFA.
Sodium polypectate	SKG.
Sodium sorbitol borate	APD.
Sorbic acid (2,4-Hexadienoic acid), and potassium and sodium salts.	UCC.
*Sorbitol	APD, BRD, MRK, PFZ.
Soya nitrile	CGL.
*Stearamide (Octadecanamide)	ADM, ARC, DUP, FIN, HUM.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
*Stearic acid salts:	
*Aluminum stearates:	
*Aluminum distearate	ACY, JTC, LEF, MAL, NOC, NOP, PRP, SYP, WTC.
*Aluminum monostearate	LEF, MAL, NOC, NOP, SYP, WTC.
*Aluminum tristearate	ACY, LEF, MAL, NOC, NOP, PRP, SYP.
Ammonium stearate	LEF, NOP, WTC.
Barium stearate	LEF, NOC, NOP, PRP, SYP, WTC.
Cadmium stearate	NOP, PRP, SYP, WTC.
*Calcium stearate	ACY, HNX, JTC, LEF, MAL, NOC, NOP, PRP, SYP, WTC.
Cobalt stearate	WTC.
Copper stearate	NOC.
Ferric and ferrous stearates	MCI, WTC.
*Lead stearate	HSH, LEF, NOP, NTL, PRP, WTC.
Lead stearate, dibasic	NOC, NOP, NTL.
*Lithium stearate	FTE, LEF, NOP, PRP, SYP, WTC.
*Magnesium stearate	ACY, JTC, LEF, MAL, NOC, NOP, PRP, SYP, WTC.
Manganese stearate	NOC.
Nickel stearate	WTC.
*Zinc stearate	ACY, BCN, CCA, HNX, JTC, LEF, MAL, NOC, NOP, PRP, SYP, TNC, WTC.
All other	APD.
Stearonitrile (Octadecanenitrile)	FOR.
Stearoyl chloride	G, TBK.
Stearyl-2-lactic acid	x.
Succinic acid	BKC, NAC.
Succinic anhydride	NAC.
Succinimide	NAC.
Succinonitrile	NAC, RSA.
Succinyl peroxide	WTL.
Sucrose octaacetate	PD, UCC.
*Tallow amide, hydrogenated	ADM, ARC, CGL, CRT, HUM.
Tallow fatty acyl chloride	G.
Tallow nitrile	FOR.
Tallow nitrile, hydrogenated	FOR.
Tartaric acid salts:	
Antimony potassium tartrate	PFZ.
Potassium bitartrate	ATC.
Potassium sodium tartrate	PFZ.
Sodium bitartrate	PFZ.
All other	BKC.
Tetrabutyltin	x.
Tetrabutyl titanate	DUP.
n-Tetradecane	HMY.
1,1,3,3-Tetraethoxypropane	KF.
Tetraethylene glycol	DOW, UCC.
Tetraethylene glycol dimethacrylate	SAR.
*Tetraethyllead	DUP, HCH, TNA.
Tetrahydropseudoionone	GIV.
Tetrahydroxysuccinic acid (Dioxytartaric acid)	ACY.
Tetrakis(hydroxymethyl)phosphonium chloride	HK.
N,N,N′,N′-Tetrakis(2-hydroxypropyl)ethylenediamine	WYN.
1,1,3,3-Tetramethoxypropane	KF.
*Tetramethyl(and ethyl)lead	DUP, TNA.
Tetramethylguanidine	ACY.
*Tetramethyllead	DUP, HCH, NLC, TNA.
Tetramethylurea	OTC.
Tetraoctyl orthosilicate	MON.
Tetrapropenylsuccinic acid	x.
Thioacetamide	BKC, EK.
Thioacetic acid	EVN.
2,2′-Thiodiethanol (Thiodiethylene glycol)	UCC.
3,3′-Thiodipropionates, other	HAB.
3,3′-Thiodipropionic acid	CCW, EVN.
Thiodipropionic acid, cobalt salt	CCW.
3,3′-Thiodipropionitrile	ACY, HAB.
Thiolactic acid	EVN.
Thiosemicarbazide	ACY, FMT.
Titanic acid esters	DUP.
Tributylphosphine	CCW.

TABLE 21B.--*Miscellaneous chemicals for which U.S. production or sales were reported, identified by manufacturer, 1965*--Continued

Chemical	Manufacturers' identification codes (according to list in table 22)
MISCELLANEOUS CHEMICALS, ACYCLIC--Continued	
Tributyltin chloride	x.
Trichloroacetic acid	DOW.
Trichloroacetyl chloride	EK.
(Trichloromethyl)phosphonic acid	DCC.
Trichloropropylsilane	DCC.
Trichlorovinylsilane	DCC.
Tridecyl mercaptan	PAS.
Triethylaluminum	TNA, TSA.
*Triethylene glycol	ACN, CAU, DOW, G, HCH, JCC, OMC, UCC.
Triethylene glycol dimethacrylate	SAR.
Triethyl orthoacetate	EK, KF.
Triethyl orthoformate	KF.
Triethyl orthopropionate	KF.
Trifluoroacetic anhydride	EK.
Tri(hexylene glycol) biborate	USB.
Triisobutylaluminum	TNA, TSA.
Triisodecyl orthoformate	KF.
Trimethoxyboroxine	SFA.
Trimethylaluminum	TNA.
2,6,8-Trimethyl-4-nonanone	UCC.
Trimethyl orthoformate	KF.
2,2,4-Trimethyl-1,3-pentanediol	EKX.
2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	EKX.
Tri-n-octyl phosphine oxide	EK.
Tri-n-propylaluminum	TNA, TSA.
Tripropylene glycol	DOW, UCC.
*Urea in compounds or mixtures, 100% basis:	
*In feed compounds	ACN, DUP, GCC, JDC, MON, MSC, SHC, SOH.
*In liquid fertilizer	ACN, CFA, DUP, ESC, FCA, GCC, HKY, HPC, KET, MON, MSC, NIT, SHC, SNI, SOH, SPN, x.
*In solid fertilizer	ACN, DUP, GCC, HPC, JDC, MON, MSC, SHC, SNO, SOH, SPN.
In plastics	DUP, MON.
All other	ACN, DUP, HPC, MON, SNO, SOH.
Urea peroxide	FMB.
Urea urethane copolymer	DUP.
Valeraldehyde	UCC.
Valeric acid	UCC.
*Vinyl acetate, monomer	BOR, CEL, CUC, DUP, MON, NSC, UCC.
*Zinc formaldehydesulfoxylate	NOP, RH, ROY.

Directory of Manufacturers

The Directory of Manufacturers lists the companies that report their production of synthetic organic chemicals to the U.S. Tariff Commission. The name of each manufacturer is preceded by an alphabetical identification symbol. These identification symbols consist of not more than three capital letters, and usually bear a relation to the company name.

For 1965, the Directory of Manufacturers lists approximately 800 primary manufacturers (see table 22). Some of the companies that report production of synthetic organic chemicals do not sell the materials, but consume their entire output in further manufacturing.

The Directory of Manufacturers lists the reporting companies in two ways: Section 1 lists them in alphabetical order by identification symbols; section 2 lists the reporting companies in alphabetical order by company name, and gives the corresponding identification symbol and the company address. Company divisions are usually listed under the parent company's name.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*

SECTION 1. ALPHABETICAL DIRECTORY BY CODE

[Names of synthetic organic chemical manufacturers that reported production or sales to the U.S. Tariff Commission for 1965 are listed below in the order of their identification codes as used in tables in pt. III. Sec. 2 of this table lists these manufacturers alphabetically and gives their office addresses]

