

CHEMICAL  
CONVERSION TABLES.

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BATTLE & DANCY.

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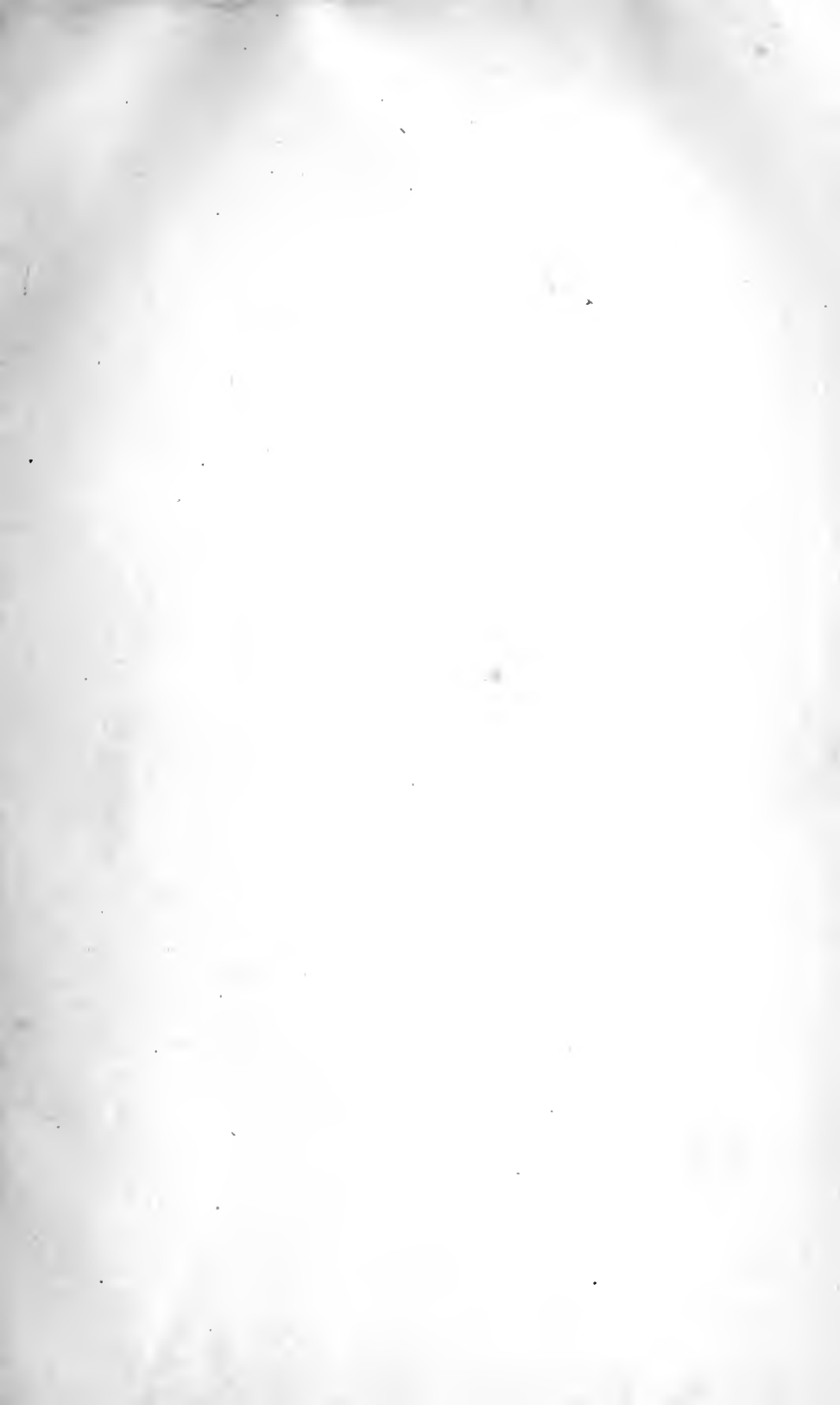






















CHEMICAL  
CONVERSION TABLES,

FOR USE IN THE ANALYSIS OF  
COMMERCIAL FERTILIZERS.

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✓  
BY

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## PREFACE.

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The following tables are intended to meet a long felt want on the part of Agricultural Analytical Chemists for some relief from the laborious and time-consuming calculations necessary to convert the result of each separate determination into the customary per cent. They embrace only what is required in the analysis of commercial fertilizers and their derivative constituents, and hence are principally for the benefit of agricultural chemists. For this purpose the otherwise admirable tables of Frerichs & Kohlmann are inadequate, since they do not convert to per cents, the weights there given do not extend to fractions of a milligramme, nor do they contain the  $\text{Ca}_3\text{P}_2\text{O}_8$  conversion table. This volume, then, conflicts in no way with theirs, but furnishes a need not attempted to be supplied by them.

The tables are based on the latest atomic weights as given by Clarke, ("The Constants of Nature," Part V, 1882), with the exception of the Potash Table, the reason for this departure being given under its appropriate head.

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RALEIGH, MAY 1ST, 1885.



# CHEMICAL

## Conversion Tables.

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TABLE I.

PHOSPHORIC ACID CONVERSION TABLE.

In the following table for the conversion of Magnesium Pyrophosphate ( $Mg_2P_2O_7$ ) into Phosphoric Acid ( $P_2O_5$ ) and Tricalcium Phosphate ( $Ca_3P_2O_8$ ), the figures are based on the supposition that *one-half* ( $\frac{1}{2}$ ) *gram*. of the substance originally weighed out is precipitated and weighed as  $Mg_2P_2O_7$  in the determination of the  $P_2O_5$  present. This weight ( $\frac{1}{2}$  *gram*.) is taken because practically it is found more convenient than any other, because the Convention of Agricultural Chemists adopted it in their official methods at Atlanta, May, 1884, and because a majority of the chemists throughout the country use it.

The factor employed for the conversion of  $Mg_2P_2O_7$  to  $P_2O_5$  is .63965. In the calculation of the  $Ca_3P_2O_8$  it is thought advisable to convert direct from the  $Mg_2P_2O_7$ , as being more accurate than obtaining it through the medium of the  $P_2O_5$ ; this factor is 1.3972.

In the table the numbers are carried to the second decimal, which is always sufficient for a commercial analysis. The rule in this table (as well as in all the others in this book) for throwing aside decimals is invariable, that of raising the second decimal to the next higher figure when the succeeding decimals amount to .005 or more; when these decimals do not amount to .005 the second decimal is unchanged. E. g., 21.06532 is changed to 21.07; and 16.32245 is allowed to remain 16.32. The reason is obvious, as the changed figures will more nearly represent the truth than any others.

The table can be used for 1 gram. as well as  $\frac{1}{2}$  gram., in which case the weight of  $Mg_2P_2O_7$  is divided by two, the resulting number is found in the table and the per cent. sought for will be found opposite. Likewise when  $\frac{1}{4}$  gram. is used the weight of  $Mg_2P_2O_7$  is doubled before using the table. In the analysis of very high grade phosphates where the content of  $P_2O_5$  is likely to exceed 30 per cent., it is advisable to use this latter weight, as the precipitate then can be more easily treated and accuracy better attained.