Code	Name of company
AAC	Alcolac Chemical Corp.
AAE	American Aniline & Extract Co., Inc.
AAI	American Alkyd Industries
AAP	American Aniline Products, Inc.
ABB	Abbott Laboratories
ABS	American Brake Shoe Co., American Brakeblok Div.
ACB	Allied Chemical Corp., Barrett Div.
ACC	Amoco Chemicals Corp.
ACG	Allied Chemical Corp., General Chemical Div.
ACI	Aceto Industrial Chemical Corp.
ACN	Allied Chemical Corp., Nitrogen Div.
ACO	Acralite Co., Inc.
ACP	Allied Chemical Corp., Plastics Div.
ACR	Acme Resin Corp.
ACS	Allied Chemical Corp., Solvay Process Div.
ACT	Arthur C. Trask Co.
ACU	Allied Chemical Corp., Union Texas Petroleum Div.
ACY	American Cyanamid Co.
ADM	Archer-Daniels-Midland Co.
AKS	Arkansas Co., Inc.
ALB	Ames Laboratories, Inc.
ALC	Alco Chemical Corp.
ALD	Aldrich Chemical Co., Inc.
ALF	Allied Chemical Corp., Fibers Div.
ALL	Alliance Color & Chemical Co.
ALO	Alamo Industries, Inc.
ALT	Crompton & Knowles Corp., Althouse Chemical Co. Div.
ALX	Alox Corp.
AMB	American Bio-Synthetics Corp.
AMC	Amchem Products, Inc.
AME	American Chemical Corp.
AML	Amalgamated Chemical Corp.
AMO	American Oil Co. (Texas)
AMP	American Potash & Chemical Corp.
AMR	Pacific Resins & Chemical Co.
AMS	Martin-Marietta Corp., Ridgway Color & Chemical Div.
ANM	Ancon Chemical Co.
APC	Appleton Coated Paper Co.
APD	Atlas Chemical Industries, Inc., Chemicals Div.
APR	Atlas Processing Co.
APT	American Petrochemical Corp.
APV	Armstrong Paint & Varnish Works, Inc.
APX	Apex Chemical Co., Inc.
ARA	Syntex Corp., Arapahoe Chemicals Div.
ARC	Armour Industrial Chemical Co.
ARD	Ardmore Chemical Co.
ARG	Argus Chemical Corp.
ARK	Armstrong Cork Co.
ARL	Arol Chemical Products Co.
ARM	Armour Agricultural Chemical Co.
ARN	Arenol Chemical Corp.
ARP	Armour Pharmaceutical Co.
ARZ	Arizona Chemical Co.
ASH	Ashland Oil & Refining Co.
ASL	Ansul Chemical Co.
AST	Astra Pharmaceutical Products, Inc.
ASY	American Synthetic Rubber Corp.
ATC	American Tartars Corp.
ATL	Atlantic Chemical Corp.
ATP	Atco Chemical-Industrial Products, Inc.
ATR	Atlantic Refining Co.
ATU	Atlantic Tubing & Rubber Co.
AUG	Augusta Chemical Co.
AV	FMC Corp., American Viscose Div.
AVS	Avisun Corp.
AZT	Aztec Chemicals, Inc.
BAC	Baker Castor Oil Co.
BAL	Baltimore Paint & Chemical Corp.
BAR	American Rubber & Chemical Co.
BAT	Crompton & Knowles Corp., Bates Div.
BAX	Baxter Laboratories, Inc.
BC	Barlow Chemical Corp.
BCM	Belding Chemical Industries
BCN	Lehn & Fink Products Corp., Beacon Div.
BDO	Benzenoid Organics, Inc.
BEN	Bennett's
BFG	B. F. Goodrich Co., B. F. Goodrich Chemical Co. Div.
BFR	Branchflower Co.
BJL	Burdick & Jackson Laboratories, Inc.
BKC	J. T. Baker Chemical Co.
BKL	Millmaster Onyx Corp., Millmaster Chemical Div., Berkeley Chemical Dept.
BKM	Buckman Laboratories, Inc.
BKS	Tenneco Chemicals, Inc., Berkshire Color Div.
BKT	J. T. Baker Chemical Co., Taylor Div.
BL	Belle Chemical Co., Inc.
BLA	Winn-Dixie Stores, Inc.
BLN	Brooklyn Color Works, Inc.
BLS	Beech-Nut Life Savers, Inc.
BME	Bendix Corp., Marshall-Eclipse Div.
BOR	Borden Co., Borden Chemical Co. Div.
BOY	Walter N. Boysen Co.
BPC	Benzol Products Co.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company
BPL	Brand Plastics Co.
BRD	Baird Chemical Industries, Inc.
BRS	Bristol-Meyers Co., Bristol Laboratories Div.
BRU	M. A. Bruder & Sons, Inc.
BRY	Bryant Chemical Corp.
BSC	Burkart-Schier Chemical Co.
BUC	Blackman-Uhler Chemical Co.
BUK	Buckeye Cellulose Corp.
BUR	Burroughs-Wellcome & Co. (U.S.A.), Inc.
BXT	J. H. Baxter & Co.
CAD	Cadet Chemical Corp.
CAL	Callery Chemical Co.
CAP	Cap-Roc, Inc., Capital Plastics Div.
CAT	Catalin Corp. of America
CAU	Calcasieu Chemical Corp.
CBA	Ciba Corp., Ciba Products Co.
CBC	Georgia-Pacific Corp., Coos Bay Div.
CBD	Chembond Corp.
CBM	Carborundum Co., Coated Abrasives Div.
CBN	Columbian Carbon Co.
CBP	Ciba Corp., Ciba Pharmaceutical Co. Div.
CBR	Colab Resin Corp.
CBT	Samuel Cabot, Inc.
CBY	Crosby Chemicals, Inc.
CCA	Carlisle Chemical Works, Inc., Advance Div.
CCC	Chase Chemical Corp.
CCH	Pearsall Chemical Co.
CCI	Checkmate Chemicals, Inc.
CCL	Charlotte Chemical Laboratories
CCO	Chemico, Inc.
CCP	Crown Central Petroleum Corp.
CCW	Carlisle Chemical Works, Inc.
CD	Budd Co., Polychem Div.
CEL	Celanese Corp. of America: Celanese Chemical Co. Div. Celanese Coatings Co. Celanese Plastics Co. Fibers Co. Div.
CEM	Chemirad Corp.
CFA	Cooperative Farm Chemicals Association
CFC	Rexall Chemical Co. - Kearny
CGL	Cargill, Inc.
CHC	Chipman Chemical Co., Inc.
CHF	Chemical Formulators, Inc.
CHG	Chemagro Corp.
CHL	Chemol, Inc.
CHO	Stauffer Chemical Co., Calhio Chemicals Div.
CHT	Chattanooga Medicine Co., Chattem Chemicals Div.
CIB	Ciba Chemical & Dye Co.
CIK	Tenneco Chemicals, Inc., Cal/Ink Div.
CIS	Chemical Insecticide Corp.
CKL	Chemlek Laboratories, Inc.
CLB	Columbia Organic Chemicals Co., Inc.
CLC	Charles L. Huisking & Co., Inc., Clintbrook Chemical Co. Div.
CLD	Colloids, Inc.
CLI	Clintwood Chemical Co.
CLK	Clark Oil & Refining Corp.
CLN	Standard Brands, Inc., Clinton Corn Processing Co. Div.
CLV	Clover Chemical Co.
CLY	W. A. Cleary Corp.
CM	Carpenter-Morton Co.
CMG	Nyanza, Inc.
CMP	Commercial Products Co., Inc.
CO	Continental Oil Co.
COK	Cockerille Chemicals, Inc.
COL	Collier Carbon & Chemical Corp.
COM	Commercial Solvents Corp.
CON	Concord Chemical Co., Inc.
COP	Coopers Creek Chemical Corp.
COR	Commonwealth Oil Refining Co., Inc.
CP	Colgate-Palmolive Co.
CPC	Childs Pulp Colors, Inc.
CPD	Chemical Products Corp.
CPV	Cook Paint & Varnish Co.
CPY	Copolymer Rubber & Chemical Corp.
CRC	Crown Chemical Corp.
CRN	Corn Products Co.
CRS	Carus Chemical Co., Inc.
CRT	Crest Chemical Corp.
CRY	Tenneco Manufacturing Co., Tenneco Plastics Div.
CRZ	Crown Zellerbach Corp., Chemical Products Div.
CSD	Cosden Oil & Chemical Co.
CSO	Cities Service Oil Co.
CST	Charles S. Tanner Co.
CTA	Conestoga Chemical Corp.
CTL	Continental Chemical Co.
CTN	Chemetron Corp., Chemetron Chemicals, Organic Chemical Dept.
CUC	Cumberland Chemical Corp., Subsidiary of Air Reduction Co., Inc.
CUL	Culver Chemical Co.
CUT	Cutter Laboratories, Inc.
CW	General Mills, Inc., Chemical Div.
CWL	Cowles Chemical Co.
CWN	Upjohn Co., Carwin Organic Chemicals
CWP	Consolidated Papers, Inc.
CYC	Cyclamate Corp. of America
DA	Diamond Alkali Co., and Western Div.
DAN	Dan River Mills, Inc.
DAV	Conchemco, Inc., H. B. Davis Co. Div.
DBC	Dow Badische Chemical Co.
DCC	Dow Corning Corp.
DCI	Delaware Chemicals, Inc.
DEG	Degen Oil & Chemical Co.
DEP	DePaul Chemical Co., Inc.
DEX	Dexter Chemical Corp.
DIX	Dixie Chemical Co.
DLH	Hess Oil & Chemical Corp.
DLI	Dawe's Laboratories, Inc.
DOD	Donald A. Dodd
DOM	Dominion Products, Inc.
DOW	Dow Chemical Co.
DPP	Dixie Pine Products Co., Inc.
DRL	Caradco, Inc., Durel Div.
DRW	Drew Chemical Corp.
DSC	Dye Specialties, Inc.
DSO	DeSoto Chemical Coatings, Inc.
DUN	Frank W. Dunne Co.
DUP	E. I. duPont de Nemours & Co., Inc.
DVC	Dover Chemical Co.
DXS	Sunray DX Oil Co.
EAK	J. S. & W. R. Eakins, Inc.
ECC	Eastern Color & Chemical Co.
EDC	Edcan Laboratories
EFH	E. F. Houghton & Co.
EK	Eastman Kodak Co.
EKT	Eastman Kodak Co., Tennessee Eastman Co. Div.
EKX	Eastman Kodak Co., Texas Eastman Co. Div.
ELP	El Paso Natural Gas Products Co.
EMK	Emkay Chemical Co.
EMR	Emery Industries, Inc.
EN	Endo Laboratories, Inc.
ENJ	Enjay Chemical Co.
EPC	Epoxylite Corp.
ESC	Escambia Chemical Corp.
ETD	Ethyl-Dow Chemical Co.
EVN	Evans Chemetics, Inc.
EW	Westinghouse Electric Corp., Insulating Materials Div.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company
FAB	Fabricolor Manufacturing Corp.
FAR	Farnow, Inc.
FB	Fritzsche Bros., Inc.
FBF	Fiberfil, Inc.
FBR	Fibreboard Paper Products Corp.
FC	Franklin Chemical Co.
FCA	Farmers Chemical Association, Inc.
FCD	France, Campbell & Darling, Inc.
FCL	Federal Color Laboratories, Inc.
FEL	Felton Chemical Co., Inc.
FER	Ferro Corp., Ferro Chemical Div.
FG	Foster Grant Co., Inc.
FH	Foster-Heaton Co.
FIN	Fine Organics, Inc.
FIR	Firestone Tire & Rubber Co., Firestone Plastics Co. Div.
FIS	Fisher Melamine Corp.
FLH	H. B. Fuller Co.
FLM	Fleming Laboratories, Inc.
FLO	Florasynth Laboratories, Inc.
FLW	W. P. Fuller Paint Co.
FMB	FMC Corp., Inorganic Chemicals Div.
FMN	FMC Corp., Niagara Chemical Div.
FMO	Fermco Laboratories, Inc.
FMP	FMC Corp., Organic Chemicals Div.
FMT	Fairmount Chemical Co., Inc.
FOC	Farac Oil & Chemical Co.
FOM	Formica Corp.
FOR	Foremost Chemical Products Co.
FRE	Freeman Chemical Corp.
FRL	Firestone Tire & Rubber Co., Firestone Rubber & Latex Products Co. Div.
FRM	Farmer's Chemical Co.
FRO	Vulcan Materials Co., Frontier Chemical Co. Div.
FRP	Filtered Rosin Products Co.
FRS	Firestone Tire & Rubber Co., Firestone Synthetic Rubber & Latex Co. Div.
FSH	Frisch & Co., Inc.
FTE	Foote Mineral Co.
G	General Aniline & Film Corp., Dyestuff & Chemical Div.
GAM	Gamma Chemical Corp.
GAN	Gane's Chemical Works, Inc.
GCC	W. R. Grace & Co., Nitrogen Products Div.
GDN	Lancaster Chemical Corp., Gordon Chemicals Co. Div.
GE	General Electric Co., Chemical Materials Dept.
GEI	General Electric Co., Insulating Materials Dept.
GEO	Geolina Business, Inc.
GFS	G. Frederick Smith Chemical Co.
GGC	Goodrich-Gulf Chemicals, Inc.
GGY	Geigy Chemical Corp.
GIL	Gilman Paint & Varnish Co.
GIV	Givaudan Corp.
GLC	General Latex & Chemical Corp.
GLD	Glidden Co., Durkee Famous Foods Div.
GLX	Glasflex, Inc.
GLY	Glyco Chemicals, Inc.
GNF	General Foods Corp., Maxwell House Div.
GNM	General Mills, Inc.
GNT	General Tire & Rubber Co., Chemical Div.
GOC	Gulf Oil Corp.
GOR	Gordon Chemical Co., Inc.
GPM	General Plastics Manufacturing Co.
GPR	Grain Processing Corp.
GRA	Great American Plastics Co.
GRD	W. R. Grace & Co., Dewey & Almy Chemical Div.
GRG	P. D. George Co.
GRH	W. R. Grace & Co., Hatco Chemical Div.
GRS	Pontiac Refining Corp.
GRV	Guardsman Chemical Coatings, Inc.
GRW	Great Western Sugar Co.
GTH	Guth Chemical Co.
GTL	Great Lakes Chemical Corp.
GYR	Goodyear Tire & Rubber Co.
HAB	Halby Products Co., Inc.
HAL	C. P. Hall Co. of Illinois
HAM	Hampden Color & Chemical Co.
HAN	Hanna Paint Manufacturing Co., Inc.
HAP	Applied Plastics Co., Inc.
HCH	Houston Chemical Corp.
HCO	Hamilton Chemical Corp.
HDG	Hodag Chemical Corp.
HER	Heresite & Chemical Corp.
HET	Heterochemical Corp.
HEX	Hexagon Laboratories, Inc.
HFT	Hoffman-Taff, Inc.
HK	Hooker Chemical Corp.
HKD	Hooker Chemical Corp., Durez Plastics Div.
HKY	Hawkeye Chemical Co.
HLC	Hartman-Leddon Co.
HLI	Haag Laboratories, Inc.
HMP	W. R. Grace & Co., Hampshire Chemical Div.
HMY	Humphrey Chemical Corp.
HN	Tenneco Chemicals, Inc.
HNC	H & N Chemical Co.
HNW	Tenneco Chemicals, Inc., Newport Div.
HNX	Tenneco Chemicals, Inc., Nuodex Div.
HOF	Hoffmann-LaRoche, Inc.
HOU	Air Products & Chemicals, Inc., Houdry Process & Chemical Co. Div.
HPC	Hercules Powder Co., Inc.
HRS	Grow Chemical Corp., Harris Paint Co. Div.
HRT	Hart Products Corp.
HSC	Holland-Suco Color Co.
HSH	Harshaw Chemical Co.
HST	American Hoechst Corp.
HUM	National Dairy Products Corp., Humko Products Chemical Div.
HUS	Husky-Dominion Briquets
HVG	Haveg Industries, Inc., Resin & Compound Div.
HYC	Hysol Corp.
HYN	Hynson, Westcott & Dunning, Inc.
IBI	Industrial Biochemicals
ICC	Interchemical Corp., Color & Chemicals Div.
ICF	Interchemical Corp., Finishes Div.
ICI	I.C.I. (Organics), Inc.
ICO	Interchemical Corp., Organic Chemicals Dept.
IDC	Industrial Dyestuff Co.
IFF	International Flavors & Fragrances, Inc.
ILC	International Latex Corp.
IMC	International Minerals & Chemical Corp.
IMP	Hercules Powder Co., Inc., Imperial Color & Chemical Dept.
IMR	Imperial Chemical Co., Inc.
INL	Inland Steel Container Co.
IOC	Ritter-Pfaudler Corp., Ionac Chemical Co. Div.
IPC	Interplastic Corp., Commercial Resins Div.
IPI	Isocyanate Products, Inc.
IPR	Inter-Pacific Resins, Inc.
IRC	IRC, Inc.
IRI	Ironsides Resins, Inc.
JCC	Jefferson Chemical Co., Inc.
JDC	Nipak, Inc.
JEN	Jennison-Wright Corp.
JMS	J. Meyer & Sons, Inc.
JNS	S. C. Johnson & Son, Inc.
JNT	Jennat Corp.
JOB	Jones-Blair Paint Co.
JOR	Jordan Chemical Co.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company
JRG	Andrew Jergens Co.
JSC	Jersey State Chemical Co.
JTC	Joseph Turner & Co.
JWL	Jewel Paint & Varnish Co.
KAI	Kaiser Aluminum & Chemical Corp.
KAL	Kali Manufacturing Co.
KCC	Kennecott Copper Corp., Chino Mines Div.
KCH	Keystone Chemurgic Corp.
KCU	Kennecott Copper Corp., Utah Copper Div.
KCW	Keystone Color Works, Inc.
KEL	Kelly-Pickering Chemical Corp.
KEN	Kendall Refining Co.
KET	Ketona Chemical Corp.
KF	Kay-Fries Chemicals, Inc.
KLS	Kilsdonk Chemical Corp.
KMC	Kohler-McLister Paint Co.
KMP	Kelly-Moore Paint Co.
KND	Knoedler Chemical Co.
KNG	Far-Best Corp., O. L. King Div.
KNP	Knapp Products, Inc.
KON	H. Kohnstamm & Co., Inc.
KPI	Kenrich Petrochemicals, Inc.
KPP	Sinclair-Koppers Co.
KPS	Koppers Pittsburgh Co.
KPT	Koppers Co., Inc., Tar & Chemical Div.
KRM	Lawter Chemicals, Inc., Krumbhaar Resin Div.
KYN	Kyanize Paints, Inc.
KYS	Keysor Chemical Co.
LAK	Lakeway Chemical Co.
LAM	LaMotte Chemical Products Co.
LAS	Lasco Industries, Inc.
LEA	Leatex Chemical Co.
LEB	Lebanon Chemical Corp.
LEF	Leffingwell Chemical Co.
LEH	Lehigh Chemical Co.
LEM	B. L. Lemke & Co., Inc.
LEN	Leonard Refineries, Inc.
LEV	Lever Brothers Co.
LIL	Eli Lilly & Co.
LKL	Lakeside Laboratories, Div. of Colgate-Palmolive Co.
LKY	St. Regis Paper Co., Lake States Yeast & Chemical Div.
LMI	North American Chemical Co.
LPC	Lignin Products Co.
LUB	Lubrizol Corp.
LUE	George Luebers & Co.
LUR	Laurel Soap Manufacturing Co.
LVR	C. Lever Co., Inc.
LVY	Fred'k H. Levey Co., Inc.
MAH	Maher Color & Chemical Co.
MAK	MacKenzie Chemical Works, Inc.
MAL	Mallinckrodt Chemical Works
MAN	Manganese Chemical Corp.
MAR	American Can Co., Marathon Div.
MAY	Otto B. May, Inc.
MCA	Masonite Corp., Alpine Chemical Div.
MCB	Borg-Warner Corp., Marbon Chemical Div.
MCC	McCloskey Varnish Co.
MCH	Michigan Chemical Corp.
MCI	Mooney Chemical Corp.
MED	Medical Chemicals Corp.
MEE	Maumee Chemical Co.
MER	Jefferson Lake Sulphur Co., Chemical Div.
MET	M & T Chemicals, Inc.
MFG	Molded Fiber Glass Body Co., Resin Div.
MGR	Magruder Color Co., Inc.
MHI	Ventron Corp., Metal Hydrides Div.
MID	Midland Industrial Finishes Co.
MIR	Miranol Chemical Co., Inc.
MLD	Metalead Products Corp.
MLS	Miles Laboratories, Inc., Miles Chemical Co. Div.
MMM	Minnesota Mining & Manufacturing Co.
MNO	Monochem, Inc.
MNP	Minnesota Paints, Inc.
MOA	Mona Industries, Inc.
MOB	Mobay Chemical Co.
MOC	Marathon Oil Co., Texas Refining Div.
MON	Monsanto Co.
MOR	Mineral Oil Refining Co.
MOT	Motomco, Inc.
MPL	Massachusetts Plastics, Div. of Rexall Chemical Group
MPP	Midwest Plastic Products Co.
MR	Benjamin Moore & Co.
MRA	Metro-Atlantic, Inc.
MRB	Marblette Corp.
MRD	Marden-Wild Corp.
MRK	Merck & Co., Inc., and Metalsalts Corp.
MRN	International Latex & Chemical Corp, Paisley Products Div.
MRO	W. R. Grace & Co., Marco Chemical Div.
MRT	Morton Salt Co., Morton Chemical Co. Div.
MRV	Marlowe-Van Loan Corp.
MRX	Max Marx Color & Chemical Co.
MSC	Mississippi Chemical Corp.
MTO	Montrose Chemical Corp. of California
MTR	Baldwin-Montrose Chemical Co., Inc., Montrose Chemical Div.
MYW	Stepan Chemical Co., Maywood Div.
NAC	Allied Chemical Corp., National Aniline Div.
NCI	Union Bag-Camp Paper Corp., Nelio Chemical Div.
NCW	Nostrip Chemical Works, Inc.
NEO	Norda Essential Oil & Chemical Co., Inc.
NEP	Nepera Chemical Co., Inc.
NES	Nease Chemical Co., Inc.
NEV	Neville Chemical Co.
NIL	Nilok Chemicals, Inc.
NIT	Nitrin, Inc.
NIX	Tenneco Chemicals, Inc., Nixon-Baldwin Div.
NLC	Nalco Chemical Co.
NOC	Norac Co., Inc.
NON	A. P. Nonweiler Co.
NOP	Nopco Chemical Co., Inc.
NOR	Norwich Pharmacal Co.
NPC	Northwest Petrochemical Corp.
NPI	National Polychemicals, Inc.
NPP	National Plastic Products Co., Inc.
NPV	Norris Paint & Varnish Co.
NRS	Norse Chemical Corp.
NSC	National Starch & Chemical Corp.
NSP	Alabama Binder & Chemical Corp.
NTB	National Biochemical Co.
NTC	National Casein Co.
NTL	National Lead Co.
NVF	N.V.F. Co.
NVT	Novamont Corp.
NW	Northwestern Chemical Co.
NYC	New York Color & Chemical Corp., Subsidiary of Tenneco Chemicals, Inc.
OCF	Owens-Corning Fiberglas Corp.
OH	Air Reduction Co., Inc., Ohio Chemical & Surgical Equipment Co. Div.
OMC	Olin Mathieson Chemical Corp. and Agricultural Div.
OMS	E. R. Squibb & Sons Div. of Olin Mathieson Chemical Corp.
ONX	Millmaster Onyx Corp., Onyx Chemical Co. Div.
OPC	Orbis Products Corp.
ORG	Organics, Inc.
ORO	Chevron Chemical Co., Oronite Div.
ORT	Roehr Chemicals, Inc.
OSB	C. J. Osborn Co.
OTA	Ottawa Chemical Co.
OTC	Ott Chemical Co.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company
OTH	Chevron Chemical Co., Ortho Div.
OXO	Oxo Chemicals Co.
OXR	Onyx Oils & Resins, Inc.
OXY	Millmaster Onyx Corp., Oxy Chemical Div.
PAI	Pennsylvania Industrial Chemical Corp.
PAN	Pan American Petroleum Corp.
PAR	Pennsylvania Refining Co.
PAS	Pennsalt Chemicals Corp.
PAT	Patent Chemicals, Inc.
PBY	Pillsbury Co., Chemical Div.
PC	Proctor Chemical Co., Inc.
PCC	USS Chemicals Div. of U.S. Steel Corp.
PCH	Peerless Chemical Co.
PCI	Pioneer Chemical Works, Inc.
PCS	Emery Industries, Inc., Western Div.
PCW	Pfister Chemical Works
PD	Parke, Davis & Co.
PDC	Berncolors-Poughkeepsie, Inc.
PDJ	Joseph Davis Plastics Co.
PEK	Peck's Products Co.
PEL	Pelron Corp.
PEN	S. B. Penick & Co.
PER	Perry & Derrick Co.
PET	Petroleum Chemicals, Inc.
PFN	Pfanstiehl Laboratories, Inc.
PFP	Phelan-Faust Paint Manufacturing Co., Phelan's Resins & Plastics Div.
PFW	Polak's Frutal Works
PFZ	Chas. Pfizer & Co., Inc.
PG	Procter & Gamble Co., Procter & Gamble Manufacturing Co. Div.
PGU	Gulf Oil Corp., Chemical Div., Perkins Glue Branch
PHR	Pharmachem Corp.
PIC	Pierce Organics, Inc.
PII	Polymer Industries, Inc.
PIL	Pilot Chemical Co.
PIT	Pitt-Consol Chemical Co.
PLA	Richardson Co., Richardson Polymers Div.
PLB	P-L Biochemicals, Inc.
PLC	Phillips Petroleum Co.
PLS	Plastics Engineering Co.
PLU	Plumb Chemical Corp.
PMA	Plastics Materials, Inc.
PMC	Plastics Manufacturing Co.
PMP	Premier Malt Products, Inc.
PNT	Pantasote Co.
PNX	Phoenix Oil Co.
POL	Polymer Corp.
PPG	Pittsburgh Plate Glass Co.
PPL	Pioneer Plastics Corp., Chemical Div.
PRC	Products Research & Chemical Corp.
PRD	Productol Chemical Co., Inc.
PRO	Pure Oil Co.
PRP	S. B. Penick & Co., Parsons-Plymouth Div.
PRT	Pratt & Lambert, Inc.
PRX	Purex Corp., Ltd.
PSC	Passaic Color & Chemical Co.
PSP	Georgia-Pacific Corp., Puget Sound Div.
PTT	Petro-Tex Chemical Corp.
PUB	Publicker Industries, Inc.
PVI	Polyvinyl Chemicals, Inc.
PYL	Polychemical Laboratories, Inc.
PYR	Poly Resins
PYZ	Polyrez Co., Inc.
QCP	Quaker Chemical Corp.
QKO	Quaker Oats Co.
QUN	K. J. Quinn & Co., Inc.
RAB	Raybestos-Manhattan, Inc., Raybestos Div.
RBC	Roberta Chemicals, Inc.
RCC	Rexall Chemical Co.
RCD	Richardson Co.
RCI	Reichhold Chemicals, Inc.
RDA	Rhodia, Inc.
RED	Red Spot Paint & Varnish Co., Inc.
REH	Reheis Chemical Co., Div. of Armour Pharmaceutical Co.
REL	Reliance Universal, Inc.
REM	Remington Arms Co., Inc.
REN	Renroh Resins
RET	Rayette, Inc.
REZ	Rezolin, Inc.
RGC	Rogers Corp.
RH	Rohm & Haas Co.
RIC	Richfield Oil Corp.
RIK	Riker Laboratories Div. of Rexall Drug & Chemical Co.
RIL	Reilly Tar & Chemical Corp.
RIV	Riverdale Chemical Co.
RLS	Rachelle Laboratories, Inc.
RMC	Rinshed-Mason Co.
ROC	Rock Hill Printing & Finishing Co.
ROM	Roma Chemical Corp.
ROY	Royce Chemical Co.
RPC	Refined Products Co.
RPI	Rowland Products, Inc.
RSA	R.S.A. Corp.
RSB	Rosenberg Bros. & Co.
RT	F. Ritter & Co.
RTC	Ritter Chemical Co., Inc.
RTF	Retzloff Chemical Co.
RUB	Hooker Chemical Corp., RC Div.
RUR	Ruberoid Co.
RZL	Rozilda Laboratories, Inc.
S	Sandoz, Inc., Dyestuff Div., Pigments Dept.
SAC	Southeastern Adhesives Co.
SAL	Salsbury Laboratories
SAR	Sartomer Resins, Inc.
SBC	Scher Bros., Inc.
SCC	Standard Chlorine Chemical Co., Inc.
SCF	Schaefer Varnish Co., Inc.
SCH	Schering Corp.
SCN	Schenectady Chemicals, Inc.
SCO	Scholler Bros., Inc.
SCP	Standard Chemical Products, Inc.
SCR	R. P. Scherer Corp.
SDC	Martin-Marietta Corp., Southern Dyestuff Co. Div.
SDG	Sterling Drug, Inc., Glenbrook Laboratories Div.
SDH	Sterling Drug, Inc., Hilton-Davis Chemical Co. Div.
SDW	Sterling Drug, Inc., Winthrop Laboratories Div.
SEA	Seaboard Chemicals, Inc.
SED	Seidlitz Paint & Varnish Co.
SEK	Sekisui Plastics Corp.
SEL	Selney Co., Inc.
SEP	Southeast Polymers, Inc.
SEY	Seydel-Woolley & Co., Inc.
SF	Stauffer Chemical Co., Industrial Chemical Div.
SFA	Stauffer Chemical Co., Specialty Chemical Div.
SFD	Sonford Chemical Co.
SH	Stein, Hall & Co., Inc.
SHA	Shanco Plastics & Chemicals, Inc.
SHC	Shell Oil Co., Shell Chemical Co. Div.
SHF	National Dairy Products Corp., Sheffield Chemical Co. Div.
SHL	Shulton, Inc.
SHM	Shamrock Oil & Gas Corp.
SHO	Shell Oil Co.
SHP	Shepherd Chemical Co.
SIC	Vistron Corp., Silmar Div.
SID	George F. Siddall Co., Inc.
SIM	Simpson Timber Co.
SIN	Sinclair Refining Co.
SIO	Standard Oil Co. of Ohio
SIP	James P. Sipe & Co.
SK	Smith, Kline & French Laboratories
SKC	Sinclair Koppers Chemical Co.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company
SKG	Sunkist Growers, Inc.
SKO	Skelly Oil Co.
SLC	Soluol Chemical Co., Inc.
SLV	Sterling Drug, Inc., Salvo Chemical Div.
SM	Socony Mobil Oil Co., Inc.: Mobil Chemical Co. Div. Mobil Oil Co. Div.
SMC	Stamford Chemical Co.
SNA	Sun Chemical Corp., Pigments Div.
SNC	Sonoco Products Co.
SNI	Southern Nitrogen Co., Inc.
SNO	SunOlin Chemical Co.
SNT	Suntide Refining Co.
SNW	Sun Chemical Corp., Chemical Products Div.
SOC	Standard Oil Co. of California, Chevron Chemical Co.
SOG	Signal Oil & Gas Co., Houston Div.
SOH	Sohio Chemical Co. & Solar Nitrogen Chemicals, Inc.
SOI	American Oil Co. (Maryland)
SOL	Solar Chemical Corp.
SON	Witco Chemical Co., Inc., Sonneborn Div.
SOR	Thomason Industries, Inc., Southern Resin Div.
SOS	Southern Sizing Co.
SPC	Sinclair Paint Co.
SPD	General Electric Co., Silicone Products Dept.
SPI	Sinclair Petrochemicals, Inc.
SPL	Spaulding Fibre Co., Inc.
SPN	Gulf Oil Corp., Chemicals Dept.
SPY	Standard Pyroxoloid Corp.
SRL	G. D. Searle & Co.
SRR	Stresen-Reuter, Inc.
STA	A. E. Staley Manufacturing Co.
STC	Sou-Tex Chemical Co., Inc.
STG	Stange Co.
STP	Stepan Chemical Co., Industrial Chemicals Div., Millsdale Works
SUG	Sucro-Chemical Div. of Colonial Sugars Co.
SUM	Summit Chemical Products Corp.
SUN	Sun Oil Co.
SVC	Sullivan Varnish Co.
SVT	Solvent Chemical Co., Inc.
SW	Sherwin-Williams Co.
SWP	Souhegan Wood Products, Inc.
SWT	Swift & Co.
SYC	Synthetic Chemicals, Inc.
SYN	Synthron, Inc.
SYP	Synthetic Products Co.
SYR	Synco Resins, Inc.
SYV	Synvar Corp.
TAE	Chemtron Corp., National Cylinder Gas Div.
TAY	Taylor Corp.
TBK	Universal Oil Products Co., Chemical Div.
TCC	Tanatex Chemical Corp.
TCH	Trylon Chemical Corp.
TCI	Texize Chemicals, Inc.
TDC	Diversey Corp.
TEN	Tennessee Copper Co.
TGL	Triangle Chemical Co.
THC	Thompson Chemical Co.
TIC	Ticonderoga Chemical Corp.
TID	Tidewater Oil Co.
TKL	Thiokol Chemical Corp.
TMC	Tenneco Manufacturing Co.
TMH	Thompson-Hayward Chemical Co.
TMS	Sterling Drug, Inc., Thomasset Colors Div.
TNA	Ethyl Corp.
TNC	Tennant Development Corp., Chemical Div.
TNI	Gillette Chemical Co.
TOC	Tenneco Oil Co.
TRC	Toms River Chemical Corp.
TRJ	Trojan Powder Co.
TRN	Trancoa Chemical Corp.
TRO	Troy Chemical Co.
TSA	Texas Alkyls, Inc.
TTX	Detrex Chemical Industries, Inc.
TUS	Texas-U.S. Chemical Co.
TV	Tousey Varnish Co.
TX	Texaco, Inc.
TXC	Tex Chem Co.
TXT	Textilana Corp.
UBS	A. E. Staley Manufacturing Co., U B S Chemical Co. Div.
UCC	Union Carbide Corp., Chemicals Div.
UCP	Union Carbide Corp., Plastics Div.
UCS	Union Carbide Corp., Silicones Div.
UDI	Universal Detergents, Inc. & Petrochemicals Co.
UHL	Paul Uhlich & Co., Inc.
UNC	United Cork Companies
UNG	Ungerer & Co.
UNN	United Chemical Corp. of Norwood
UNO	United Oil Manufacturing Co.
UNP	United Chemical Products Corp.
UNS	Union Starch & Refining Co., Inc.
UOC	Union Oil Co. of California
UPF	United States Pipe & Foundry Co.
UPJ	Upjohn Co.
UPL	United States Plywood Corp., California Div., Shasta Operations
UPM	Universal Oil Products Co.
UPR	U.S. Peroxygen Corp.
URC	United Carbon Co.
USB	U.S. Borax Research Corp.
USI	National Distillers & Chemical Corp.: A-B Chemical Corp. Div. National Petro Chemical Corp. Div. U.S. Industrial Chemicals Co. Div.
USO	U.S. Oil Co.
USP	U.S. Plastic & Chemical Corp.
USR	United States Rubber Co., Chemical Div.
UTR	Utah Resin Co., Inc.
UVC	Universal Chemicals Corp.
VAC	Varney Chemical Corp.
VAL	Valchem
VAR	Reichhold Chemicals, Inc., Varcum Chemical Div.
VB	Vermilye-Bell
VDM	Van De Mark Chemical Co.
VEL	Velsicol Chemical Corp.
VGC	Virginia Chemicals, Inc.
VIN	Vineland Chemical Co.
VLY	Chem-Fleur, Inc.
VNC	Vanderbilt Chemical Corp.
VND	Van Dyk & Co., Inc.
VPC	Verona-Pharma Chemical Corp.
VPT	Vickers Refining Co., Inc.
VSV	Valentine Sugars, Inc., Valite Div.
VTM	Vitamins, Inc.
VTV	Vita-Var Corp., Div. of Textron Industries, Inc.
WAS	Washburn-Purex Co.
WAW	W. A. Wood Co.
WAY	Philip A. Hunt Chemical Corp., Wayland Chemical Div.
WBC	Worthington Biochemical Corp.
WBG	White & Bagley Co.
WCA	West Coast Adhesives Co.
WCC	Witfield Chemical Corp.
WES	Weston Chemical Corp.
WHI	White & Hodges, Inc.
WHL	Whitmoyer Laboratories, Inc.
WHW	Whittemore-Wright Co., Inc.
WIC	Wica Chemicals, Inc.
WIL	Wilson & Co., Inc., Wilson Laboratories Div.
WJ	Warner-Jenkinson Manufacturing Co.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Code	Name of company
WLI	White Laboratories, Inc.	WTC	Witco Chemical Co., Inc.
WLM	Wilmot & Cassidy, Inc.	WTH	Wallace & Tiernan, Inc., Harchem Div.
WM	Wilson & Co., Inc., Wilson-Martin Div.	WTL	Wallace & Tiernan, Inc., Lucidol Div.
WOD	Wood Chemicals, Inc.	WVA	West Virginia Pulp & Paper Co., Polychemicals Div.
WOI	Neville Chemical Co., Chlorinated Products Div.	WYN	Wyandotte Chemicals Corp.
WON	Woonsocket Color & Chemical Co.	WYT	American Home Products Corp., Wyeth Laboratories, Inc. Div.
WRC	Wood Ridge Chemical Corp.		
WRD	Weyerhaeuser Co., Wood Products Div.		
WSN	Washine Chemical Corp.	YAW	Young Aniline Works, Inc.

TABLE 22.--*Synthetic organic chemicals; Directory of manufacturers, 1965*--Continued

SECTION 2. ALPHABETICAL DIRECTORY BY COMPANY

[Names of synthetic organic chemical manufacturers that reported production or sales to the U.S. Tariff Commission for 1965 are listed below alphabetically, together with their identification codes as used in tables in pt. III. Sec. 1 of this table lists these manufacturers in the order of their identification codes]

Code	Name of company	Office address
ABB	Abbott Laboratories	14th St. and Sheridan Rd., N. Chicago, IL 60664.
ACI	Aceto Industrial Chemical Corp	126-02 Northern Blvd., Flushing, New York, NY 11363.
ACR	Acme Resin Corp	1401 Circle Ave., Forest Park, IL 60130.
ACO	Acralite Co., Inc	59 Kent St., Brooklyn, NY 11222.
HOU	Air Products & Chemicals, Inc., Houdry Process & Chemical Co. Div.	Widener Bldg., 1339 Chestnut St., Philadelphia, PA 19107.
OH	Air Reduction Co., Inc., Ohio Chemical & Surgical Equipment Co. Div.	1400 E. Washington Ave., Madison, WI 53701.
NSP	Alabama Binder & Chemical Corp	P.O. Box 3179, Tuscaloosa, AL 35401.
ALO	Alamo Industries, Inc	Ervin Bldg., 4037 Independence Blvd., Charlotte, NC 28205.
ALC	Alco Chemical Corp	Trenton Ave. and William St., Philadelphia, PA 19134.
AAC	Alcolac Chemical Corp	3440 Fairfield Rd., Baltimore, MD 21226.
ALD	Aldrich Chemical Co., Inc	2371 N. 30th St., Milwaukee, WI 53210.
ALL	Alliance Color & Chemical Co	P.O. Box 326, Ridgefield, NJ 07657.
	Allied Chemical Corp.:	
ACB	Barrett Div	40 Rector St., New York, NY 10006.
ALF	Fibers Div	1450 Broadway, New York, NY 10018.
ACG	General Chemical Div	P.O. Box 70, Morristown, NJ 07960.
NAC	National Aniline Div	40 Rector St., New York, NY 10006.
ACN	Nitrogen Div	P.O. Drawer 61, Hopewell, VA 23860.
ACP	Plastics Div	P.O. Box 365, Morristown, NJ 07960, and 225 Allwood Rd., Clifton, NJ 07015.
ACS	Solvay Process Div	P.O. Box 271, Syracuse, NY 13201.
ACU	Union Texas Petroleum Div	P.O. Box 2120, Houston, TX 77001.
ALX	Alox Corp	3943 Buffalo Ave., Niagara Falls, NY 14302.
AML	Amalgamated Chemical Corp	Ontario and Rorer Sts., Philadelphia, PA 19134.
AMC	Amchem Products, Inc	Brookside Ave., Ambler, PA 19002.
AAI	American Alkyd Industries	Broad and 14th Sts., Carlstadt, NJ 07072.
AAE	American Aniline & Extract Co., Inc	Venango and F Sts., Philadelphia, PA 19134.
AAP	American Aniline Products, Inc	P.O. Box 2086, Paterson, NJ 07509.
AMB	American Bio-Synthetics Corp	710 W. National Ave., Milwaukee, WI 53204.
ABS	American Brake Shoe Co., American Brakeblok Div	900 W. Maple Rd., Troy, MI 48012.
MAR	American Can Co., Marathon Div	Neenah, WI 54957.
AME	American Chemical Corp	P.O. Box 9247, Long Beach, CA 90810.
ACY	American Cyanamid Co	Berdan Ave., Wayne, NJ 07470.
HST	American Hoechst Corp	129 Quidnick St., W. Warwick, NJ 02893.
WYT	American Home Products Corp., Wyeth Laboratories, Inc. Div.	P.O. Box 8299, Philadelphia, PA 19101.
SOI	American Oil Co. (Maryland)	910 S. Michigan Ave., Chicago, IL 60680.
AMO	American Oil Co. (Texas)	910 S. Michigan Ave., Chicago, IL 60680.
AFT	American Petrochemical Corp	3134 California St., N.E., Minneapolis, MN 55418.
AMP	American Potash & Chemical Corp	3000 W. 6th St., Los Angeles, CA 90054.
ASY	American Synthetic Rubber Corp	P.O. Box 360, Louisville, KY 40201.
BAR	American Rubber & Chemical Co	P.O. Box 1034, Louisville, KY 40201.
ATC	American Tartars Corp	420 Lexington Ave., New York, NY 10017.
ALB	Ames Laboratories, Inc	200 Rock Lane, Milford, CT 06460.
ACC	Amoco Chemicals Corp	130 E. Randolph Dr., Chicago, IL 60601.
ANM	Ancon Chemical Co	1 Stanton St., Marinette, WI 54143.
ASL	Ansul Chemical Co	1 Stanton St., Marinette, WI 54143.
APX	Apex Chemical Co., Inc	200 S. 1st St., Elizabethport, NJ 07206.
APC	Appleton Coated Paper Co	825 E. Wisconsin Ave., Appleton, WI 54910.
HAP	Applied Plastics Co., Inc	130 Penn St., El Segundo, CA 90246.
ADM	Archer-Daniels-Midland Co	500 Investors Bldg., Minneapolis, MN 55440.
ARD	Ardmore Chemical Co	840 Valley Brook Ave., Lyndhurst, NJ 07071.
ARN	Arenol Chemical Corp	40-33 23d St., Long Island City, NY 11101.
ARG	Argus Chemical Corp	633 Court St., Brooklyn, NY 11231.
ARZ	Arizona Chemical Co	111 W. 50th St., New York, NY 10020.
AKS	Arkansas Co., Inc	185 Foundry St., P.O. Box 210, Newark, NJ 07101.
ARM	Armour Agricultural Chemical Co	P.O. Box 1685, Atlanta, GA 30301.
ARC	Armour Industrial Chemical Co	P.O. Box 1805, Chicago, IL 60609.
ARP	Armour Pharmaceutical Co	P.O. Box 511, Kankakee, IL 60901.
ARK	Armstrong Cork Co	W. Liberty St., Lancaster, PA 17604.
APV	Armstrong Paint & Varnish Works, Inc	1330 S. Kilbourn Ave., Chicago, IL 60623.
ARL	Arol Chemical Products Co	371 Wayne St., Jersey City, NJ 07302.
ASH	Ashland Oil & Refining Co	1401 Winchester Ave., Ashland, KY 41101.
AST	Astra Pharmaceutical Products, Inc	7 Neponset St., Worcester, MA 01606.
ATP	Atco Chemical-Industrial Products, Inc	93 Main St., Franklin, NJ 07416.