Gramme .0000—.0199.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.0000	.00	.00	.0050	.64	1.40	.0100	1.28	2.79	.0150	1.92	4.19
.0001	.01	.03	.0051	.65	1.42	.0101	1.29	2.82	.0151	1.93	4.22
.0002	.03	.06	.0052	.67	1.45	.0102	1.30	2.85	.0152	1.94	4.25
.0003	.04	.08	.0053	.68	1.48	.0103	1.32	2.88	.0153	1.96	4.27
.0004	.05	.11	.0054	.69	1.51	.0104	1.33	2.91	.0154	1.97	4.30
.0005	.06	.14	.0055	.70	1.54	.0105	1.34	2.93	.0155	1.98	4.33
.0006	.08	.17	.0056	.72	1.56	.0106	1.36	2.96	.0156	2.00	4.36
.0007	.09	.20	.0057	.73	1.59	.0107	1.37	2.99	.0157	2.01	4.39
.0008	.10	.22	.0058	.74	1.62	.0108	1.38	3.02	.0158	2.02	4.41
.0009	.12	.25	.0059	.75	1.65	.0109	1.39	3.05	.0159	2.03	4.44
.0010	.13	.28	.0060	.77	1.68	.0110	1.41	3.07	.0160	2.05	4.47
.0011	.14	.31	.0061	.78	1.70	.0111	1.42	3.10	.0161	2.06	4.50
.0012	.15	.34	.0062	.79	1.73	.0112	1.43	3.13	.0162	2.07	4.53
.0013	.17	.36	.0063	.81	1.76	.0113	1.45	3.16	.0163	2.09	4.55
.0014	.18	.39	.0064	.82	1.79	.0114	1.46	3.19	.0164	2.10	4.58
.0015	.19	.42	.0065	.83	1.82	.0115	1.47	3.21	.0165	2.11	4.61
.0016	.20	.45	.0066	.84	1.84	.0116	1.48	3.24	.0166	2.12	4.64
.0017	.22	.47	.0067	.86	1.87	.0117	1.50	3.27	.0167	2.14	4.67
.0018	.23	.50	.0068	.87	1.90	.0118	1.51	3.30	.0168	2.15	4.69
.0019	.24	.53	.0069	.88	1.93	.0119	1.52	3.32	.0169	2.16	4.72
.0020	.26	.56	.0070	.90	1.96	.0120	1.54	3.35	.0170	2.17	4.75
.0021	.27	.59	.0071	.91	1.98	.0121	1.55	3.38	.0171	2.19	4.78
.0022	.28	.61	.0072	.92	2.01	.0122	1.56	3.41	.0172	2.20	4.81
.0023	.29	.64	.0073	.93	2.04	.0123	1.57	3.44	.0173	2.21	4.83
.0024	.31	.67	.0074	.95	2.07	.0124	1.59	3.46	.0174	2.23	4.86
.0025	.32	.70	.0075	.96	2.10	.0125	1.60	3.49	.0175	2.24	4.89
.0026	.33	.73	.0076	.97	2.12	.0126	1.61	3.52	.0176	2.25	4.92
.0027	.35	.75	.0077	.99	2.15	.0127	1.62	3.55	.0177	2.26	4.95
.0028	.36	.78	.0078	1.00	2.18	.0128	1.64	3.58	.0178	2.28	4.97
.0029	.37	.81	.0079	1.01	2.21	.0129	1.65	3.60	.0179	2.29	5.00
.0030	.38	.84	.0080	1.02	2.24	.0130	1.66	3.63	.0180	2.30	5.03
.0031	.40	.87	.0081	1.04	2.26	.0131	1.68	3.66	.0181	2.32	5.06
.0032	.41	.89	.0082	1.05	2.29	.0132	1.69	3.69	.0182	2.33	5.09
.0033	.42	.92	.0083	1.06	2.32	.0133	1.70	3.72	.0183	2.34	5.11
.0034	.43	.95	.0084	1.07	2.35	.0134	1.71	3.74	.0184	2.35	5.14
.0035	.45	.98	.0085	1.09	2.37	.0135	1.73	3.77	.0185	2.37	5.17
.0036	.46	1.01	.0086	1.10	2.40	.0136	1.74	3.80	.0186	2.38	5.20
.0037	.47	1.03	.0087	1.11	2.43	.0137	1.75	3.83	.0187	2.39	5.22
.0038	.49	1.06	.0088	1.13	2.46	.0138	1.77	3.86	.0188	2.41	5.25
.0039	.50	1.09	.0089	1.14	2.49	.0139	1.78	3.88	.0189	2.42	5.28
.0040	.51	1.12	.0090	1.15	2.51	.0140	1.79	3.91	.0190	2.43	5.31
.0041	.52	1.15	.0091	1.16	2.54	.0141	1.80	3.94	.0191	2.44	5.34
.0042	.54	1.17	.0092	1.18	2.57	.0142	1.82	3.97	.0192	2.46	5.36
.0043	.55	1.20	.0093	1.19	2.60	.0143	1.83	4.00	.0193	2.47	5.39
.0044	.56	1.23	.0094	1.20	2.63	.0144	1.84	4.02	.0194	2.48	5.42
.0045	.58	1.26	.0095	1.22	2.65	.0145	1.85	4.05	.0195	2.49	5.45
.0046	.59	1.29	.0096	1.23	2.68	.0146	1.87	4.08	.0196	2.51	5.48
.0047	.60	1.31	.0097	1.24	2.71	.0147	1.88	4.11	.0197	2.52	5.50
.0048	.61	1.34	.0098	1.25	2.74	.0148	1.89	4.14	.0198	2.53	5.53
.0049	.63	1.37	.0099	1.27	2.77	.0149	1.91	4.16	.0199	2.55	5.56

## Gramme .0200—.0399.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.0200	2.56	5.59	.0250	3.20	6.99	.0300	3.84	8.38	.0350	4.48	9.78
.0201	2.57	5.62	.0251	3.21	7.01	.0301	3.85	8.41	.0351	4.49	9.81
.0202	2.58	5.64	.0252	3.22	7.04	.0302	3.86	8.44	.0352	4.50	9.83
.0203	2.60	5.67	.0253	3.24	7.07	.0303	3.88	8.47	.0353	4.52	9.86
.0204	2.61	5.70	.0254	3.25	7.10	.0304	3.89	8.49	.0354	4.53	9.89
.0205	2.62	5.73	.0255	3.26	7.12	.0305	3.90	8.52	.0355	4.54	9.92
.0206	2.64	5.76	.0256	3.28	7.15	.0306	3.91	8.55	.0356	4.55	9.95
.0207	2.65	5.78	.0257	3.29	7.18	.0307	3.93	8.58	.0357	4.57	9.97
.0208	2.66	5.81	.0258	3.30	7.21	.0308	3.94	8.61	.0358	4.58	10.00
.0209	2.67	5.84	.0259	3.31	7.24	.0309	3.95	8.63	.0359	4.59	10.03
.0210	2.69	5.87	.0260	3.33	7.26	.0310	3.97	8.66	.0360	4.61	10.06
.0211	2.70	5.90	.0261	3.34	7.29	.0311	3.98	8.69	.0361	4.62	10.09
.0212	2.71	5.92	.0262	3.35	7.32	.0312	3.99	8.72	.0362	4.63	10.11
.0213	2.72	5.95	.0263	3.36	7.35	.0313	4.00	8.75	.0363	4.64	10.14
.0214	2.74	5.98	.0264	3.38	7.38	.0314	4.02	8.77	.0364	4.66	10.17
.0215	2.75	6.01	.0265	3.39	7.40	.0315	4.03	8.80	.0365	4.67	10.20
.0216	2.76	6.04	.0266	3.40	7.43	.0316	4.04	8.83	.0366	4.68	10.23
.0217	2.78	6.06	.0267	3.42	7.46	.0317	4.06	8.86	.0367	4.70	10.25
.0218	2.79	6.09	.0268	3.43	7.49	.0318	4.07	8.88	.0368	4.71	10.28
.0219	2.80	6.12	.0269	3.44	7.52	.0319	4.08	8.91	.0369	4.72	10.31
.0220	2.81	6.15	.0270	3.45	7.54	.0320	4.09	8.94	.0370	4.73	10.34
.0221	2.83	6.17	.0271	3.47	7.57	.0321	4.11	8.97	.0371	4.75	10.37
.0222	2.84	6.20	.0272	3.48	7.60	.0322	4.12	9.00	.0372	4.76	10.39
.0223	2.85	6.23	.0273	3.49	7.63	.0323	4.13	9.02	.0373	4.77	10.42
.0224	2.87	6.26	.0274	3.51	7.66	.0324	4.14	9.05	.0374	4.78	10.45
.0225	2.88	6.29	.0275	3.52	7.68	.0325	4.16	9.08	.0375	4.80	10.48
.0226	2.89	6.31	.0276	3.53	7.71	.0326	4.17	9.11	.0376	4.81	10.51
.0227	2.90	6.34	.0277	3.54	7.74	.0327	4.18	9.14	.0377	4.82	10.53
.0228	2.92	6.37	.0278	3.56	7.77	.0328	4.20	9.16	.0378	4.84	10.56
.0229	2.93	6.40	.0279	3.57	7.80	.0329	4.21	9.19	.0379	4.85	10.59
.0230	2.94	6.43	.0280	3.58	7.82	.0330	4.22	9.22	.0380	4.86	10.62
.0231	2.96	6.45	.0281	3.59	7.85	.0331	4.23	9.25	.0381	4.87	10.65
.0232	2.97	6.48	.0282	3.61	7.88	.0332	4.25	9.28	.0382	4.89	10.67
.0233	2.98	6.51	.0283	3.62	7.91	.0333	4.26	9.30	.0383	4.90	10.70
.0234	2.99	6.54	.0284	3.63	7.93	.0334	4.27	9.33	.0384	4.91	10.73
.0235	3.01	6.57	.0285	3.65	7.96	.0335	4.29	9.36	.0385	4.93	10.76
.0236	3.02	6.59	.0286	3.66	7.99	.0336	4.30	9.39	.0386	4.94	10.78
.0237	3.03	6.62	.0287	3.67	8.02	.0337	4.31	9.42	.0387	4.95	10.81
.0238	3.04	6.65	.0288	3.68	8.05	.0338	4.32	9.44	.0388	4.96	10.84
.0239	3.06	6.68	.0289	3.70	8.07	.0339	4.34	9.47	.0389	4.98	10.87
.0240	3.07	6.71	.0290	3.71	8.10	.0340	4.35	9.50	.0390	4.99	10.90
.0241	3.08	6.73	.0291	3.72	8.13	.0341	4.36	9.53	.0391	5.00	10.92
.0242	3.10	6.76	.0292	3.74	8.16	.0342	4.38	9.56	.0392	5.01	10.95
.0243	3.11	6.79	.0293	3.75	8.19	.0343	4.39	9.58	.0393	5.03	10.98
.0244	3.12	6.82	.0294	3.76	8.21	.0344	4.40	9.61	.0394	5.04	11.01
.0245	3.13	6.85	.0295	3.77	8.24	.0345	4.41	9.64	.0395	5.05	11.04
.0246	3.15	6.87	.0296	3.79	8.27	.0346	4.43	9.67	.0396	5.07	11.06
.0247	3.16	6.90	.0297	3.80	8.30	.0347	4.44	9.70	.0397	5.08	11.09
.0248	3.17	6.93	.0298	3.81	8.33	.0348	4.45	9.72	.0398	5.09	11.12
.0249	3.19	6.96	.0299	3.83	8.35	.0349	4.46	9.75	.0399	5.10	11.15