TABLE 22.--*Synthetic organic chemicals; Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
ATL	Atlantic Chemical Corp	P.O. Box 216, Nutley, NJ 07110.
ATR	Atlantic Refining Co	260 S. Broad St., Philadelphia, PA 19101.
ATU	Atlantic Tubing & Rubber Co	Mill St., Cranston, RI 02905.
APD	Atlas Chemical Industries, Inc., Chemicals Div	New Murphy Rd. and Concord Pike, Wilmington, DE 19899.
APR	Atlas Processing Co	P.O. Box 1786, 3546 Midway St., Shreveport, LA 71102.
AUG	Augusta Chemical Co	P.O. Box 660, Augusta, GA 30903.
AVS	Avisun Corp	P.O. Box 312, New Castle, DE 19720.
AZT	Aztec Chemicals, Inc	P.O. Box 756, Elyria, OH 44035.
BRD	Baird Chemical Industries, Inc	185 Madison Ave., New York, NY 10016.
BAC	Baker Castor Oil Co	40 Avenue A, Bayonne, NJ 07002.
BKC	J. T. Baker Chemical Co	600 N. Broad St., Phillipsburg, NJ 08865.
BKT	Taylor Div	600 N. Broad St., Phillipsburg, NJ 08865.
MTR	Baldwin-Montrose Chemical Co., Inc., Montrose Chemical Div.	100 Lister Ave., Newark, NJ 07105.
BAL	Baltimore Paint & Chemical Corp	2325 Hollins Ferry Rd., Baltimore, MD 21230.
BC	Barlow Chemical Corp	Barlow Lane, Ossining, NY 10562.
BXT	J. H. Baxter & Co	120 Montgomery St., San Francisco, CA 94104.
BAX	Baxter Laboratories, Inc	6301 N. Lincoln Ave., Morton Grove, IL 60053.
BLS	Beech-Nut Life Savers, Inc	Canajoharie, NY 13317.
BCM	Belding Chemical Industries	1407 Broadway, New York, NY 10018.
BL	Belle Chemical Co., Inc	P.O. Box 848, Lowell, NC 28089.
BME	Bendix Corp., Marshall-Eclipse Div	P.O. Box 238, Troy, NY 12180.
BEN	Bennett's	65 W. 1st S., Salt Lake City, UT 84110.
BDO	Benzenoid Organics, Inc	P.O. Box 177, Attleboro, MA 02703.
BPC	Benzol Products Co	237 South St., Newark, NJ 07114.
PDC	Berncolors-Poughkeepsie, Inc	77 N. Water St., Poughkeepsie, NY 12602.
BUC	Blackman-Uhler Chemical Co	P.O. Box 1869, Spartanburg, SC 29301.
BOR	Borden Co., Borden Chemical Co. Div	350 Madison Ave., New York, NY 10017.
MCB	Borg-Warner Corp., Marbon Chemical Div	P.O. Box 68, Washington, WV 26181.
BOY	Walter N. Boysen Co	1001 42d St., Oakland, CA 94608.
BFR	Branchflower Co	4501 Shilshole St. NW., Seattle, WA 98103.
BPL	Brand Plastics Co	130 E. Randolph Dr., Chicago, IL 60601.
BRS	Bristol-Meyers Co., Bristol Laboratories Div	P.O. Box 657, Syracuse, NY 13201.
BLN	Brooklyn Color Works, Inc	681 Morgan Ave., Brooklyn, NY 11222.
BRU	M. A. Bruder & Sons, Inc	52d St. and Grays Ave., Philadelphia, PA 19143.
BRY	Bryant Chemical Corp	6 North St., N. Quincy, MA 02171.
BUK	Buckeye Cellulose Corp	2899 Jackson Ave., Memphis, TN 38108.
BKM	Buckman Laboratories, Inc	1256 N. McLean Blvd., Memphis, TN 38108.
CD	Budd Co., Polychem Div	70 S. Chapel St., Newark, DE 19711.
BJL	Burdick & Jackson Laboratories, Inc	1953 S. Harvey St., Muskegon, MI 49442.
BSC	Burkart-Schier Chemical Co	1228 Chestnut St., Chattanooga, TN 37402.
BUR	Burroughs-Wellcome & Co. (U.S.A.), Inc	1 Scarsdale Rd., Tuckahoe, NY 10707.
CBT	Samuel Cabot, Inc	246 Summer St., Boston, MA 02210.
CAD	Cadet Chemical Corp	2153 Lockport-Olcott Rd., Burt, NY 14028.
CAU	Calcasieu Chemical Corp	P.O. Box 1522, Lake Charles, LA 70601.
CAL	Callery Chemical Co	Callery, PA 16024.
CAP	Cap-Roc, Inc., Capital Plastics Div	250 Mill St., Rochester, NY 14614.
DRL	Caradco, Inc., Durel Div	1098 Jackson St., Dubuque, IA 52000.
CBM	Carborundum Co., Coated Abrasives Div	P.O. Box 477, Niagara Falls, NY 14302.
CGL	Cargill, Inc	Room 2008, 3 Penn Center Plaza, Philadelphia, PA 19102, and Cargill Bldg., Minneapolis, MN 55402.
CCW	Carlisle Chemical Works, Inc	West St., Reading, OH 45215.
CCA	Advance Div	500 Jersey Ave., New Brunswick, NJ 08903.
CM	Carpenter-Morton Co	376 W. 3d St., Everett, MA 02149.
CRS	Carus Chemical Co., Inc	1375 8th St., LaSalle, IL 61301.
CAT	Catalin Corp. of America	1 Park Ave., New York, NY 10016.
CEL	Celanese Corp. of America:	
	Celanese Chemical Co. Div	522 5th Ave., New York, NY 10036.
	Celanese Coatings Co	1481 S. 11th St., Louisville, KY 40208.
	Celanese Plastics Co	744 Broad St., Newark, NJ 07102.
	Fibers Co. Div	P.O. Box 1414, Charlotte, NC 28201.
CCL	Charlotte Chemical Laboratories	P.O. Box 948, 5046 Old Pineville Rd., Charlotte, NC 28201.
CCC	Chase Chemical Corp	3527 Smallman St., Pittsburgh, PA 15201.
CHT	Chattanooga Medicine Co., Chattem Chemicals Div	1717 W. 38th St., Chattanooga, TN 37409.
CCI	Checkmate Chemicals, Inc	P.O. Box 2164, Greenville, SC 29602.
CHG	Chemagro Corp	P.O. Box 4913, Station "F", Kansas City, MO 64120.
CBD	Chembond Corp	P.O. Box 270, Springfield, OR 97477.
	Chemetron Corp.:	
CTN	Chemetron Chemicals, Organic Chemical Dept	201 E. 42d St., New York, NY 10017.
TAE	National Cylinder Gas Div	840 N. Michigan Ave., Chicago, IL 60611.
VLY	Chem-Fleur, Inc	200 Pulaski St., Newark, NJ 07105.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
CHF	Chemical Formulators, Inc	P.O. Box 26, Nitro, WV 25143.
CIS	Chemical Insecticide Corp	20 Whitman Ave., Metuchen, NJ 08840.
CPD	Chemical Products Corp	P.O. Box 449, Cartersville, GA 30120.
CCO	Chemico, Inc	2508 E. Bailey Rd., Cuyahoga Falls, OH 44221.
CEM	Chemirad Corp	P.O. Box 187 (Ryders Lane), E. Brunswick. NJ 08816.
CKL	Chemlek Laboratories, Inc	4040 W. 123d St., Alsip, IL 60658.
CHL	Chemol, Inc	P.O. Box 3227, Greensboro, NC 27402.
	Chevron Chemical Co.:	
ORO	Oronite Div	200 Bush St., San Francisco, CA 94120.
OTH	Ortho Div	940 Hensley, Richmond, CA 94800.
CPC	Childs Pulp Colors, Inc	43 Summit St., Brooklyn, NY 11231.
CHC	Chipman Chemical Co., Inc	P.O. Box 2009, 297 Jersey Ave., New Brunswick, NJ 08903.
CIB	Ciba Chemical & Dye Co	Route 208, Fair Lawn, NJ 07410.
	Ciba Corp.:	
CBP	Ciba Pharmaceutical Co. Div	556 Morris Ave., Summit, NJ 07901.
CBA	Ciba Products Co	556 Morris Ave., Summit, NJ 07901.
CSO	Cities Service Oil Co	P.O. Box 300, Tulsa, OK 74102.
CLK	Clark Oil & Refining Corp	131st St. and Kedzie Ave., Blue Island, IL 60406.
CLY	W. A. Cleary Corp	P.O. Box 749, New Brunswick, NJ 08903.
CLI	Clintwood Chemical Co	1 N. LaSalle St., Chicago, IL 60602.
CLV	Clover Chemical Co	360 Regis Ave., Pittsburgh, PA 15236.
COK	Cockerille Chemicals, Inc	Greenwood, VA 22943.
CBR	Colab Resin Corp	Main St., Tewksbury, MA 01876.
CP	Colgate-Palmolive Co	300 Park Ave., New York, NY 10022.
COL	Collier Carbon & Chemical Corp	714 W. Olympic Blvd., Los Angeles, CA 90015.
CLD	Colloids, Inc	394 Frelinghuysen Ave., Newark, NJ 07114.
CBN	Columbian Carbon Co	380 Madison Ave., New York, NY 10017.
CLB	Columbia Organic Chemicals Co., Inc	912 Drake St., Columbia, SC 29205.
CMP	Commercial Products Co., Inc	117 Ethel Ave., Hawthorne, NJ 07641.
COM	Commercial Solvents Corp	260 Madison Ave., New York, NY 10016.
COR	Commonwealth Oil Refining Co., Inc	P.O. Box 4423, San Juan, PR 00905.
DAV	Conchemco, Inc., H. B. Davis Co. Div	Bayard and Severn Sts., Baltimore, MD 21230.
CON	Concord Chemical Co., Inc	205 S. 2d St., Camden, NJ 08103.
CTA	Conestoga Chemical Corp	Wilmington Industrial Park, Wilmington, DE 19801.
CWP	Consolidated Papers, Inc	Wisconsin Rapids, WI 54494.
CTL	Continental Chemical Co	270 Clifton Blvd., Clifton, NJ 07015.
CO	Continental Oil Co	9 Rockefeller Plaza, New York, NY 10020.
CPV	Cook Paint & Varnish Co	P.O. Box 389, N. Kansas City, MO 64141.
CFA	Cooperative Farm Chemicals Association	P.O. Box 308, Lawrence, KS 66044.
COP	Coopers Creek Chemical Corp	River Rd., W. Conshohocken, PA 19428.
CPY	Copolymer Rubber & Chemical Corp	P.O. Box 2591, Baton Rouge, LA 70821.
CRN	Corn Products Co	717 5th Ave., New York, NY 10022.
CSD	Cosden Oil & Chemical Co	P.O. Box 1311, Big Spring, TX 70721.
CWL	Cowles Chemical Co	12000 Shaker Blvd., Cleveland, OH 44120.
CRT	Crest Chemical Corp	225 Emmet St., Newark, NJ 07114.
	Crompton & Knowles Corp.:	
ALT	Althouse Chemical Co. Div	500 Pear St., Reading, PA 19603.
BAT	Bates Div	Scottdale Rd., Lansdowne, PA 19050.
CBY	Crosby Chemicals, Inc	P.O. Drawer 460, Picayune, MS 39466.
CCP	Crown Central Petroleum Corp	P.O. Box 1168. Baltimore, MD 21203.
CRC	Crown Chemical Corp	12 Dudley St., Providence, RI 02901.
CRZ	Crown Zellerbach Corp., Chemical Products Div	Camas, WA 98607.
CUL	Culver Chemical Co	1502 N. 25th St., Melrose Park, IL 60160.
CUC	Cumberland Chemical Corp., Subsidiary of Air Reduction Co., Inc.	150 E. 42d St., New York, NY 10017.
CUT	Cutter Laboratories, Inc	4th and Parker Sts., Berkeley, CA 94710.
CYC	Cyclamate Corp. of America	100 Lister Ave., Newark, NJ 07105.
DAN	Dan River Mills, Inc	Danville, VA 24540.
PDJ	Joseph Davis Plastics Co	450 Schuyler Ave., Kearny, NJ 07032.
DLI	Dawe's Laboratories, Inc	4800 S. Richmond St., Chicago, IL 60632.
DEG	Degen Oil & Chemical Co	200 Kellogg St., Jersey City, NJ 07305.
DCI	Delaware Chemicals, Inc	726 King St., Wilmington, DE 19801.
DEP	DePaul Chemical Co., Inc	44-27 Purvis St., Long Island City, NY 11101.
DSO	DeSoto Chemical Coatings, Inc	1700 S. Mt. Prospect Ave., Des Plaines, IL 60018.
TTX	Detrex Chemical Industries, Inc	14331 Woodrow Wilson, Detroit, MI 48232.
DEX	Dexter Chemical Corp	845 Edgewater Rd., Bronx, NY 10474.
DA	Diamond Alkali Co	300 Union Commerce Bldg., Cleveland, OH 44114.
	Western Div	300 Union Commerce Bldg., Cleveland, OH 44114.
TDC	Diversey Corp	212 W. Monroe St., Chicago, IL 60606.
DIX	Dixie Chemical Co	P.O. Box 13410, Houston, TX 77019.
DPP	Dixie Pine Products Co., Inc	P.O. Box 470, Hattiesburg, MS 39401.
DOD	Donald A. Dodd	8002 53d Ave. W., Everett, WA 98202.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
DOM	Dominion Products, Inc	882 3d Ave., Brooklyn, NY 11232.
DVC	Dover Chemical Co	15th and Davis Sts., Dover, OH 44622.
DBC	Dow Badische Chemical Co	P.O. Box 875, Freeport, TX 77541.
DOW	Dow Chemical Co	Main St., Midland, MI 48640.
DCC	Dow Corning Corp	P.O. Box 592, Midland, MI 48641.
DRW	Drew Chemical Corp	416 Division St., Boonton, NJ 07005.
DUN	Frank W. Dunne Co	1007 41st St., Oakland, CA 94608.
DUP	E. I. duPont de Nemours & Co., Inc	DuPont Bldg., Wilmington, DE 19898.
DSC	Dye Specialties, Inc	26 Journal Sq., Jersey City, NJ 07306.
EAK	J. S. & W. R. Eakins, Inc	55 Berry St., Brooklyn, NY 11211.
ECC	Eastern Color & Chemical Co	35 Livingston St., Providence, RI 02904.
EK	Eastman Kodak Co	343 State St., Rochester, NY 14650.
EKT	Tennessee Eastman Co. Div	P.O. Box 511, Kingsport, TN 37662.
EKX	Texas Eastman Co. Div	P.O. Box 2068, Longview, TX 75603.
EDC	Edcan Laboratories	10 Pine St., S. Norwalk, CT 06856.
ELP	El Paso Natural Gas Products Co	P.O. Box 3986, Odessa, TX 79760.
EMR	Emery Industries, Inc	4300 Carew Tower, Cincinnati, OH 45202.
PCS	Western Div	8733 S. Dice Rd., Santa Fe Springs, CA 90670.
EMK	Emkay Chemical Co	319 2d St., Elizabeth, NJ 07206.
EN	Endo Laboratories, Inc	1000 Stewart Ave., Garden City, NY 11533.
ENJ	Enjay Chemical Co	60 W. 49th St., New York, NY 10020.
EPC	Epoxylite Corp	P.O. Box 3397, 1428 N. Tyler Ave., S. El Monte, CA 91733.
ESC	Escambia Chemical Corp	P.O. Box 467, Pensacola, FL 32502.
TNA	Ethyl Corp	100 Park Ave., New York, NY 10017.
ETD	Ethyl-Dow Chemical Co	Midland, MI 48640.
EVN	Evans Chemetics, Inc	250 E. 43d St., New York, NY 10017.
	FMC Corp.:	
AV	American Viscose Div	1617 John F. Kennedy Blvd., Philadelphia, PA 19103.
FMB	Inorganic Chemicals Div	Sawyer Ave. and River Rd., Tonawanda, NY 14207, and 633 3d Ave., New York, NY 10017.
FMN	Niagara Chemical Div	100 Niagara St., Middleport, NY 14105.
FMP	Organic Chemicals Div	1701 Patapsco Dr., Baltimore, MD 21226, and 633 3d Ave., New York, NY 10017.
FAB	Fabricolor Manufacturing Corp	24-1/2 Van Houten St., Paterson, NJ 07505.
FMT	Fairmount Chemical Co., Inc	117 Blanchard St., Newark, NJ 07105.
FOC	Farac Oil & Chemical Co	147th St. and Indiana Ave., Chicago, IL 60627.
KNG	Far-Best Corp., O. L. King Div	640 Gilman St., Berkeley, CA 94710.
FCA	Farmers Chemical Association, Inc	P.O. Box 67, Tyner, TN 37392.
FRM	Farmer's Chemical Co	P.O. Box 591, Kalamazoo, MI 49005.
FAR	Farnow, Inc	77 Jacobus Ave., S. Kearny, NJ 07032.
FCL	Federal Color Laboratories	4526 Chickering Ave., Cincinnati, OH 45232.
FEL	Felton Chemical Co.,,Inc	599 Johnson Ave., Brooklyn, NY 11237.
FMO	Fermco Laboratories, Inc	4941 S. Racine Ave., Chicago, IL 60609.
FER	Ferro Corp., Ferro Chemical Div	P.O. Box 349, Bedford, OH 44014.
FBF	Fiberfil, Inc	1701 N. Heidelbach Ave., Evansville, IN 47717.
FBR	Fibreboard Paper Products Corp	1550 Powell St., Emeryville, CA 94608.
FRP	Filtered Rosin Products Co	P.O. Box 349, Baxley, GA 31513.
FIN	Fine Organics, Inc	205 Main St., Lodi, NJ 07644.
	Firestone Tire & Rubber Co.:	
FIR	Firestone Plastics Co. Div	P.O. Box 699, Pottstown, PA 19464.
FRL	Firestone Rubber & Latex Products Co. Div	1 Firestone Ave., Fall River, MA 02722.
FRS	Firestone Synthetic Rubber & Latex Co. Div	381 W. Wilbeth Rd., Akron, OH 44301.
FIS	Fisher Melamine Corp	90 Park Ave., New York, NY 10016.
FLM	Fleming Laboratories, Inc	P.O. Box 10372, 2205 Thrift Rd., Charlotte, NC 28201.
FLO	Florasynth Laboratories, Inc	900 Van Nest Ave., Bronx, NY 10462.
FTE	Foote Mineral Co	Route 100, Exton, PA 19341.
FOR	Foremost Chemical Products Co	P.O. Box 599, Oakland, CA 94604.
FOM	Formica Corp	Berdan Ave., Wayne, NJ 07470.
FG	Foster Grant Co., Inc	289 N. Main St., Leominster, MA 01453.
FH	Foster-Heaton Co	16 E. 5th St., Paterson, NJ 07524.
FCD	France, Campbell & Darling, Inc	N. Michigan Ave., Kenilworth, NJ 07033.
FC	Franklin Chemical Co	2020 Bruck St., Columbus, OH 43207.
FRE	Freeman Chemical Corp	222 E. Main St., Port Washington, WI 53074.
FSH	Frisch & Co., Inc	88 E. 11th St., Paterson, NJ 07524.
FB	Fritzsche Bros., Inc	76 9th Ave., New York, NY 10011.
FLH	H. B. Fuller Co	1150 Eustis St., St. Paul, MN 55108.
FLW	W. P. Fuller Paint Co	450 E. Grand Ave., S. San Francisco, CA 94080.
GAM	Gamma Chemical Corp	355 Lexington Ave., New York, NY 10017.
GAN	Gane's Chemical Works, Inc	535 5th Ave., New York, NY 10017.
GGY	Geigy Chemical Corp	P.O. Box 430, Yonkers, NY 10704.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
G	General Aniline & Film Corp., Dyestuff & Chemical Div.	P.O. Box 12, Linden, NJ 07036.
	General Electric Co.:	
GE	Chemical Materials Dept	1 Plastics Ave., Pittsfield, MA 01203.
GEI	Insulating Materials Dept	1 Campbell Rd., Schenectady, NY 12306.
SPD	Silicone Products Dept	Waterford, NY 12188.
GNF	General Foods Corp., Maxwell House Div	1125 Hudson St., Hoboken, NJ 07030.
GLC	General Latex & Chemical Corp	666 Main St., Cambridge, MA 02139.
GNM	General Mills, Inc	S. Kensington Rd., Kankakee, IL 60901.
CW	Chemical Div	Quimby St., Ossining, NY 10562.
GPM	General Plastics Manufacturing Co	3481 S. 35th St., Tacoma, WA 98409.
GNT	General Tire & Rubber Co., Chemical Div	1708 Englewood Ave., Akron, OH 44309.
GEO	Geolina Business, Inc	P.O. Box 1557, Savannah, GA 31402.
GRG	P. D. George Co	5200 N. 2d St., St. Louis, MO 63147.
	Georgia-Pacific Corp.:	
CBC	Coos Bay Div	P.O. Box 869, Coos Bay, OR 97420.
PSP	Puget Sound Div	300 Laurel St., Bellingham, WA 98225.
TNI	Gillette Chemical Co	P.O. Box 362, N. Chicago, IL 60064.
GIL	Gilman Paint & Varnish Co	W. 8th and Pine Sts., Chattanooga, TN 37401.
GIV	Givaudan Corp	125 Delawanna Ave., Delawanna, NJ 07014.
GLX	Glasflex, Inc	Stirling, NJ 07980.
GLD	Glidden Co	900 Union Commerce Bldg., Cleveland, OH 44115.
	Durkee Famous Foods Div	2333 Logan Blvd., Chicago, IL 60647.
GLY	Glyco Chemicals, Inc	417 5th Ave., New York, NY 10016.
BFG	B. F. Goodrich Co., B. F. Goodrich Chemical Co. Div.	3135 Euclid Ave., Cleveland, OH 44137.
GGC	Goodrich-Gulf Chemicals, Inc	1717 E. 9th St., Cleveland, OH 44114.
GYR	Goodyear Tire & Rubber Co	1144 E. Market St., Akron, OH 44316.
GOR	Gordon Chemical Co., Inc	88 Webster St., Worcester, MA 01603.
	W. R. Grace & Co.:	
GRD	Dewey & Almy Chemical Div	62 Whittemore Ave., Cambridge, MA 02140.
HMP	Hampshire Chemical Div	Poisson Ave., Nashua, NH 03060.
GRH	Hatco Chemical Div	King George Post Rd., P.O. Box 27, Fords, NJ 08863.
MRO	Marco Chemical Div	1711 W. Elizabeth Ave., Linden, NJ 07036.
GCC	Nitrogen Products Div	P.O. Box 277, 147 Jefferson Ave., Memphis, TN 38101.
GPR	Grain Processing Corp	1600 Oregon St., Muscatine, IA 52761.
GRA	Great American Plastics Co	85 Water St., Fitchburg, MA 21420.
GTL	Great Lakes Chemical Corp	P.O. Box 2200, Highway 52 N.W., West Lafayette, IN 47906.
GRW	Great Western Sugar Co	P.O. Box 5308, Terminal Annex, Denver, CO 80217.
HRS	Grow Chemical Corp., Harris Paint Co. Div	1010-26 N. 19th St., Tampa, FA 33601.
GRV	Guardsman Chemical Coatings, Inc	1350 Steele Ave. SW., Grand Rapids, MI 49502.
GOC	Gulf Oil Corp	P.O. Drawer 2100, Houston, TX 77001.
SPN	Chemicals Dept	610 Dwight Bldg., Kansas City, MO 64105.
PGU	Perkins Glue Branch	632 Cannon Ave., Lansdale, PA 19446.
GTH	Guth Chemical Co	332 S. Center St., Hillside, IL 60162.
HNC	H & N Chemical Co	Maltese Dr., Totowa, NJ 07512.
HLI	Haag Laboratories, Inc	14010 S. Seeley, Blue Island, IL 60406.
HAB	Halby Products Co., Inc	P.O. Box 366, Wilmington, DE 19899.
HAL	C. P. Hall Co. of Illinois	5245 W. 73d St., Chicago, IL 60638.
HCO	Hamilton Chemical Corp	45 Andrews St., Lowell, MA 01853.
HAM	Hampden Color & Chemical Co	5 Albany St., Springfield, MA 01101.
HAN	Hanna Paint Manufacturing Co., Inc	1313 Windsor Ave., Columbus, OH 43216.
HSH	Harshaw Chemical Co	1945 E. 97th St., Cleveland, OH 44106.
HLC	Hartman-Leddon Co	60th St. and Woodland Ave., Philadelphia, PA 19143.
HRT	Hart Products Corp	1440 Broadway, New York, NY 10018.
HVG	Haveg Industries, Inc., Resin & Compound Div	900 Greenbank Rd., Wilmington, DE 19808.
HKY	Hawkeye Chemical Co	P.O. Box 899, Clinton, IA 52733.
HPC	Hercules Powder Co., Inc	Hercules Tower, 910 Market St., Wilmington, DE 19899.
IMP	Imperial Color & Chemical Dept	P.O. Box 231, Glens Falls, NY 12803.
HER	Heresite & Chemical Co	822 S. 14th St., Manitowoc, WI 54220.
DLH	Hess Oil & Chemical Corp	State St., Perth Amboy, NJ 08861.
HET	Heterochemical Corp	111 E. Hawthorne Ave., Valley Stream, NY 11582.
HEX	Hexagon Laboratories, Inc	3536 Peartree Ave., Bronx, NY 10469.
HDG	Hodag Chemical Corp	7247 N. Central Park Ave., Skokie, IL 60076.
HOF	Hoffmann-LaRoche, Inc	324 Kingsland Rd., Nutley, NJ 07110.
HFT	Hoffman-Taff, Inc	P.O. Box 1246 SSS, Springfield, MO 65805.
HSC	Holland-Suco Color Co	P.O. Box 2166, 24th St. and 5th Ave., Huntington, WV 25722.
HK	Hooker Chemical Corp	Buffalo Ave. and 47th St., Niagara Falls, NY 14302.
HKD	Durez Plastics Div	Walck Rd., N. Tonawanda, NY 14121.
RUB	RC Div	New South Rd., Hicksville, L.I., NY 11802.
EFH	E. F. Houghton & Co	303 W. Lehigh Ave., Philadelphia, PA 19133.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
HCH	Houston Chemical Corp----------	200 Madison Ave., New York, NY 10016.
CLC	Charles L. Huisking & Co., Inc., Clintbrook Chemical Co. Div.	417 5th Ave., New York, NY 10016.
HMY	Humphrey Chemical Co----------	Devine St., North Haven, CT 06473.
WAY	Philip A. Hunt Chemical Corp., Wayland Chemical Div.	P.O. Box 63, Lincoln, RI 02865.
HUS	Husky-Dominion Briquets----------	P.O. Box 380, Cody, WY 82414.
HYN	Hynson, Westcott & Dunning, Inc----------	Charles and Chase Sts., Baltimore, MD 21201.
HYC	Hysol Corp----------	1100 Seneca Ave., Olean, NY 14760.
ICI	I.C.I. (Organics), Inc----------	55 Canal St., Providence, RI 02901.
IRC	IRC, Inc----------	401 N. Broad St., Philadelphia, PA 19108.
IMR	Imperial Chemical Co., Inc----------	W. 6th and Grass Sts., Shenandoah, IA 51601.
IBI	Industrial Biochemicals----------	Elison Industrial Center, Elison, NJ 08817.
IDC	Industrial Dyestuff Co----------	P.O. Box 4249, Massasoit Ave., E. Providence, RI 02914.
INL	Inland Steel Container Co----------	6532 S. Menard Ave., Chicago, IL 60638.
	Interchemical Corp.:	
ICC	Color & Chemicals Div----------	150 Wagaraw Rd., Hawthorne, NJ 07506.
ICF	Finishes Div----------	1255 Broad St., Clifton, NJ 07015.
ICO	Organic Chemicals Dept----------	P.O. Box 8, Route 17, Carlstadt, NJ 07072.
IFF	International Flavors & Fragrances, Inc----------	521 W. 57th St., New York, NY 10019.
ILC	International Latex Corp----------	Playtex Park, Dover, DE 19901.
MRN	International Latex & Chemical Corp., Paisley Products Div.	1770 Canalport Ave., Chicago, IL 60616.
IMC	International Minerals & Chemical Corp----------	5401 Old Orchard Rd., Skokie, IL 60078.
IPR	Inter-Pacific Resins, Inc----------	P.O. Box 445, 1602 N. 18th St., Sweet Home, OR 97386.
IPC	Interplastic Corp., Commercial Resins Div----------	2015 N.E. Broadway St., Minneapolis, MN 55413.
IRI	Ironsides Resins, Inc----------	270 W. Mound St., P.O. Box 1999, Columbus, OH 43216.
IPI	Isocyanate Products, Inc----------	900 Wilmington Rd., New Castle, DE 19720.
JCC	Jefferson Chemical Co., Inc----------	P.O. Box 53300, Houston, TX 77052.
MER	Jefferson Lake Sulphur Co., Chemical Div----------	1914 Haden Rd., Houston, TX 77015.
JNT	Jennat Corp----------	137 W. 168th St., Gardena, CA 90247.
JEN	Jennison-Wright Corp----------	P.O. Box 4187, Station E, Toledo, OH 43609.
JRG	Andrew Jergens Co----------	2535 Spring Grove Ave., Cincinnati, OH 45214.
JSC	Jersey State Chemical Co----------	59 Lee Ave., Haledon, NJ 07508.
JWL	Jewel Paint & Varnish Co----------	345 N. Western Ave., Chicago, IL 60612.
JNS	S. C. Johnson & Son, Inc----------	1525 Howe St., Racine, WI 53403.
JOB	Jones-Blair Paint Co----------	6969 Denton Dr., Dallas, TX 75235.
JOR	Jordan Chemical Co----------	Barclay Bldg., 1 Belmont Ave., Bala Cynwyd, PA 19004.
KAI	Kaiser Aluminum & Chemical Corp----------	P.O. Box 337, Gramercy, LA 70052.
KAL	Kali Manufacturing Co----------	427 E. Mayer St., Philadelphia, PA 19125.
KF	Kay-Fries Chemicals, Inc----------	360 Lexington Ave., New York, NY 10017.
KMP	Kelly-Moore Paint Co----------	1015 Commercial St., San Carlos, CA 94070.
KEL	Kelly-Pickering Chemical Corp----------	956 Bransten Rd., San Carlos, CA 94070.
KEN	Kendall Refining Co----------	77 N. Kendall Ave., Bradford, PA 16701.
	Kennecott Copper Corp.:	
KCC	Chino Mines Div----------	Hurley, NM 88043.
KCU	Utah Copper Div----------	P.O. Box 11299, Salt Lake City, UT 84111.
KPI	Kenrich Petrochemicals, Inc----------	Foot of E. 22d St., Bayonne, NJ 07002.
KET	Ketona Chemical Corp----------	P.O. Box 6565, Tarrant Branch, Birmingham, AL 35217.
KYS	Keysor Chemical Co----------	26000 Bouquet Canyon Rd., Saugus, CA 91350.
KCH	Keystone Chemurgic Corp----------	R.D. 2, Bethlehem, PA 18017.
KCW	Keystone Color Works, Inc----------	151 W. Gay Ave., York, PA 17403.
KLS	Kilsdonk Chemical Corp----------	c/o Pfister Chemical Works, P.O. Box 326, Ridgefield, NJ 07657.
KNP	Knapp Products, Inc----------	180 Hamilton Ave., Lodi, NJ 07644.
KND	Knoedler Chemical Co----------	651 High St., Lancaster, PA 17604.
KMC	Kohler-McLister Paint Co----------	P.O. Box 546, 1201 Osage St., Denver, CO 80201.
KON	H. Kohnstamm & Co., Inc----------	161 Avenue of the Americas, New York, NY 10013.
KPT	Koppers Co., Inc., Tar & Chemical Div----------	Koppers Bldg., 430 7th Ave., Pittsburgh, PA 15219.
KPS	Koppers Pittsburgh Co----------	Koppers Bldg., 430 7th Ave., Pittsburgh, PA 15219.
KYN	Kyanize Paints, Inc----------	2d and Boston Sts., Everett, MA 02149.
LKL	Lakeside Laboratories, Div. of Colgate-Palmolive Co.	1707 E. North Ave., Milwaukee, WI 53201.
LAK	Lakeway Chemical Co----------	5025 Evanston Ave., Muskegon, MI 49443.
LAM	LaMotte Chemical Products Co----------	Chestertown, MD 21620.
GDN	Lancaster Chemical Corp., Gordon Chemicals Co. Div.	500 A St., Wilmington, DE 19801.
LAS	Lasco Industries, Inc----------	1561 Chapin Rd., Montebello, CA 90640.
LUR	Laurel Soap Manufacturing Co----------	Thompson and Tioga Sts., Philadelphia, PA 19134.
KRM	Lawter Chemicals, Inc., Krumbhaar Resin Div------	3550 Touhy Ave., Chicago, IL 60645.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
LEA	Leatex Chemical Co	2722 N. Hancock St., Philadelphia, PA 19133.
LEB	Lebanon Chemical Corp	P.O. Box 180, Lebanon, PA 17042.
LEF	Leffingwell Chemical Co	P.O. Box 1187, Perry Annex, Whittier, CA 90604.
LEH	Lehigh Chemical Co	P.O. Box 120, Chestertown, MD 21620.
BCN	Lehn & Fink Products Corp., Beacon Div	33 Richdale Ave., Cambridge, MA 02140.
LEM	B. L. Lemke & Co., Inc	199 Main St., Lodi, NJ 07644.
LEN	Leonard Refineries, Inc	E. Superior St., Alma, MI 48801.
LEV	Lever Brothers Co	390 Park Ave., New York, NY 10022.
LVR	C. Lever Co., Inc	Howard and Huntington Sts., Philadelphia, PA 19133.
LVY	Fred'k H. Levey Co., Inc	380 Madison Ave., New York NY 10017.
LPC	Lignin Products Co	P.O. Box 960, Erie, PA 16512.
LIL	Eli Lilly & Co	740 S. Alabama St., Indianapolis, IN 46206.
LUB	Lubrizol Corp	29400 Lakeland Blvd., Wickliffe, OH 44092.
LUE	George Lueders & Co	427 Washington St., New York, NY 10013.
MET	M & T Chemicals, Inc	Woodbridge Rd. and Randolph Ave., Rahway, NJ 07065.
MAK	MacKenzie Chemical Works, Inc	1 Cordello Ave., Central Islip, L.I., NY 11722.
MGR	Magruder Color Co., Inc	2385 Richmond Terrace, Staten Island, NY 10302.
MAH	Maher Color & Chemical Co	1700 N. Elston Ave., Chicago, IL 60622.
MAL	Mallinckrodt Chemical Works	P.O. Box 5439, St. Louis, MO 63160.
MAN	Manganese Chemical Corp	711 Pittman Rd., Baltimore, MD 21236.
MOC	Marathon Oil Co., Texas Refining Div	P.O. Box 1191, Texas City, TX 77591.
MRB	Marblette Corp	37-31 30th St., Long Island City, NY 11101.
MRD	Marden-Wild Corp	500 Columbia St., Somerville, MA 02143.
MRV	Marlowe-Van Loan Corp	1508 Joshua Circle, High Point, NC 27261.
	Martin-Marietta Corp.:	
AMS	Ridgway Color & Chemical Div	75 Front St., Ridgway, PA 15853.
SDC	Southern Dyestuff Co. Div	P.O. Box 10098, Charlotte, NC 28201.
MRX	Max Marx Color & Chemical Co	192 Coit St., Irvington, NJ 07111.
MCA	Masonite Corp., Alpine Chemical Div	P.O. Box 2392, Gulfport, MS 39503.
MPL	Massachusetts Plastics, Div. of Rexall Chemical Group.	West Ave., Ludlow, MA 01056.
MEE	Maumee Chemical Co	1310 Expressway Dr., Toledo, OH 43608.
MAY	Otto B. May, Inc	52 Amsterdam St., Newark, NJ 07105.
MCC	McCloskey Varnish Co	7600 State Rd., Philadelphia, PA 19136.
MED	Medical Chemicals Corp	4541 W. Grand Ave., Chicago, IL 60639.
MRK	Merck & Co., Inc	126 E. Lincoln Ave., Rahway, NJ 07065.
	Metalsalts Corp	200 Wagaraw Rd., Hawthorne, NJ 07507.
MLD	Metalead Products Corp	P.O. Box 11005, 2901 Park Blvd., Palo Alto, CA 94306.
MRA	Metro-Atlantic, Inc	1027 Smith St., Centerdale, RI 02911.
JMS	J. Meyer & Sons, Inc	4321 N. 4th St., Philadelphia, PA 19140.
MCH	Michigan Chemical Corp	500 N. Bankson St., St. Louis, MI 48880.
MID	Midland Industrial Finishes Co	P.O. Box 620, E. Water St., Waukegan, IL 60086.
MPP	Midwest Plastic Products Co	3251 Chicago Rd., Steger, IL 64075.
MLS	Miles Laboratories, Inc., Miles Chemical Co. Div-	1127 Myrtle St., Elkhart, IN 46514.
	Millmaster Onyx Corp.:	
BKL	Millmaster Chemical Div., Berkeley Chemical Dept.	99 Park Ave., New York, NY 10016.
ONX	Onyx Chemical Co. Div	Warren and Morris Sts., Jersey City, NJ 07302.
OXY	Oxy Chemical Div	P.O. Box 28, Hackettstown, NJ 07840.
MOR	Mineral Oil Refining Co	4401 Park Ave., Dickinson, TX 77539.
MMM	Minnesota Mining & Manufacturing Co	2501 Hudson Rd., St. Paul, MN 55119.
MNP	Minnesota Paints, Inc	1101 S. 3d St., Minneapolis, MN 55415.
MIR	Miranol Chemical Co., Inc	277 Coit St., Irvington, NJ 07111.
MSC	Mississippi Chemical Corp	P.O. Box 388, Yazoo City, MS 39194.
MOB	Mobay Chemical Co	Penn Lincoln Parkway, W. Pittsburgh, PA 15205.
MFG	Molded Fiber Glass Body Co., Resin Div	4601 Benefit Ave., Ashtabula, OH 44004.
MOA	Mona Industries, Inc	65 E. 23d St., Paterson, NJ 07524.
MNO	Monochem, Inc	P.O. Box 433, Geismar, LA 70734.
MON	Monsanto Co.:	
	Bircham Bend Plant	190 Grochmal Ave., Indian Orchard, MA 01051.
	Chemstrand Co. Div	350 5th Ave., New York, NY 10001.
	Chocolate Bayou Plant	P.O. Box 711, Alvin, TX 77511.
	Gering Plastics Dept	200 N. 7th St., Kenilworth, NJ 07033.
	Organic Chemical Div	800 N. Lindbergh Blvd., St. Louis, MO 63166.
	Plastics Div	730 Worcester St., Springfield, MA 01101; P.O. Box 1311, Texas City, TX 77591; and River Rd., Addyston, OH 45001.
	Western Div	9229 E. Marginal Way S., Seattle, WA 98108.
MTO	Montrose Chemical Corp. of California	500 S. Virgil Ave., Los Angeles, CA 90005.
MCI	Mooney Chemical Corp	2301 Scranton Rd., Cleveland, OH 44113.
MR	Benjamin Moore & Co	548 5th Ave., New York, NY 10036.
MRT	Morton Salt Co., Morton Chemical Co. Div	110 N. Wacker Dr., Chicago, IL 60606.
MOT	Motomco, Inc	89 Terminal Ave., Clark, NJ 07066.