PHOSPHORIC ACID TABLE.

Gramme .0400-.0599.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.0400	5.12	11.18	.0450	5.76	12.57	.0500	6.40	13.97	.0550	7.04	15.37
.0401	5.13	11.20	.0451	5.77	12.60	.0501	6.41	14.00	.0551	7.05	15.39
.0402	5.14	11.23	.0452	5.78	12.63	.0502	6.42	14.03	.0552	7.06	15.42
.0403	5.16	11.26	.0453	5.80	12.66	.0503	6.43	14.05	.0553	7.07	15.45
.0404	5.17	11.29	.0454	5.81	12.68	.0504	6.45	14.08	.0554	7.09	15.48
.0405	5.18	11.32	.0455	5.82	12.71	.0505	6.46	14.11	.0555	7.10	15.51
.0406	5.19	11.34	.0456	5.83	12.74	.0506	6.47	14.14	.0556	7.11	15.53
.0407	5.21	11.37	.0457	5.85	12.77	.0507	6.49	14.17	.0557	7.13	15.56
.0408	5.22	11.40	.0458	5.86	12.80	.0508	6.50	14.19	.0558	7.14	15.59
.0409	5.23	11.43	.0459	5.87	12.82	.0509	6.51	14.22	.0559	7.15	15.62
.0410	5.25	11.46	.0460	5.88	12.85	.0510	6.52	14.25	.0560	7.16	15.65
.0411	5.26	11.48	.0461	5.90	12.88	.0511	6.54	14.28	.0561	7.18	15.67
.0412	5.27	11.51	.0462	5.91	12.91	.0512	6.55	14.31	.0562	7.19	15.70
.0413	5.28	11.54	.0463	5.92	12.94	.0513	6.56	14.33	.0563	7.20	15.73
.0414	5.30	11.57	.0464	5.94	12.96	.0514	6.58	14.36	.0564	7.22	15.76
.0415	5.31	11.60	.0465	5.95	12.99	.0515	6.59	14.39	.0565	7.23	15.79
.0416	5.32	11.62	.0466	5.96	13.02	.0516	6.60	14.42	.0566	7.24	15.81
.0417	5.33	11.65	.0467	5.97	13.05	.0517	6.61	14.44	.0567	7.25	15.84
.0418	5.35	11.68	.0468	5.99	13.08	.0518	6.63	14.47	.0568	7.27	15.87
.0419	5.36	11.71	.0469	6.00	13.10	.0519	6.64	14.50	.0569	7.28	15.90
.0420	5.37	11.73	.0470	6.01	13.13	.0520	6.65	14.53	.0570	7.29	15.93
.0421	5.39	11.76	.0471	6.03	13.16	.0521	6.67	14.56	.0571	7.30	15.95
.0422	5.40	11.79	.0472	6.04	13.19	.0522	6.68	14.58	.0572	7.32	15.98
.0423	5.41	11.82	.0473	6.05	13.22	.0523	6.69	14.61	.0573	7.33	16.01
.0424	5.42	11.85	.0474	6.06	13.24	.0524	6.70	14.64	.0574	7.34	16.04
.0425	5.44	11.87	.0475	6.08	13.27	.0525	6.72	14.67	.0575	7.36	16.07
.0426	5.45	11.90	.0476	6.09	13.30	.0526	6.73	14.70	.0576	7.37	16.09
.0427	5.46	11.93	.0477	6.10	13.33	.0527	6.74	14.72	.0577	7.38	16.12
.0428	5.48	11.96	.0478	6.12	13.36	.0528	6.75	14.75	.0578	7.39	16.15
.0429	5.49	11.99	.0479	6.13	13.38	.0529	6.77	14.78	.0579	7.41	16.18
.0430	5.50	12.01	.0480	6.14	13.41	.0530	6.78	14.81	.0580	7.42	16.21
.0431	5.51	12.04	.0481	6.15	13.44	.0531	6.79	14.84	.0581	7.43	16.23
.0432	5.53	12.07	.0482	6.17	13.47	.0532	6.81	14.86	.0582	7.45	16.26
.0433	5.54	12.10	.0483	6.18	13.50	.0533	6.82	14.89	.0583	7.46	16.29
.0434	5.55	12.13	.0484	6.19	13.52	.0534	6.83	14.92	.0584	7.47	16.32
.0435	5.56	12.15	.0485	6.20	13.55	.0535	6.84	14.95	.0585	7.48	16.34
.0436	5.58	12.18	.0486	6.22	13.58	.0536	6.86	14.98	.0586	7.50	16.37
.0437	5.59	12.21	.0487	6.23	13.61	.0537	6.87	15.00	.0587	7.51	16.40
.0438	5.60	12.24	.0488	6.24	13.63	.0538	6.88	15.03	.0588	7.52	16.43
.0439	5.62	12.27	.0489	6.26	13.66	.0539	6.90	15.06	.0589	7.54	16.46
.0440	5.63	12.29	.0490	6.27	13.69	.0540	6.91	15.09	.0590	7.55	16.48
.0441	5.64	12.32	.0491	6.28	13.72	.0541	6.92	15.12	.0591	7.56	16.51
.0442	5.65	12.35	.0492	6.29	13.75	.0542	6.93	15.14	.0592	7.57	16.54
.0443	5.67	12.38	.0493	6.31	13.77	.0543	6.95	15.17	.0593	7.59	16.57
.0444	5.68	12.41	.0494	6.32	13.80	.0544	6.96	15.20	.0594	7.60	16.60
.0445	5.69	12.43	.0495	6.33	13.83	.0545	6.97	15.23	.0595	7.61	16.62
.0446	5.71	12.46	.0496	6.35	13.86	.0546	6.98	15.26	.0596	7.62	16.65
.0447	5.72	12.49	.0497	6.36	13.89	.0547	7.00	15.28	.0597	7.64	16.68
.0448	5.73	12.52	.0498	6.37	13.91	.0548	7.01	15.31	.0598	7.65	16.71
.0449	5.74	12.55	.0499	6.38	13.94	.0549	7.02	15.34	.0599	7.66	16.74