TABLE 22. --*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
NVF	N.V.F. Co	Maryland Ave. and Beech St., Wilmington, DE 19899.
NLC	Nalco Chemical Co	6216 W. 66th Pl., Chicago, IL 60638.
NTB	National Biochemical Co	3127 W. Lake St., Chicago, IL 60612.
NTC	National Casein Co	601 W. 80th St., Chicago, IL 60620.
	National Dairy Products Corp.:	
HUM	Humko Products Chemical Div	P.O. Box 398, Memphis, TN 38101.
SHF	Sheffield Chemical Co. Div	P.O. Box 630, Norwich, NY 13815.
USI	National Distillers & Chemical Corp.:	
	A-B Chemical Corp. Div	99 Park Ave., New York, NY 10016.
	National Petro Chemical Corp. Div	99 Park Ave., New York, NY 10016.
	U.S. Industrial Chemicals Co. Div	99 Park Ave., New York, NY 10016.
NTL	National Lead Co	111 Broadway, New York, NY 10006.
NPP	National Plastic Products Co., Inc	Odenton, MD 21113.
NPI	National Polychemicals, Inc	51 Eames St., Wilmington, MA 01887.
NSC	National Starch & Chemical Corp	750 3d Ave., New York, NY 10017.
NES	Nease Chemical Co., Inc	P.O. Box 221, State College, PA 16801.
NEP	Nepera Chemical Co., Inc	Route 17 and Averill Ave., Harriman, NY 10926.
NEV	Neville Chemical Co	Neville Island P.O., Pittsburgh, PA 15225.
WOI	Chlorinated Products Div	Neville Island P.O., Pittsburgh, PA 15225.
NYC	New York Color & Chemical Corp., Subsidiary of Tenneco Chemicals, Inc.	374 Main St., Belleville, NJ 07109.
NIL	Nilok Chemicals, Inc	Mill St. and N. Transit, Lockport, NY 14094.
JDC	Nipak, Inc	301 S. Howard St., Dallas, TX 75221.
NIT	Nitrin, Inc	P.O. Box 233, Cordova, IL 61242.
NON	A. P. Nonweiler Co	P.O. Box 1007, Oshkosh, WI 54901.
NOP	Nopco Chemical Co., Inc	60 Park Pl., Newark, NJ 07101.
NOC	Norac Co., Inc	405 S. Motor Ave., Azusa, CA 91703, and 169 Millbank St., Lodi, NJ 07644.
NEO	Norda Essential Oil & Chemical Co., Inc	475 10th Ave., New York, NY 10001.
NPV	Norris Paint & Varnish Co	1710 Front St. NE., Salem, OR 97303.
NRS	Norse Chemical Corp	2121 Norse Ave., Cudahy, WI 53110.
LMI	North American Chemical Co	19 S. Canal St., Lawrence, MA 01843.
NW	Northwestern Chemical Co	120 N. Aurora St., W. Chicago, IL 60185.
NPC	Northwest Petrochemical Corp	P.O. Box 99, Anacortes, WA 98221.
NOR	Norwich Pharmacal Co	17 Eaton Ave., Norwich, NY 13815.
NCW	Nostrip Chemical Works, Inc	182 Liberty Ave., Jamaica, NY 11433.
NVT	Novamont Corp	P.O. Box 189, Kenova, WV 25530.
CMG	Nyanza, Inc	Magunco Rd., P.O. Box 349, Ashland, MA 01721.
OMC	Olin Mathieson Chemical Corp	445 W. 59th St., New York, NY 10019.
	Agricultural Div	P.O. Box 991, Little Rock, AR 72203.
OXR	Onyx Oils & Resins, Inc	95 Broad St., New York, NY 10004.
OPC	Orbis Products Corp	475 10th Ave., New York, NY 10018.
ORG	Organics, Inc	1724 Greenleaf Ave., Chicago, IL 60628.
OSB	C. J. Osborn Co	1301 W. Blancke St., Linden, NJ 07036.
OTA	Ottawa Chemical Co	700 N. Wheeling St., Toledo, OH 43605.
OTC	Ott Chemical Co	500 Agard Rd., Muskegon, MI 49445.
OCF	Owens-Corning Fiberglas Corp	National Bank Bldg., Toledo, OH 43614.
OXO	Oxo Chemicals Co	2100 Grant Bldg., Pittsburgh, PA 15219.
PLB	P-L Biochemicals, Inc	1037 W. McKinley Ave., Milwaukee, WI 53205.
AMR	Pacific Resins & Chemical Co	3400 13th Ave. SW., Seattle, WA 98134.
PAN	Pan American Petroleum Corp	P.O. Box 591, Tulsa, OK 74102.
PNT	Pantasote Co	26 Jefferson St., Passaic, NJ 07056.
PD	Parke, Davis & Co	Foot of Jos. Campau, Detroit, MI 48232.
PSC	Passaic Color & Chemical Co	28-36 Paterson St., Paterson, NJ 07501.
PAT	Patent Chemicals, Inc	335 McLean Blvd., Paterson, NJ 07504.
CCH	Pearsall Chemical Co	P.O. Box 108, Phillipsburg, NJ 08865.
PEK	Peck's Products Co	P.O. Box 14508, St. Louis, MO 63178.
PCH	Peerless Chemical Co	3850 Oakman Blvd., Detroit, MI 48204.
PEL	Pelron Corp	7847 W. 47th St., Lyons, IL 60534.
PEN	S. B. Penick & Co	100 Church St., New York, NY 10008.
PRP	Parsons-Plymouth Div	100 Church St., New York, NY 10008.
PAS	Pennsalt Chemicals Corp	3 Penn Center, Philadelphia, PA 19102.
PAI	Pennsylvania Industrial Chemical Corp	120 State St., P.O. Box 240, Clairton, PA 15025.
PAR	Pennsylvania Refining Co	Union Bank Bldg., Butler, PA 16001.
PER	Perry & Derrick Co	2510 Highland Ave., Norwood, OH 45212.
PET	Petroleum Chemicals, Inc	P.O. Box 1522, Lake Charles, LA 70601.
PTT	Petro-Tex Chemical Corp	P.O. Box 2584, Houston, TX 77001.
PFN	Pfanstiehl Laboratories, Inc	1219 Glen Rock Ave., Waukegan, IL 60086.
PCW	Pfister Chemical Works	P.O. Box 326, Ridgefield, NJ 07657.
PFZ	Chas. Pfizer & Co., Inc	235 E. 42d St., New York, NY 10017.
PHR	Pharmachem Corp	Broad and Wood Sts., Bethlehem, PA 18015.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
PFP	Phelan-Faust Paint Manufacturing Co., Phelan's Resins & Plastics Div.	Oak St. and Buff Rd., P.O. Box 189, Burlington, IA 52602.
PLC	Phillips Petroleum Co	Bartlesville, OK 74003.
PNX	Phoenix Oil Co	9505 Cassius Ave., Cleveland, OH 44105.
PIC	Pierce Organics, Inc	P.O. Box 98, Rockford, IL 61105.
PBY	Pillsbury Co., Chemical Div	1152 Pillsbury Bldg., Minneapolis, MN 55402.
PIL	Pilot Chemical Co	11756 Burke St., Santa Fe Springs, CA 90670.
PCI	Pioneer Chemical Works, Inc	940 N. Delaware Ave., Philadelphia, PA 19123.
PPL	Pioneer Plastics Corp., Chemical Div	Pionite Rd., Auburn, ME 04210.
PIT	Pitt-Consol Chemical Co	191 Doremus Ave., Newark, NJ 07105.
PPG	Pittsburgh Plate Glass Co	1 Gateway Center, Pittsburgh, PA 15222.
PLS	Plastics Engineering Co	1607 Geele Ave., Sheboygan, WI 53082.
PMC	Plastics Manufacturing Co	2700 S. Westmoreland, Dallas, TX 75224.
PMA	Plastics Materials, Inc	New South Rd., Hicksville, NY 11801.
PLU	Plumb Chemical Corp	4837 James St., Philadelphia, PA 19137.
PFW	Polak's Frutal Works	33 Sprague Ave., Middletown, NY 10940.
PYL	Polychemical Laboratories, Inc	490 Hunts Point Ave., New York, NY 10059.
POL	Polymer Corp	2120 Fairmont Ave., Reading, PA 19603.
PII	Polymer Industries, Inc	Viaduct Rd., Springdale, CT 06879.
PYR	Poly Resins	11655 Wicks St., Sun Valley, CA 91352.
PYZ	Polyrez Co., Inc	P.O. Box 320, Woodbury, NJ 08096.
PVI	Polyvinyl Chemicals, Inc	26 Howley St., Peabody, MA 01960.
GRS	Pontiac Refining Corp	P.O. Box 1581, Corpus Christi, TX 78403.
PRT	Pratt & Lambert, Inc	75 Tonawanda St., Buffalo, NY 14207.
PMP	Premier Malt Products, Inc	917 W. Juneau Ave., Milwaukee, WI 53201.
PG	Procter & Gamble Co., Procter & Gamble Manufacturing Co. Div.	Ivorydale Technical Center, Rm. 2S25, Cincinnati, OH 45217.
PC	Proctor Chemical Co., Inc	P.O. Box 399, Salisbury, NC 28144.
PRD	Productol Chemical Co., Inc	615 S. Flower St., Los Angeles, CA 90017.
PRC	Products Research & Chemical Corp	2919 Empire Ave., Burbank, CA 91504.
PUB	Publicker Industries, Inc	1429 Walnut St., Philadelphia, PA 19102.
PRO	Pure Oil Co	200 E. Gulf Rd., Palatine, IL 60067.
PRX	Purex Corp., Ltd	5101 Clark Ave., Lakewood, CA 90712.
QCP	Quaker Chemical Corp	Elm, Lime, and Sandy Sts., Conshohocken, PA 19428.
QKO	Quaker Oats Co	Merchandise Mart Plaza, Chicago, IL 60654.
QUN	K. J. Quinn & Co., Inc	195 Canal St., Malden, MA 02148.
RSA	R.S.A. Corp	690 Saw Mill River Rd., Ardsley, NY 10502.
RLS	Rachelle Laboratories, Inc	P.O. Box 9095, 700 Henry Ford Ave., Long Beach, CA 90810.
RAB	Raybestos-Manhattan, Inc., Raybestos Div	75 E. Main St., Stratford, CT 06601.
RET	Rayette, Inc	261 E. 5th St., St. Paul, MN 55101.
RED	Red Spot Paint & Varnish Co., Inc	110 Main St., Evansville, IN 47708.
RPC	Refined Products Co	624 Schuyler Ave., Lyndhurst, NJ 07071.
REH	Reheis Chemical Co., Div. of Armour Pharmaceutical Co.	325 Snyder Ave., Berkeley Heights, NJ 07922.
RCI	Reichhold Chemicals, Inc	525 N. Broadway, White Plains, NY 10602.
VAR	Varcum Chemical Div	Niagara Falls, NY 14302.
RIL	Reilly Tar & Chemical Corp	11 S. Meridan St., Indianapolis, IN 46204.
REL	Reliance Universal, Inc	4730 Crittenden Dr., P.O. Box 21067, Louisville, KY 40221, and 6901 Cavalcade, Houston, TX 77001.
REM	Remington Arms Co., Inc	939 Barnum Ave., Bridgeport, CT 06602.
REN	Renroh Resins	P.O. Box 1191, New Bern, NC 28560.
RTF	Retzloff Chemical Co	P.O. Box 45296, Houston, TX 77045.
RCC	Rexall Chemical Co	8480 Beverly Blvd., Los Angeles, CA 90048.
CFC	Rexall Chemical Co. - Kearny	1106 Harrison Ave., Kearny, NJ 07029.
REZ	Rezolin, Inc	1651 18th St., Santa Monica, CA 90404.
RDA	Rhodia, Inc	600 Madison Ave., New York, NY 10022.
RCD	Richardson Co	27th Ave. and Lake St., Melrose Park, IL 60160.
PLA	Richardson Polymers Div	345 Morgan Lane, West Haven, CT 06516.
RIC	Richfield Oil Corp	555 S. Flower St., Los Angeles, CA 90054.
RIK	Riker Laboratories, Div. of Rexall Drug & Chemical Co.	19901 Nordhoff St., Northridge, CA 91326.
RMC	Rinshed-Mason Co	5935 Milford Ave., Detroit, MI 48210.
RT	F. Ritter & Co	4001 Goodwin Ave., Los Angeles, CA 90039.
RTC	Ritter Chemical Co., Inc	403 W. Main St., Amsterdam, NY 12010.
IOC	Ritter Pfaudler Corp., Ionac Chemical Co. Div	Birmingham, NJ 08011.
RIV	Riverdale Chemical Co	220 E. 17th St., Chicago Heights, IL 60411.
RBC	Roberts Chemicals, Inc	P.O. Box 546, Nitro, WV 25143.
ROC	Rock Hill Printing & Finishing Co	Rock Hill, SC 29730.
ORT	Roehr Chemicals, Inc	52-20 37th St., Long Island City, NY 11101.
RGC	Rogers Corp	Main St., Rogers, CT 06263.
RH	Rohm & Haas Co	222 W. Washington Sq., Philadelphia, PA 19105.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
ROM	Roma Chemical Corp	900 Passaic Ave., E. Newark, NJ 07029.
RSB	Rosenberg Bros. & Co	100 Landing Ave., Smithtown, NY 11787.
RPI	Rowland Products, Inc	34 Fairview Lane, Kensington, CT 06037.
ROY	Royce Chemical Co	Carlton Hill P.O., E. Rutherford, NJ 07073.
RZL	Rozilda Laboratories, Inc	814 Madison St., Hoboken, NJ 07030.
RUR	Ruberoid Co	S. Bound Brook, NJ 08880.
LKY	St. Regis Paper Co., Lake States Yeast & Chemical Div.	603 W. Davenport St., Rhinelander, WI 54501.
SAL	Salsbury Laboratories	500 Gilbert St., Charles City, IA 50616.
S	Sandoz, Inc	P.O. Box 357, Fair Lawn, NJ 07410.
	Dyestuff Div., Pigment Dept	61-63 Van Dam St., New York, NY 10013.
SAR	Sartomer Resins, Inc	P.O. Box 56, Essington, PA 19029.
SCF	Schaefer Varnish Co., Inc	1350 S. 15th St., Louisville, KY 40210.
SCN	Schenectady Chemicals, Inc	Congress St. and 10th Ave., Schenectady, NY 12301.
SBC	Scher Bros., Inc	P.O. Box 538, Allwood Station, Clifton, NJ 07012.
SCR	R. P. Scherer Corp	9425 Grinnell Ave., Detroit, MI 48213.
SCH	Schering Corp	1011 Morris Ave., Union, NJ 07083.
SCO	Scholler Bros., Inc	Collins and Westmoreland Sts., Philadelphia, PA 19134.
SEA	Seaboard Chemicals, Inc	30 Foster St., Salem, MA 01970.
SRL	G. D. Searle & Co	P.O. Box 5110, Chicago, IL 60680.
SED	Seidlitz Paint & Varnish Co	18th and Garfield Sts., Kansas City, MO 64141.
SEK	Sekisui Plastics Corp	666 Dietrich Ave., Hazelton, PA 18201.
SEL	Selney Co., Inc	65 9th St., Bldg. 15, Brooklyn, NY 11215.
SEY	Seydel-Woolley & Co., Inc	748 Rice St. NW., Atlanta, GA 30318.
SHM	Shamrock Oil & Gas Corp	P.O. Box 631, Amarillo, TX 79105.
SHA	Shanco Plastics & Chemicals, Inc	2716 Kenmore Ave., Tonawanda, NY 14150.
SHO	Shell Oil Co	113 W. 52d St., New York, NY 10019.
SHC	Shell Chemical Co. Div	113 W. 52d St., New York, NY 10019.
SHP	Shepherd Chemical Co	2803 Highland Ave., Cincinnati, OH 45212.
SW	Sherwin-Williams Co	101 Prospect Ave. NW., Cleveland, OH 44101.
SHL	Shulton, Inc	697 Route 46, Clifton, NJ 07015.
SID	George F. Siddall Co., Inc	P.O. Box 925, Spartanburg, SC 29301.
SOG	Signal Oil & Gas Co., Houston Div	P.O. Box 5008, Harrisburg Station, Houston, TX 77012.
SIM	Simpson Timber Co	2301 N. Columbia Blvd., Portland, OR 97217.
SKC	Sinclair Koppers Chemical Co	P.O. Box 5536, Houston, TX 77012.
KPP	Sinclair-Koppers Co	900 Koppers Bldg., Pittsburgh, PA 15219.
SPC	Sinclair Paint Co	3960 E. Washington Blvd., Los Angeles, CA 90023.
SPI	Sinclair Petrochemicals, Inc	600 5th Ave., New York, NY 10020.
SIN	Sinclair Refining Co	600 5th Ave., New York, NY 10020.
SIP	James B. Sipe & Co	P.O. Box 8010, Pittsburgh, PA 15216.
SKO	Skelly Oil Co	P.O. Box 1650, Tulsa, OK 74102.
GFS	G. Frederick Smith Chemical Co	867 McKinley Ave., Columbus, OH 43223.
SK	Smith, Kline & French Laboratories	1500 Spring Garden St., Philadelphia, PA 19101.
SM	Socony Mobil Oil Co., Inc.:	
	Mobil Chemical Co. Div	150 E. 42d St., New York, NY 10017.
	Mobil Oil Co. Div	612 S. Flower St., Los Angeles, CA 90054, and P.O. Box 3311, Beaumont, TX 77704.
SOH	Sohio Chemical Co. & Solar Nitrogen Chemicals, Inc.	621 Republic Bldg., Cleveland, OH 44115.
SOL	Solar Chemical Corp	Solar Park, Leominster, MA 01453.
SLC	Soluol Chemical Co., Inc	Green Hill and Market Sts., W. Warwick, RI 02893.
SVT	Solvent Chemical Co., Inc	341 Commercial St., Malden, MA 02148.
SFD	Sonford Chemical Co	412 Main St., Houston, TX 77002.
SNC	Sonoco Products Co	Hartsville, SC 29550.
SWP	Souhegan Wood Products, Inc	Wilton, NH 03086.
STC	Sou-Tex Chemical Co., Inc	E. Catawba Ave., Mount Holly, NC 28120.
SAC	Southeastern Adhesives Co	P.O. Box 791, Lenoir, NC 28645.
SEP	Southeast Polymers, Inc	P.O. Box 309, Chattanooga, TN 37401.
SNI	Southern Nitrogen Co,, Inc	P.O. Box 246, Savannah, GA 31402.
SOS	Southern Sizing Co	P.O. Box 391, East Point, GA 30044.
SPL	Spaulding Fibre Co., Inc	310 Wheeler St., Tonawanda, NY 14150.
OMS	E. R. Squibb & Sons Div. of Olin Mathieson Chemical Corp.	745 5th Ave., New York, NY 10022.
STA	A. E. Staley Manufacturing Co	N. 22d and Eldorado Sts., Decatur, IL 62525.
UBS	U B S Chemical Co. Div	491 Main St., Cambridge, MA 02142.
SMC	Stamford Chemical Co	45 Jefferson St., P.O. Box 1131, Stamford, CT 06940.
CLN	Standard Brands, Inc., Clinton Corn Processing Co. Div.	1251 Beaver Channel Parkway, Clinton, IA 52733.
SCP	Standard Chemical Products, Inc	1301 Jefferson St., Hoboken, NJ 07030.
SCC	Standard Chlorine Chemical Co., Inc	1015 Belleville Turnpike, Kearny, NJ 07032.
SOC	Standard Oil Co. of California, Chevron Chemical Co.	200 Bush St., San Francisco, CA 94120.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
SIO	Standard Oil Co. of Ohio	Midland Bldg., Cleveland, OH 44115.
SPY	Standard Pyroxoloid Corp	85 Pleasant St., Leominster, MA 01453.
STG	Stange Co	342 N. Western Ave., Chicago, IL 60612.
	Stauffer Chemical Co.:	
CHO	Calhio Chemicals Div	380 Madison Ave., New York, NY 10017.
SF	Industrial Chemical Div	380 Madison Ave., New York, NY 10017.
SFA	Specialty Chemical Div	380 Madison Ave., New York, NY 10017.
SH	Stein, Hall & Co., Inc	605 3d Ave., New York, NY 10016.
STP	Stepan Chemical Co.:	
	Industrial Chemicals Div., Millsdale Works	Elwood, IL 60421.
MYW	Maywood Div	100 W. Hunter Ave., Maywood, NJ 07607.
	Sterling Drug, Inc.:	
SDG	Glenbrook Laboratories Div	90 Park Ave., New York, NY 10016.
SDH	Hilton-Davis Chemical Co. Div	2235 Langdon Farm Rd., Cincinnati, OH 45237.
SLV	Salvo Chemical Div	Military Rd., Rothschild, WI 54474.
TMS	Thomasset Colors Div	120 Lister Ave., Newark, NJ 07105.
SDW	Winthrop Laboratories Div	90 Park Ave., New York, NY 10016.
SRR	Stresen-Reuter, Inc	400 W. Roosevelt Ave., Bensenville, IL 60106.
SUG	Sucro-Chemical Div. of Colonial Sugars Co	P.O. Drawer G, Gramercy, LA 70052.
SVC	Sullivan Varnish Co	410 N. Hart St., Chicago, IL 60622.
SUM	Summit Chemical Products Corp	11 William St., Belleville, NJ 07109.
SNW	Sun Chemical Corp., Chemical Products Div	Wood River Junction, RI 02894.
SNA	Sun Chemical Corp., Pigments Div	441 Tompkins Ave., Staten Island, NY 10305.
SKG	Sunkist Growers, Inc	720 E. Sunkist St., Ontario, CA 91764.
SUN	Sun Oil Co	1608 Walnut St., Philadelphia, PA 19103.
SNO	SunOlin Chemical Co	P.O. Box F, Claymont, DE 19703.
DXS	Sunray DX Oil Co	P.O. Box 2039, Tulsa, OK 74102.
SNT	Suntide Refining Co	P.O. Box 2608, Corpus Christi, TX 78403.
SWT	Swift & Co	115 W. Jackson Blvd., Chicago, IL 60604.
SYR	Synco Resins, Inc	32 Henry St., Bethel, CT 06801.
ARA	Syntex Corp., Arapahoe Chemicals Div	2855 Walnut St., Boulder, CO 80301.
SYC	Synthetic Chemicals, Inc	335 McLean Blvd., Paterson, NJ 07504.
SYP	Synthetic Products Co	1636 Wayside Rd., Cleveland, OH 44112.
SYN	Synthron, Inc	Ryan Ave., Ashton, RI 02805.
SYV	Synvar Corp	726 King St., Wilmington, DE 19801.
TCC	Tanatex Chemical Corp	P.O. Box 388, Lyndhurst, NJ 07071.
CST	Charles S. Tanner Co	450 Furman Hall Rd., Greensville, SC 29608.
TAY	Taylor Corp	Valley Forge, PA 19481.
TNC	Tennant Development Corp., Chemical Div	100 Park Ave., New York, NY 10017.
HN	Tenneco Chemicals, Inc	300 E. 42d St., New York, NY 10017.
BKS	Berkshire Color Div	12th and Bern Sts., Reading, PA 19604.
CIK	Cal/Ink Div	711 Camelia St., Berkeley, CA 94710.
HNW	Newport Div	P.O. Box 911, Pensacola, FA 32502.
NIX	Nixon-Baldwin Div	Nixon, NJ 08818.
HNX	Nuodex Div	1 Virginia St., Newark, NJ 07207.
TMC	Tenneco Manufacturing Co	P.O. Box 2511, Houston, TX 77001.
CRY	Tenneco Plastics Div	P.O. Box 38, East Brunswick, NJ 08816.
TOC	Tenneco Oil Co	P.O. Box 2511, Houston, TX 77001.
TEN	Tennessee Copper Co	Copperhill, TN 37317.
TX	Texaco, Inc	P.O. Box 52332, Houston, TX 77052.
TSA	Texas Alkyls, Inc	P.O. Box 600, Deer Park, TX 77536.
TUS	Texas-U.S. Chemical Co	P.O. Box 667, Port Neches, TX 77651.
TXC	Tex Chem Co	20-21 Wagaraw Rd., Fair Lawn, NJ 07410.
TCI	Texize Chemicals, Inc	P.O. Box 368, Greenville, SC 29602.
TXT	Textilana Corp	12607 Cerise Ave., Hawthorne, CA 90250.
TKL	Thiokol Chemical Corp	P.O. Box 27, Bristol, PA 19007.
SOR	Thomason Industries, Inc., Southern Resin Div	P.O. Drawer 1600, Fayetteville, NC 28301.
THC	Thompson Chemical Co	90 Mendor Ave., Pawtucket, RI 02862.
TMH	Thompson-Hayward Chemical Co	5200 Speaker Rd., Kansas City, KA 66106.
TIC	Ticonderoga Chemical Corp	Marguerite Ave., Leominster, MA 01453.
TID	Tidewater Oil Co	Delaware City, DE 19706.
TRC	Toms River Chemical Corp	Route 37, P.O. Box 71, Toms River, NJ 08753.
TV	Tousey Varnish Co	135 W. Lake St., North Lake, IL 60164.
TRN	Trancoa Chemical Corp	312-326 Ash St., Reading, MA 01867.
ACT	Arthur C. Trask Co	327 S. LaSalle St., Chicago, IL 60604.
TGL	Triangle Chemical Co	206 Lower Elm St., P.O. Box 4528, Macon, GA 31208.
TRJ	Trojan Powder Co	17 N. 7th St., Allentown, PA 18105.
TRO	Troy Chemical Co	338 Wilson Ave., Newark, NJ 07105.
TCH	Trylon Chemical Corp	P.O. Box 5101, Station B, Greenville, SC 29606.
JTC	Joseph Turner & Co	P.O. Box 88, Ridgefield, NJ 07451.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
PCC	USS Chemicals Div. of U.S. Steel Corp----------	Rm. 2104, Grant Bldg., Pittsburgh, PA 15219.
UHL	Paul Uhlich & Co., Inc----------	90 West St., New York, NY 10006.
UNG	Ungerer & Co----------	161 Avenue of the Americas, New York, NY 10013.
NCI	Union Bag-Camp Paper Corp., Nelio Chemical Div--	P.O. Box 6170, Jacksonville, FA 32205.
	Union Carbide Corp.:	
UCC	Chemicals Div----------	270 Park Ave., New York, NY 10017.
UCP	Plastics Div----------	270 Park Ave., New York, NY 10017.
UCS	Silicones Div----------	270 Park Ave., New York, NY 10017.
UOC	Union Oil Co. of California----------	461 S. Boylston St., Los Angeles, CA 90017.
UNS	Union Starch & Refining Co., Inc----------	301 Washington St., Columbus, IN 47201.
URC	United Carbon Co----------	P.O. Box 149, Baytown, TX 77520.
UNN	United Chemical Corp. of Norwood----------	P.O. Box 327, Endicott St., Norwood, MA 02062.
UNP	United Chemical Products Corp----------	York and Colgate Sts., Jersey City, NJ 07302.
UNC	United Cork Companies----------	50 Central Ave., Kearny, NJ 07032.
UNO	United Oil Manufacturing Co----------	2d and Cascade Sts., Erie, PA 16512.
USB	U.S. Borax Research Corp----------	3075 Wilshire Blvd., Los Angeles, CA 90005.
USO	U.S. Oil Co----------	P.O. Box 4228, E. Providence, RI 02914.
UPR	U.S. Peroxygen Corp----------	850 Morton Ave., Richmond, CA 94804.
UPF	United States Pipe & Foundry Co----------	3300 1st Ave. N., Birmingham, AL 35202.
USP	U.S. Plastic & Chemical Corp----------	122 E. Railroad Ave., W. Haverstraw, NY 10993.
UPL	United States Plywood Corp., California Div., Shasta Operations.	P.O. Box 1688, Redding, CA 96002.
USR	United States Rubber Co., Chemical Div----------	Naugatuck, CT 06771.
UVC	Universal Chemicals Corp----------	1224 Mundon Rd., P.O. Box 1224, Ashton, RI 02865.
UDI	Universal Detergents, Inc. & Petrochemicals Co--	1825 E. Spring St., Long Beach, CA 90806.
UPM	Universal Oil Products Co----------	30 Algonquin Rd., Des Plaines, IL 60018.
TBK	Chemical Div----------	State Highway 17, E. Rutherford, NJ 07073.
UPJ	Upjohn Co----------	7000 Portage Rd., Kalamazoo, MI 49001.
CWN	Carwin Organic Chemicals----------	Sackett Point Rd., North Haven, CT 06473.
UTR	Utah Resin Co., Inc----------	604-605 Kearns Bldg., Salt Lake City, UT 84101.
VAL	Valchem----------	1407 Broadway, New York, NY 10018.
VSV	Valentine Sugars, Inc., Valite Div----------	726 Whitney Bldg., New Orleans, LA 70130.
VDM	Van De Mark Chemical Co----------	N. Transit Rd., Lockport, NY 14094.
VNC	Vanderbilt Chemical Corp----------	33 Winfield St., E. Norwalk, CT 06855.
VND	Van Dyk & Co., Inc----------	11 William St., Belleville, NJ 07109.
VAC	Varney Chemical Corp----------	2001 Afton Rd., Janesville, WI 53545.
VEL	Velsicol Chemical Corp----------	330 E. Ohio St., Chicago, IL 60611, and 4902 Central Ave., Chattanooga, TN 37410.
MHI	Ventron Corp., Metal Hydrides Div----------	12-24 Congress St., Beverly, MA 01915.
VB	Vermilye-Bell----------	21707 Bothell Way, Bothell, WA 98011.
VPC	Verona-Pharma Chemical Corp----------	P.O. Box 385, Union, NJ 07083.
VPT	Vickers Refining Co., Inc----------	P.O. Box 2240, Wichita, KS 67201.
VIN	Vineland Chemical Co----------	W. Wheat Rd., Vineland, NJ 08360.
VGC	Virginia Chemicals, Inc----------	West Norfolk, VA 23703.
SIC	Vistron Corp., Silmar Div----------	12335 S. Van Ness Ave., Hawthorne, CA 90250.
VTM	Vitamins, Inc----------	809 W. 58th St., Chicago, IL 60621.
VTV	Vita-Var Corp., Div. of Textron Industries, Inc-	177 Oakwood Ave., Orange, NJ 07050.
FRO	Vulcan Materials Co., Frontier Chemical Co. Div-	P.O. Box 545, Wichita, KS 67201.
	Wallace & Tiernan, Inc.:	
WTH	Harchem Div----------	25 Main St., Belleville, NJ 07109.
WTL	Lucidol Div----------	1740 Military Rd., Buffalo, NY 14240.
WJ	Warner-Jenkinson Manufacturing Co----------	2526 Baldwin St., St. Louis, MO 63106.
WAS	Washburn-Purex Co----------	2244 Elston Ave., Chicago, IL 60614.
WSN	Washine Chemical Corp----------	165 Main St., Lodi, NJ 07644.
WCA	West Coast Adhesives Co----------	11104 NW. Front Ave., Portland, OR 97231.
EW	Westinghouse Electric Corp., Insulating Materials Div.	Trafford, PA 15085.
WES	Weston Chemical Corp----------	104 E. 40th St., Suite 107, New York, NY 10016.
WVA	West Virginia Pulp & Paper Co., Polychemicals Div.	P.O. Box 5207, N. Charleston, SC 29406.
WRD	Weyerhaeuser Co., Wood Products Div----------	118 S. Palmetto St., Marshfield, WI 54449.
WBG	White & Bagley Co----------	P.O. Box 1171, Worcester, MA 01601.
WHI	White & Hodges, Inc----------	576 Lawrence St., Lowell, MA 01852.
WLI	White Laboratories, Inc----------	Galloping Hill Rd., Kenilworth, NJ 07033.
WHL	Whitmoyer Laboratories, Inc----------	P.O. Box 97, Myerstown, PA 17067.
WHW	Whittemore-Wright Co., Inc----------	62 Alford St., Boston, MA 02129.
WIC	Wica Chemicals, Inc----------	P.O. Box 506, Charlotte, NC 28201.
WLM	Wilmot & Cassidy, Inc----------	108 Provost St., Brooklyn, NY 11222.

TABLE 22.--*Synthetic organic chemicals: Directory of manufacturers, 1965*--Continued

Code	Name of company	Office address
	Wilson & Co., Inc.:	
WIL	Wilson Laboratories Div----------	4221 S. Western Blvd., Chicago, IL 60609.
WM	Wilson-Martin Div----------	Snyder Ave. and Swanson St., Philadelphia, PA 19148.
BLA	Winn-Dixie Stores, Inc----------	5050 Edgewood Ct., P.O. Box B, Jacksonville, FA 52203.
WTC	Witco Chemical Co., Inc----------	P.O. Box 305, Paramus, NJ 07652.
SON	Sonneborn Div----------	277 Park Ave., New York, NY 10017.
WCC	Witfield Chemical Corp----------	555 S. Flower St., Los Angeles, CA 90017.
WAW	W. A. Wood Co----------	108 Spring St., Everett, MA 02149.
WOD	Wood Chemicals, Inc----------	P.O. Box 3545, Eugene, OR 97402.
WRC	Wood Ridge Chemical Corp----------	Park Pl. E., Wood Ridge, NJ 07075.
WON	Woonsocket Color & Chemical Co----------	176 Sunnyside Ave., Woonsocket, RI 02895.
WBC	Worthington Biochemical Corp----------	Route 9, Freehold, NJ 07728.
WYN	Wyandotte Chemicals Corp----------	1609 Biddle Ave., Wyandotte, MI 48192.
YAW	Young Aniline Works, Inc----------	2731 Boston St., Baltimore, MD 21224.