## Gramme .0600—.0799.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>3</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>3</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>3</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>3</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.0600	7.68	16.76	.0650	8.32	18.16	.0700	8.96	19.56	.0750	9.59	20.96
.0601	7.69	16.79	.0651	8.33	18.19	.0701	8.97	19.59	.0751	9.61	20.98
.0602	7.70	16.82	.0652	8.34	18.22	.0702	8.98	19.61	.0752	9.62	21.01
.0603	7.71	16.85	.0653	8.35	18.24	.0703	8.99	19.64	.0753	9.63	21.04
.0604	7.73	16.88	.0654	8.37	18.27	.0704	9.01	19.67	.0754	9.65	21.07
.0605	7.74	16.90	.0655	8.38	18.30	.0705	9.02	19.70	.0755	9.66	21.09
.0606	7.75	16.93	.0656	8.39	18.33	.0706	9.03	19.73	.0756	9.67	21.12
.0607	7.77	16.96	.0657	8.41	18.36	.0707	9.04	19.75	.0757	9.68	21.15
.0608	7.78	16.99	.0658	8.42	18.38	.0708	9.06	19.78	.0758	9.70	21.18
.0609	7.79	17.02	.0659	8.43	18.41	.0709	9.07	19.81	.0759	9.71	21.21
.0610	7.80	17.04	.0660	8.44	18.44	.0710	9.08	19.84	.0760	9.72	21.23
.0611	7.82	17.07	.0661	8.46	18.47	.0711	9.10	19.87	.0761	9.74	21.26
.0612	7.83	17.10	.0662	8.47	18.50	.0712	9.11	19.89	.0762	9.75	21.29
.0613	7.84	17.13	.0663	8.48	18.52	.0713	9.12	19.92	.0763	9.76	21.32
.0614	7.85	17.16	.0664	8.49	18.55	.0714	9.13	19.95	.0764	9.77	21.35
.0615	7.87	17.18	.0665	8.51	18.58	.0715	9.15	19.98	.0765	9.79	21.37
.0616	7.88	17.21	.0666	8.52	18.61	.0716	9.16	20.01	.0766	9.80	21.40
.0617	7.89	17.24	.0667	8.53	18.64	.0717	9.17	20.03	.0767	9.81	21.43
.0618	7.91	17.27	.0668	8.55	18.66	.0718	9.19	20.06	.0768	9.83	21.46
.0619	7.92	17.29	.0669	8.56	18.69	.0719	9.20	20.09	.0769	9.84	21.49
.0620	7.93	17.32	.0670	8.57	18.72	.0720	9.21	20.12	.0770	9.85	21.51
.0621	7.94	17.35	.0671	8.58	18.75	.0721	9.22	20.14	.0771	9.86	21.54
.0622	7.96	17.38	.0672	8.60	18.78	.0722	9.24	20.17	.0772	9.88	21.57
.0623	7.97	17.41	.0673	8.61	18.80	.0723	9.25	20.20	.0773	9.89	21.60
.0624	7.98	17.43	.0674	8.62	18.83	.0724	9.26	20.23	.0774	9.90	21.63
.0625	8.00	17.46	.0675	8.64	18.86	.0725	9.27	20.26	.0775	9.91	21.65
.0626	8.01	17.49	.0676	8.65	18.89	.0726	9.29	20.28	.0776	9.93	21.68
.0627	8.02	17.52	.0677	8.66	18.92	.0727	9.30	20.31	.0777	9.94	21.71
.0628	8.03	17.55	.0678	8.67	18.94	.0728	9.31	20.34	.0778	9.95	21.74
.0629	8.05	17.57	.0679	8.69	18.97	.0729	9.33	20.37	.0779	9.97	21.77
.0630	8.06	17.60	.0680	8.70	19.00	.0730	9.34	20.40	.0780	9.98	21.79
.0631	8.07	17.63	.0681	8.71	19.03	.0731	9.35	20.42	.0781	9.99	21.82
.0632	8.09	17.66	.0682	8.72	19.06	.0732	9.36	20.45	.0782	10.00	21.85
.0633	8.10	17.69	.0683	8.74	19.08	.0733	9.38	20.48	.0783	10.02	21.88
.0634	8.11	17.71	.0684	8.75	19.11	.0734	9.39	20.51	.0784	10.03	21.90
.0635	8.12	17.74	.0685	8.76	19.14	.0735	9.40	20.54	.0785	10.04	21.93
.0636	8.14	17.77	.0686	8.78	19.17	.0736	9.42	20.56	.0786	10.06	21.96
.0637	8.15	17.80	.0687	8.79	19.19	.0737	9.43	20.59	.0787	10.07	21.99
.0638	8.16	17.83	.0688	8.80	19.22	.0738	9.44	20.62	.0788	10.08	22.02
.0639	8.17	17.85	.0689	8.81	19.25	.0739	9.45	20.65	.0789	10.09	22.04
.0640	8.19	17.88	.0690	8.83	19.28	.0740	9.47	20.68	.0790	10.11	22.07
.0641	8.20	17.91	.0691	8.84	19.31	.0741	9.48	20.70	.0791	10.12	22.10
.0642	8.21	17.94	.0692	8.85	19.33	.0742	9.49	20.73	.0792	10.13	22.13
.0643	8.23	17.97	.0693	8.87	19.36	.0743	9.51	20.76	.0793	10.14	22.16
.0644	8.24	17.99	.0694	8.88	19.39	.0744	9.52	20.79	.0794	10.16	22.18
.0645	8.25	18.02	.0695	8.89	19.42	.0745	9.53	20.82	.0795	10.17	22.21
.0646	8.26	18.05	.0696	8.90	19.45	.0746	9.54	20.84	.0796	10.18	22.24
.0647	8.28	18.08	.0697	8.92	19.47	.0747	9.56	20.87	.0797	10.20	22.27
.0648	8.29	18.11	.0698	8.93	19.50	.0748	9.57	20.90	.0798	10.21	22.30
.0649	8.30	18.13	.0699	8.94	19.53	.0749	9.58	20.93	.0799	10.22	22.32



## Gramme .0800—0999.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.0800	10.23	22.35	.0850	10.87	23.75	.0900	11.51	25.15	.0950	12.15	26.54
.0801	10.25	22.38	.0851	10.89	23.78	.0901	11.53	25.17	.0951	12.17	26.57
.0802	10.26	22.41	.0852	10.90	23.80	.0902	11.54	25.20	.0952	12.18	26.60
.0803	10.27	22.44	.0853	10.91	23.83	.0903	11.55	25.23	.0953	12.19	26.63
.0804	10.29	22.46	.0854	10.93	23.86	.0904	11.56	25.26	.0954	12.20	26.65
.0805	10.30	22.49	.0855	10.94	23.89	.0905	11.58	25.29	.0955	12.22	26.68
.0806	10.31	22.52	.0856	10.95	23.92	.0906	11.59	25.31	.0956	12.23	26.71
.0807	10.32	22.55	.0857	10.96	23.94	.0907	11.60	25.34	.0957	12.24	26.74
.0808	10.34	22.58	.0858	10.98	23.97	.0908	11.62	25.37	.0958	12.26	26.77
.0809	10.35	22.60	.0859	10.99	24.00	.0909	11.63	25.40	.0959	12.27	26.79
.0810	10.36	22.63	.0860	11.00	24.03	.0910	11.64	25.43	.0960	12.28	26.82
.0811	10.38	22.66	.0861	11.01	24.06	.0911	11.65	25.45	.0961	12.29	26.85
.0812	10.39	22.69	.0862	11.03	24.08	.0912	11.67	25.48	.0962	12.31	26.88
.0813	10.40	22.72	.0863	11.04	24.11	.0913	11.68	25.51	.0963	12.32	26.91
.0814	10.41	22.74	.0864	11.05	24.14	.0914	11.69	25.54	.0964	12.33	26.93
.0815	10.43	22.77	.0865	11.07	24.17	.0915	11.71	25.57	.0965	12.35	26.96
.0816	10.44	22.80	.0866	11.08	24.20	.0916	11.72	25.59	.0966	12.36	26.99
.0817	10.45	22.83	.0867	11.09	24.22	.0917	11.73	25.62	.0967	12.37	27.02
.0818	10.46	22.85	.0868	11.10	24.25	.0918	11.74	25.65	.0968	12.38	27.05
.0819	10.48	22.88	.0869	11.12	24.28	.0919	11.76	25.68	.0969	12.40	27.07
.0820	10.49	22.91	.0870	11.13	24.31	.0920	11.77	25.70	.0970	12.41	27.10
.0821	10.50	22.94	.0871	11.14	24.34	.0921	11.78	25.73	.0971	12.42	27.13
.0822	10.52	22.97	.0872	11.16	24.36	.0922	11.80	25.76	.0972	12.43	27.16
.0823	10.53	22.99	.0873	11.17	24.39	.0923	11.81	25.79	.0973	12.45	27.19
.0824	10.54	23.02	.0874	11.18	24.42	.0924	11.82	25.82	.0974	12.46	27.21
.0825	10.55	23.05	.0875	11.19	24.45	.0925	11.83	25.84	.0975	12.47	27.24
.0826	10.57	23.08	.0876	11.21	24.48	.0926	11.85	25.87	.0976	12.49	27.27
.0827	10.58	23.11	.0877	11.22	24.50	.0927	11.86	25.90	.0977	12.50	27.30
.0828	10.59	23.13	.0878	11.23	24.53	.0928	11.87	25.93	.0978	12.51	27.33
.0829	10.61	23.16	.0879	11.25	24.56	.0929	11.88	25.96	.0979	12.52	27.35
.0830	10.62	23.19	.0880	11.26	24.59	.0930	11.90	25.98	.0980	12.54	27.38
.0831	10.63	23.22	.0881	11.27	24.62	.0931	11.91	26.01	.0981	12.55	27.41
.0832	10.64	23.25	.0882	11.28	24.64	.0932	11.92	26.04	.0982	12.56	27.44
.0833	10.66	23.27	.0883	11.30	24.67	.0933	11.94	26.07	.0983	12.58	27.47
.0834	10.67	23.30	.0884	11.31	24.70	.0934	11.95	26.10	.0984	12.59	27.49
.0835	10.68	23.33	.0885	11.32	24.73	.0935	11.96	26.12	.0985	12.60	27.52
.0836	10.69	23.36	.0886	11.33	24.75	.0936	11.97	26.15	.0986	12.61	27.55
.0837	10.71	23.39	.0887	11.35	24.78	.0937	11.99	26.18	.0987	12.63	27.58
.0838	10.72	23.41	.0888	11.36	24.81	.0938	12.00	26.21	.0988	12.64	27.60
.0839	10.73	23.44	.0889	11.37	24.84	.0939	12.01	26.24	.0989	12.65	27.63
.0840	10.75	23.47	.0890	11.39	24.87	.0940	12.03	26.26	.0990	12.67	27.66
.0841	10.76	23.50	.0891	11.40	24.89	.0941	12.04	26.29	.0991	12.68	27.69
.0842	10.77	23.53	.0892	11.41	24.92	.0942	12.05	26.32	.0992	12.69	27.72
.0843	10.78	23.55	.0893	11.42	24.95	.0943	12.06	26.35	.0993	12.70	27.74
.0844	10.80	23.58	.0894	11.44	24.98	.0944	12.08	26.38	.0994	12.72	27.77
.0845	10.81	23.61	.0895	11.45	25.01	.0945	12.09	26.40	.0995	12.73	27.80
.0846	10.82	23.64	.0896	11.46	25.03	.0946	12.10	26.43	.0996	12.74	27.83
.0847	10.84	23.67	.0897	11.48	25.06	.0947	12.11	26.46	.0997	12.75	27.86
.0848	10.85	23.69	.0898	11.49	25.09	.0948	12.13	26.49	.0998	12.77	27.88
.0849	10.86	23.72	.0899	11.50	25.12	.0949	12.14	26.52	.0999	12.78	27.91

## Gramme .1000—.1199.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.1000	12.79	27.94	.1050	13.43	29.34	.1100	14.07	30.73	.1150	14.71	32.13
.1001	12.81	27.97	.1051	13.45	29.36	.1101	14.09	30.76	.1151	14.72	32.16
.1002	12.82	28.00	.1052	13.46	29.39	.1102	14.10	30.79	.1152	14.74	32.19
.1003	12.83	28.02	.1053	13.47	29.42	.1103	14.11	30.82	.1153	14.75	32.21
.1004	12.84	28.05	.1054	13.48	29.45	.1104	14.12	30.85	.1154	14.76	32.24
.1005	12.86	28.08	.1055	13.50	29.48	.1105	14.14	30.87	.1155	14.78	32.27
.1006	12.87	28.11	.1056	13.51	29.50	.1106	14.15	30.90	.1156	14.79	32.30
.1007	12.88	28.14	.1057	13.52	29.53	.1107	14.16	30.93	.1157	14.80	32.33
.1008	12.90	28.16	.1058	13.53	29.56	.1108	14.17	30.96	.1158	14.81	32.35
.1009	12.91	28.19	.1059	13.55	29.59	.1109	14.19	30.99	.1159	14.83	32.38
.1010	12.92	28.22	.1060	13.56	29.62	.1110	14.20	30.01	.1160	14.84	32.41
.1011	12.93	28.25	.1061	13.57	29.64	.1111	14.21	31.04	.1161	14.85	32.44
.1012	12.95	28.28	.1062	13.59	29.67	.1112	14.23	31.07	.1162	14.87	32.47
.1013	12.96	28.30	.1063	13.60	29.70	.1113	14.24	31.10	.1163	14.88	32.49
.1014	12.97	28.33	.1064	13.61	29.73	.1114	14.25	31.13	.1164	14.89	32.52
.1015	12.98	28.36	.1065	13.62	29.76	.1115	14.26	31.15	.1165	14.90	32.55
.1016	13.00	28.39	.1066	13.64	29.78	.1116	14.28	31.18	.1166	14.92	32.58
.1017	13.01	28.41	.1067	13.65	29.81	.1117	14.29	31.21	.1167	14.93	32.61
.1018	13.02	28.44	.1068	13.66	29.84	.1118	14.30	31.24	.1168	14.94	32.63
.1019	13.04	28.47	.1069	13.68	29.87	.1119	14.32	31.26	.1169	14.96	32.66
.1020	13.05	28.50	.1070	13.69	29.90	.1120	14.33	31.29	.1170	14.97	32.69
.1021	13.06	28.53	.1071	13.70	29.92	.1121	14.34	31.32	.1171	14.98	32.72
.1022	13.07	28.55	.1072	13.71	29.95	.1122	14.35	31.35	.1172	14.99	32.75
.1023	13.09	28.58	.1073	13.73	29.98	.1123	14.37	31.38	.1173	15.01	32.77
.1024	13.10	28.61	.1074	13.74	30.01	.1124	14.38	31.40	.1174	15.02	32.80
.1025	13.11	28.64	.1075	13.75	30.04	.1125	14.39	31.43	.1175	15.03	32.83
.1026	13.13	28.67	.1076	13.77	30.06	.1126	14.40	31.46	.1176	15.04	32.86
.1027	13.14	28.69	.1077	13.78	30.09	.1127	14.42	31.49	.1177	15.06	32.89
.1028	13.15	28.72	.1078	13.79	30.12	.1128	14.43	31.52	.1178	15.07	32.91
.1029	13.16	28.75	.1079	13.80	30.15	.1129	14.44	31.54	.1179	15.08	32.94
.1030	13.18	28.78	.1080	13.82	30.18	.1130	14.46	31.57	.1180	15.10	32.97
.1031	13.19	28.81	.1081	13.83	30.20	.1131	14.47	31.60	.1181	15.11	33.00
.1032	13.20	28.83	.1082	13.84	30.23	.1132	14.48	31.63	.1182	15.12	33.03
.1033	13.22	28.86	.1083	13.85	30.26	.1133	14.49	31.66	.1183	15.13	33.05
.1034	13.23	28.89	.1084	13.87	30.29	.1134	14.51	31.68	.1184	15.15	33.08
.1035	13.24	28.92	.1085	13.88	30.31	.1135	14.52	31.71	.1185	15.16	33.11
.1036	13.25	28.95	.1086	13.89	30.34	.1136	14.53	31.74	.1186	15.17	33.14
.1037	13.27	28.97	.1087	13.91	30.37	.1137	14.55	31.77	.1187	15.19	33.16
.1038	13.28	29.00	.1088	13.92	30.40	.1138	14.56	31.80	.1188	15.20	33.19
.1039	13.29	29.03	.1089	13.93	30.43	.1139	14.57	31.82	.1189	15.21	33.22
.1040	13.30	29.06	.1090	13.94	30.45	.1140	14.58	31.85	.1190	15.22	33.25
.1041	13.32	29.09	.1091	13.96	30.48	.1141	14.60	31.88	.1191	15.24	33.28
.1042	13.33	29.11	.1092	13.97	30.51	.1142	14.61	31.91	.1192	15.25	33.30
.1043	13.34	29.14	.1093	13.98	30.54	.1143	14.62	31.94	.1193	15.26	33.33
.1044	13.36	29.17	.1094	14.00	30.57	.1144	14.64	31.96	.1194	15.27	33.36
.1045	13.37	29.20	.1095	14.01	30.59	.1145	14.65	31.99	.1195	15.29	33.39
.1046	13.38	29.23	.1096	14.02	30.62	.1146	14.66	32.02	.1196	15.30	33.42
.1047	13.39	29.25	.1097	14.03	30.65	.1147	14.67	32.05	.1197	15.31	33.44
.1048	13.41	29.28	.1098	14.05	30.68	.1148	14.69	32.08	.1198	15.33	33.47
.1049	13.42	29.31	.1099	14.06	30.71	.1149	14.70	32.10	.1199	15.34	33.50