APPENDIX

U.S. Imports of Benzenoid Intermediates and Finished Benzenoid Products

Table 23 summarizes, for 1964 and 1965, U.S. imports of benzenoid chemicals and products entered under the Tariff Schedules of the United States (TSUS), schedule 4, part 1, subparts B and C. The data, which were obtained by analyzing invoices covering imports through all U.S. customs districts, are given in detail in a separate report of the Tariff Commission.[1]

In 1965, general imports of benzenoid intermediates entered under schedule 4, part 1B, comprised 642 items with a total weight of 38.0 million pounds and an invoice value of $19.5 million. In 1964, imports consisted of 651 items with a total weight of 18.8 million pounds and an invoice value of $14.4 million. About half of the benzenoid chemicals and products imported in 1965 were declared to be "competitive" (duty based on "American selling price"). In 1965, imports of these products from Canada amounted to 34 percent of the total; imports from that country amounted to 13 million pounds, compared with 2.0 million pounds in 1964. In 1965, imports from Italy amounted to 8.1 million pounds, compared with 1.6 million pounds in 1964. Imports from West Germany amounted to 7.2 million pounds, compared with 7.6 million pounds in 1964. Imports from Japan totaled 3.3 million pounds in 1965, compared with 2.2 million pounds in 1964; and imports from the United Kingdom amounted to 2.2 million pounds in both 1965 and 1964. In 1965, sizable quantities of intermediates were also imported from Switzerland (1.6 million pounds), France (1.2 million pounds), and Sweden (0.8 million pounds).

TABLE 23.--*Benzenoid intermediates and finished benzenoid products: U.S. general imports, classified by use, 1964 and 1965*

Product	1964		1965	
	Quantity	Invoice value	Quantity	Invoice value
	1,000 pounds	*1,000 dollars*	*1,000 pounds*	*1,000 dollars*
Intermediates[1]	18,789	14,410	37,975	19,483
Finished benzenoid products, total	23,682	34,670	31,941	45,425
Dyes, total	10,096	16,261	12,276	20,505
Acid	2,093	...	1,808	...
Azoic dyes	14	...	22	...
Azoic components:				
Fast color bases	311	...	416	...
Fast color salts	113	...	185	...
Naphthol AS and its derivatives	901	...	1,093	...
Basic	1,018	...	1,227	...
Direct	1,015	...	931	...
Disperse	900	...	1,880	...
Fiber-reactive	416	...	652	...
Fluorescent brightening agents	151	...	229	...
Mordant	292	...	221	...
Solvent	128	...	168	...
Sulfur	11	...	37	...
Vat	2,713	...	3,374	...
All other	[2] 20	...	[2] 33	...
Benzenoid pigments (toners and lakes)	684	1,128	797	1,510
Medicinals and pharmaceuticals	3,127	9,764	3,408	12,551
Flavor and perfume materials	1,613	2,311	1,908	2,522
All other	[3] 8,162	5,206	[3] 13,552	8,337

[1] Includes small quantities of rubber-processing chemicals.
[2] Includes ingrain dyes.
[3] Includes organic pesticides and agricultural chemicals, plasticizers, surface-active agents, and textile assistants.

Source: Compiled from the records of the U.S. Bureau of Customs.

[1] *Imports of Benzenoid Chemicals and Products, 1965*, TC Publication 183, 1966 [processed].

The most important intermediates imported in 1965 were adipic acid, polyalkylbenzene, p-nitrotoluene, 3-hydroxy-2-naphthoic acid (B.O.N.), cyclohexanone, acetoacetanilide, Gamma acid, anthraquinone, 2-(morpholinothio)benzothiazole, and sodium naphthionate. In 1965, imports of adipic acid amounted to 13.7 million pounds, compared with 1.9 million pounds in 1964, and came almost entirely from Canada. Imports of polyalkylbenzene in 1965 totaled 6.1 million pounds, compared with 725,000 pounds in 1964, and all came from Italy. In 1965, imports of p-nitrotoluene, which came principally from Sweden and Germany, totaled 922,000 pounds; imports of B.O.N., which came from Italy, West Germany, and Japan, totaled 873,000 pounds; imports of cyclohexanone (699,000 pounds) all came from Italy; imports of acetoacetanilide (679,000 pounds) came principally from Switzerland; imports of Gamma acid (595,000 pounds) came from Japan, West Germany, and Italy; imports of anthraquinone (468,000 pounds) came from the United Kingdom, Japan, and West Germany; imports of 2-(morpholinothio)benzothiazole (415,000 pounds) all came from the United Kingdom; and imports of sodium naphthionate (326,000 pounds) all came from Japan.

Imports in 1965 of all finished benzenoid chemicals and products that are dutiable under part 1C comprised 2,223 items, with a total weight of 31.9 million pounds and an invoice value of $45.4 million. In 1964, imports consisted of 2,292 items, with a total weight of 23.7 million pounds and an invoice value of $34.7 million. In 1965, benzenoid dyes were the most important group of finished benzenoid products imported. Imports of dyes amounted to $20.5 million (invoice value), or 45.2 percent of the value of all imports under part 1C. In 1964, imports of dyes amounted to $16.3 million (invoice value), or 47.0 percent of the value of all imports under part 1C.

Imports of medicinals and pharmaceuticals were the next most important group of products entered under part 1C in 1965. In 1965, imports of medicinals and pharmaceuticals were valued at $12.6 million (invoice value), or 27.8 percent of total imports under part 1C. In 1964, imports of medicinals and pharmaceuticals were valued at $9.8 million, or 28.2 percent of total imports under part 1C. In 1965, imports of benzenoid pigments (toners and lakes) were valued at $1.5 million, compared with $1.1 million in 1964. Imports of benzenoid flavor and perfume materials in 1965 ($2.5 million) were 8 percent more than in 1964. Imports in 1965 of other benzenoid products entered under part 1C (chiefly synthetic resins and pesticides) were valued at $8.3 million, compared with $5.2 million in 1964.

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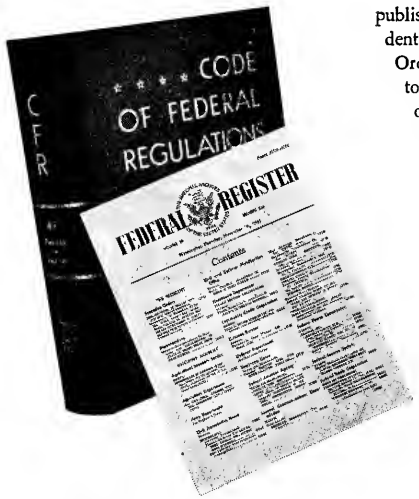

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