**Gramme .1200—1399.**

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.1200	15.35	33.53	.1250	15.99	34.93	.1300	16.63	36.32	.1350	17.27	37.72
.1201	15.36	33.56	.1251	16.00	34.95	.1301	16.64	36.35	.1351	17.28	37.75
.1202	15.38	33.58	.1252	16.02	34.98	.1302	16.66	36.38	.1352	17.30	37.77
.1203	15.39	33.61	.1253	16.03	35.01	.1303	16.67	36.41	.1353	17.31	37.80
.1204	15.40	33.64	.1254	16.04	35.04	.1304	16.68	36.43	.1354	17.32	37.83
.1205	15.42	33.67	.1255	16.06	35.06	.1305	16.69	36.46	.1355	17.33	37.86
.1206	15.43	33.70	.1256	16.07	35.09	.1306	16.71	36.49	.1356	17.35	37.89
.1207	15.44	33.72	.1257	16.08	35.12	.1307	16.72	36.52	.1357	17.36	37.91
.1208	15.45	33.75	.1258	16.09	35.15	.1308	16.73	36.55	.1358	17.37	37.94
.1209	15.47	33.78	.1259	16.11	35.18	.1309	16.75	36.57	.1359	17.39	37.97
.1210	15.48	33.81	.1260	16.12	35.20	.1310	16.76	36.60	.1360	17.40	38.00
.1211	15.49	33.84	.1261	16.13	35.23	.1311	16.77	36.63	.1361	17.41	38.03
.1212	15.51	33.86	.1262	16.14	35.26	.1312	16.78	36.66	.1362	17.42	38.05
.1213	15.52	33.89	.1263	16.16	35.29	.1313	16.80	36.69	.1363	17.44	38.08
.1214	15.53	33.92	.1264	16.17	35.32	.1314	16.81	36.71	.1364	17.45	38.11
.1215	15.54	33.95	.1265	16.18	35.34	.1315	16.82	36.74	.1365	17.46	38.14
.1216	15.56	33.98	.1266	16.20	35.37	.1316	16.84	36.77	.1366	17.48	38.17
.1217	15.57	34.00	.1267	16.21	35.40	.1317	16.85	36.80	.1367	17.49	38.19
.1218	15.58	34.03	.1268	16.22	35.43	.1318	16.86	36.82	.1368	17.50	38.22
.1219	15.59	34.06	.1269	16.23	35.46	.1319	16.87	36.85	.1369	17.51	38.25
.1220	15.61	34.09	.1270	16.25	35.48	.1320	16.89	36.88	.1370	17.53	38.28
.1221	15.62	34.11	.1271	16.26	35.51	.1321	16.90	36.91	.1371	17.54	38.31
.1222	15.63	34.14	.1272	16.27	35.54	.1322	16.91	36.94	.1372	17.55	38.33
.1223	15.65	34.17	.1273	16.29	35.57	.1323	16.93	36.96	.1373	17.56	38.36
.1224	15.66	34.20	.1274	16.30	35.60	.1324	16.94	36.99	.1374	17.58	38.39
.1225	15.67	34.23	.1275	16.31	35.62	.1325	16.95	37.02	.1375	17.59	38.42
.1226	15.68	34.25	.1276	16.32	35.65	.1326	16.96	37.05	.1376	17.60	38.45
.1227	15.70	34.28	.1277	16.34	35.68	.1327	16.98	37.08	.1377	17.62	38.47
.1228	15.71	34.31	.1278	16.35	35.71	.1328	16.99	37.10	.1378	17.63	38.50
.1229	15.72	34.34	.1279	16.36	35.74	.1329	17.00	37.13	.1379	17.64	38.53
.1230	15.74	34.37	.1280	16.38	35.76	.1330	17.01	37.16	.1380	17.65	38.56
.1231	15.75	34.39	.1281	16.39	35.79	.1331	17.03	37.19	.1381	17.67	38.59
.1232	15.76	34.42	.1282	16.40	35.82	.1332	17.04	37.22	.1382	17.68	38.61
.1233	15.77	34.45	.1283	16.41	35.85	.1333	17.05	37.24	.1383	17.69	38.64
.1234	15.79	34.48	.1284	16.43	35.87	.1334	17.07	37.27	.1384	17.71	38.67
.1235	15.80	34.51	.1285	16.44	35.90	.1335	17.08	37.30	.1385	17.72	38.70
.1236	15.81	34.53	.1286	16.45	35.93	.1336	17.09	37.33	.1386	17.73	38.72
.1237	15.82	34.56	.1287	16.46	35.96	.1337	17.10	37.36	.1387	17.74	38.75
.1238	15.84	34.59	.1288	16.48	35.99	.1338	17.12	37.38	.1388	17.76	38.78
.1239	15.85	34.62	.1289	16.49	36.01	.1339	17.13	37.41	.1389	17.77	38.81
.1240	15.86	34.65	.1290	16.50	36.04	.1340	17.14	37.44	.1390	17.78	38.84
.1241	15.88	34.67	.1291	16.52	36.07	.1341	17.16	37.47	.1391	17.80	38.86
.1242	15.89	34.70	.1292	16.53	36.10	.1342	17.17	37.50	.1392	17.81	38.89
.1243	15.90	34.73	.1293	16.54	36.13	.1343	17.18	37.52	.1393	17.82	38.92
.1244	15.91	34.76	.1294	16.55	36.15	.1344	17.19	37.55	.1394	17.83	38.95
.1245	15.93	34.79	.1295	16.57	36.18	.1345	17.21	37.58	.1395	17.85	38.98
.1246	15.94	34.81	.1296	16.58	36.21	.1346	17.22	37.61	.1396	17.86	39.00
.1247	15.95	34.84	.1297	16.59	36.24	.1347	17.23	37.64	.1397	17.87	39.03
.1248	15.97	34.87	.1298	16.61	36.27	.1348	17.24	37.66	.1398	17.88	39.06
.1249	15.98	34.90	.1299	16.62	36.29	.1349	17.26	37.69	.1399	17.90	39.09

## Gramme .1400—1599.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.1400	17.91	39.12	.1450	18.55	40.51	.1500	19.19	41.91	.1550	19.83	43.31
.1401	17.92	39.14	.1451	18.56	40.54	.1501	19.20	41.94	.1551	19.84	43.33
.1402	17.94	39.17	.1452	18.58	40.57	.1502	19.22	41.97	.1552	19.85	43.36
.1403	17.95	39.20	.1453	18.59	40.60	.1503	19.23	42.00	.1553	19.87	43.39
.1404	17.96	39.23	.1454	18.60	40.62	.1504	19.24	42.02	.1554	19.88	43.42
.1405	17.97	39.26	.1455	18.61	40.65	.1505	19.25	42.05	.1555	19.89	43.45
.1406	17.99	39.28	.1456	18.63	40.68	.1506	19.27	42.08	.1556	19.91	43.47
.1407	18.00	39.31	.1457	18.64	40.71	.1507	19.28	42.11	.1557	19.92	43.50
.1408	18.01	39.34	.1458	18.65	40.74	.1508	19.29	42.13	.1558	19.93	43.53
.1409	18.03	39.37	.1459	18.66	40.76	.1509	19.30	42.16	.1559	19.94	43.56
.1410	18.04	39.40	.1460	18.68	40.79	.1510	19.32	42.19	.1560	19.96	43.59
.1411	18.05	39.42	.1461	18.69	40.82	.1511	19.33	42.22	.1561	19.97	43.61
.1412	18.06	39.45	.1462	18.70	40.85	.1512	19.34	42.25	.1562	19.98	43.64
.1413	18.08	39.48	.1463	18.72	40.88	.1513	19.36	42.27	.1563	20.00	43.67
.1414	18.09	39.51	.1464	18.73	40.90	.1514	19.37	42.30	.1564	20.01	43.70
.1415	18.10	39.54	.1465	18.74	40.93	.1515	19.38	42.33	.1565	20.02	43.73
.1416	18.11	39.56	.1466	18.75	40.96	.1516	19.39	42.36	.1566	20.03	43.75
.1417	18.13	39.59	.1467	18.77	40.99	.1517	19.41	42.38	.1567	20.05	43.78
.1418	18.14	39.62	.1468	18.78	41.02	.1518	19.42	42.41	.1568	20.06	43.81
.1419	18.15	39.65	.1469	18.79	41.04	.1519	19.43	42.44	.1569	20.07	43.84
.1420	18.17	39.67	.1470	18.81	41.07	.1520	19.45	42.47	.1570	20.09	43.87
.1421	18.18	39.70	.1471	18.82	41.10	.1521	19.46	42.50	.1571	20.10	43.89
.1422	18.19	39.73	.1472	18.83	41.13	.1522	19.47	42.52	.1572	20.11	43.92
.1423	18.20	39.76	.1473	18.84	41.16	.1523	19.48	42.55	.1573	20.12	43.95
.1424	18.22	39.79	.1474	18.86	41.18	.1524	19.50	42.58	.1574	20.14	43.98
.1425	18.23	39.81	.1475	18.87	41.21	.1525	19.51	42.61	.1575	20.15	44.01
.1426	18.24	39.84	.1476	18.88	41.24	.1526	19.52	42.64	.1576	20.16	44.03
.1427	18.26	39.87	.1477	18.90	41.27	.1527	19.53	42.66	.1577	20.17	44.06
.1428	18.27	39.90	.1478	18.91	41.30	.1528	19.55	42.69	.1578	20.19	44.09
.1429	18.28	39.93	.1479	18.92	41.32	.1529	19.56	42.72	.1579	20.20	44.12
.1430	18.29	39.95	.1480	18.93	41.35	.1530	19.57	42.75	.1580	20.21	44.15
.1431	18.31	39.98	.1481	18.95	41.38	.1531	19.59	42.78	.1581	20.23	44.17
.1432	18.32	40.01	.1482	18.96	41.41	.1532	19.60	42.80	.1582	20.24	44.20
.1433	18.33	40.04	.1483	18.97	41.44	.1533	19.61	42.83	.1583	20.25	44.23
.1434	18.35	40.07	.1484	18.98	41.46	.1534	19.62	42.86	.1584	20.26	44.26
.1435	18.36	40.09	.1485	19.00	41.49	.1535	19.64	42.89	.1585	20.28	44.28
.1436	18.37	40.12	.1486	19.01	41.52	.1536	19.65	42.92	.1586	20.29	44.31
.1437	18.38	40.15	.1487	19.02	41.55	.1537	19.66	42.94	.1587	20.30	44.34
.1438	18.40	40.18	.1488	19.04	41.57	.1538	19.68	42.97	.1588	20.32	44.37
.1439	18.41	40.21	.1489	19.05	41.60	.1539	19.69	43.00	.1589	20.33	44.40
.1440	18.42	40.23	.1490	19.06	41.63	.1540	19.70	43.03	.1590	20.34	44.42
.1441	18.43	40.26	.1491	19.07	41.66	.1541	19.71	43.06	.1591	20.35	44.45
.1442	18.45	40.29	.1492	19.09	41.69	.1542	19.73	43.08	.1592	20.37	44.48
.1443	18.46	40.32	.1493	19.10	41.71	.1543	19.74	43.11	.1593	20.38	44.51
.1444	18.47	40.35	.1494	19.11	41.74	.1544	19.75	43.14	.1594	20.39	44.54
.1445	18.49	40.37	.1495	19.13	41.77	.1545	19.77	43.17	.1595	20.40	44.56
.1446	18.50	40.40	.1496	19.14	41.80	.1546	19.78	43.20	.1596	20.42	44.59
.1447	18.51	40.43	.1497	19.15	41.83	.1547	19.79	43.22	.1597	20.43	44.62
.1448	18.52	40.46	.1498	19.16	41.85	.1548	19.80	43.25	.1598	20.44	44.65
.1449	18.54	40.49	.1499	19.18	41.88	.1549	19.82	43.28	.1599	20.46	44.68

Gramme .1600—.1799.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.1600	20.47	44.70	.1650	21.11	46.10	.1700	21.75	47.50	.1750	22.3	48.90
.1601	20.48	44.73	.1651	21.12	46.13	.1701	21.76	47.53	.1751	22.40	48.92
.1602	20.49	44.76	.1652	21.13	46.16	.1702	21.77	47.55	.1752	22.41	48.95
.1603	20.51	44.79	.1653	21.15	46.18	.1703	21.79	47.58	.1753	22.43	48.98
.1604	20.52	44.82	.1654	21.16	46.21	.1704	21.80	47.61	.1754	22.44	49.01
.1605	20.53	44.84	.1655	21.17	46.24	.1705	21.81	47.64	.1755	22.45	49.03
.1606	20.55	44.87	.1656	21.19	46.27	.1706	21.82	47.67	.1756	22.46	49.06
.1607	20.56	44.90	.1657	21.20	46.30	.1707	21.84	47.69	.1757	22.48	49.09
.1608	20.57	44.93	.1658	21.21	46.32	.1708	21.85	47.72	.1758	22.49	49.12
.1609	20.58	44.96	.1659	21.22	46.35	.1709	21.86	47.75	.1759	22.50	49.15
.1610	20.60	44.98	.1660	21.24	46.38	.1710	21.88	47.78	.1760	22.52	49.17
.1611	20.61	45.01	.1661	21.25	46.41	.1711	21.89	47.81	.1761	22.53	49.20
.1612	20.62	45.04	.1662	21.26	46.44	.1712	21.90	47.83	.1762	22.54	49.23
.1613	20.64	45.07	.1663	21.27	46.46	.1713	21.91	47.86	.1763	22.55	49.26
.1614	20.65	45.10	.1664	21.29	46.49	.1714	21.93	47.89	.1764	22.57	49.29
.1615	20.66	45.12	.1665	21.30	46.52	.1715	21.94	47.92	.1765	22.58	49.31
.1616	20.67	45.15	.1666	21.31	46.55	.1716	21.95	47.95	.1766	22.59	49.34
.1617	20.69	45.18	.1667	21.33	46.58	.1717	21.97	47.97	.1767	22.61	49.37
.1618	20.70	45.21	.1668	21.34	46.60	.1718	21.98	48.00	.1768	22.62	49.40
.1619	20.71	45.23	.1669	21.35	46.63	.1719	21.99	48.03	.1769	22.63	49.43
.1620	20.72	45.26	.1670	21.36	46.66	.1720	22.00	48.06	.1770	22.64	49.45
.1621	20.74	45.29	.1671	21.38	46.69	.1721	22.02	48.08	.1771	22.66	49.48
.1622	20.75	45.32	.1672	21.39	46.72	.1722	22.03	48.11	.1772	22.67	49.51
.1623	20.76	45.35	.1673	21.40	46.74	.1723	22.04	48.14	.1773	22.68	49.54
.1624	20.78	45.37	.1674	21.42	46.77	.1724	22.06	48.17	.1774	22.69	49.57
.1625	20.79	45.40	.1675	21.43	46.80	.1725	22.07	48.20	.1775	22.71	49.59
.1626	20.80	45.43	.1676	21.44	46.83	.1726	22.08	48.22	.1776	22.72	49.62
.1627	20.81	45.46	.1677	21.45	46.86	.1727	22.09	48.25	.1777	22.73	49.65
.1628	20.83	45.49	.1678	21.47	46.88	.1728	22.11	48.28	.1778	22.75	49.68
.1629	20.84	45.51	.1679	21.48	46.91	.1729	22.12	48.31	.1779	22.76	49.71
.1630	20.85	45.54	.1680	21.49	46.94	.1730	22.13	48.34	.1780	22.77	49.73
.1631	20.87	45.57	.1681	21.51	46.97	.1731	22.14	48.36	.1781	22.78	49.76
.1632	20.88	45.60	.1682	21.52	47.00	.1732	22.16	48.39	.1782	22.80	49.79
.1633	20.89	45.63	.1683	21.53	47.02	.1733	22.17	48.42	.1783	22.81	49.82
.1634	20.90	45.65	.1684	21.54	47.05	.1734	22.18	48.45	.1784	22.82	49.84
.1635	20.92	45.68	.1685	21.56	47.08	.1735	22.20	48.48	.1785	22.84	49.87
.1636	20.93	45.71	.1686	21.57	47.11	.1736	22.21	48.50	.1786	22.85	49.90
.1637	20.94	45.74	.1687	21.58	47.13	.1737	22.22	48.53	.1787	22.86	49.93
.1638	20.95	45.77	.1688	21.59	47.16	.1738	22.23	48.56	.1788	22.87	49.96
.1639	20.97	45.79	.1689	21.61	47.19	.1739	22.25	48.59	.1789	22.89	49.98
.1640	20.98	45.82	.1690	21.62	47.22	.1740	22.26	48.62	.1790	22.90	50.01
.1641	20.99	45.85	.1691	21.63	47.25	.1741	22.27	48.64	.1791	22.91	50.04
.1642	21.01	45.88	.1692	21.65	47.27	.1742	22.29	48.67	.1792	22.93	50.07
.1643	21.02	45.91	.1693	21.66	47.30	.1743	22.30	48.70	.1793	22.94	50.10
.1644	21.03	45.93	.1694	21.67	47.33	.1744	22.31	48.73	.1794	22.95	50.12
.1645	21.04	45.96	.1695	21.68	47.36	.1745	22.32	48.76	.1795	22.96	50.15
.1646	21.06	45.99	.1696	21.70	47.39	.1746	22.34	48.78	.1796	22.98	50.18
.1647	21.07	46.02	.1697	21.71	47.41	.1747	22.35	48.81	.1797	22.99	50.21
.1648	21.08	46.05	.1698	21.72	47.44	.1748	22.36	48.84	.1798	23.00	50.24
.1649	21.10	46.07	.1699	21.74	47.47	.1749	22.37	48.87	.1799	23.01	50.26

## Gramme .1800—1999.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.1800	23.03	50.29	.1850	23.67	51.69	.1900	24.31	53.09	.1950	24.95	54.48
.1801	23.04	50.32	.1851	23.68	51.72	.1901	24.32	53.11	.1951	24.96	54.51
.1802	23.05	50.35	.1852	23.69	51.74	.1902	24.33	53.14	.1952	24.97	54.54
.1803	23.07	50.38	.1853	23.71	51.77	.1903	24.35	53.17	.1953	24.98	54.57
.1804	23.08	50.40	.1854	23.72	51.80	.1904	24.36	53.20	.1954	25.00	54.59
.1805	23.09	50.43	.1855	23.73	51.83	.1905	24.37	53.23	.1955	25.01	54.62
.1806	23.10	50.46	.1856	23.74	51.86	.1906	24.38	53.25	.1956	25.02	54.65
.1807	23.12	50.49	.1857	23.76	51.88	.1907	24.40	53.28	.1957	25.04	54.68
.1808	23.13	50.52	.1858	23.77	51.91	.1908	24.41	53.31	.1958	25.05	54.71
.1809	23.14	50.54	.1859	23.78	51.94	.1909	24.42	53.34	.1959	25.06	54.73
.1810	23.16	50.57	.1860	23.79	51.97	.1910	24.43	53.37	.1960	25.07	54.76
.1811	23.17	50.60	.1861	23.81	52.00	.1911	24.45	53.39	.1961	25.09	54.79
.1812	23.18	50.63	.1862	23.82	52.02	.1912	24.46	53.42	.1962	25.10	54.82
.1813	23.19	50.66	.1863	23.83	52.05	.1913	24.47	53.45	.1963	25.11	54.85
.1814	23.21	50.68	.1864	23.85	52.08	.1914	24.49	53.48	.1964	25.13	54.87
.1815	23.22	50.71	.1865	23.86	52.11	.1915	24.50	53.51	.1965	25.14	54.90
.1816	23.23	50.74	.1866	23.87	52.14	.1916	24.51	53.53	.1966	25.15	54.93
.1817	23.24	50.77	.1867	23.88	52.16	.1917	24.52	53.56	.1967	25.16	54.96
.1818	23.26	50.79	.1868	23.90	52.19	.1918	24.54	53.59	.1968	25.18	54.99
.1819	23.27	50.82	.1869	23.91	52.22	.1919	24.55	53.62	.1969	25.19	55.01
.1820	23.28	50.85	.1870	23.92	52.25	.1920	24.56	53.64	.1970	25.20	55.04
.1821	23.30	50.88	.1871	23.94	52.28	.1921	24.58	53.67	.1971	25.22	55.07
.1822	23.31	50.91	.1872	23.95	52.30	.1922	24.59	53.70	.1972	25.23	55.10
.1823	23.32	50.93	.1873	23.96	52.33	.1923	24.60	53.73	.1973	25.24	55.13
.1824	23.33	50.96	.1874	23.97	52.36	.1924	24.61	53.76	.1974	25.25	55.15
.1825	23.35	50.99	.1875	23.99	52.39	.1925	24.63	53.78	.1975	25.27	55.18
.1826	23.36	51.02	.1876	24.00	52.42	.1926	24.64	53.81	.1976	25.28	55.21
.1827	23.37	51.05	.1877	24.01	52.44	.1927	24.65	53.84	.1977	25.29	55.24
.1828	23.39	51.07	.1878	24.03	52.47	.1928	24.66	53.87	.1978	25.30	55.27
.1829	23.40	51.10	.1879	24.04	52.50	.1929	24.68	53.90	.1979	25.32	55.29
.1830	23.41	51.13	.1880	24.05	52.53	.1930	24.69	53.92	.1980	25.33	55.32
.1831	23.42	51.16	.1881	24.06	52.56	.1931	24.70	53.95	.1981	25.34	55.35
.1832	23.44	51.19	.1882	24.08	52.58	.1932	24.72	53.98	.1982	25.36	55.38
.1833	23.45	51.21	.1883	24.09	52.61	.1933	24.73	54.01	.1983	25.37	55.41
.1834	23.46	51.24	.1884	24.10	52.64	.1934	24.74	54.04	.1984	25.38	55.43
.1835	23.48	51.27	.1885	24.11	52.67	.1935	24.75	54.06	.1985	25.39	55.46
.1836	23.49	51.30	.1886	24.13	52.69	.1936	24.77	54.09	.1986	25.41	55.49
.1837	23.50	51.33	.1887	24.14	52.72	.1937	24.78	54.12	.1987	25.42	55.52
.1838	23.51	51.35	.1888	24.15	52.75	.1938	24.79	54.15	.1988	25.43	55.54
.1839	23.53	51.38	.1889	24.17	52.78	.1939	24.81	54.18	.1989	25.45	55.57
.1840	23.53	51.41	.1890	24.18	52.81	.1940	24.82	54.20	.1990	25.46	55.60
.1841	23.55	51.44	.1891	24.19	52.83	.1941	24.83	54.23	.1991	25.47	55.63
.1842	23.56	51.47	.1892	24.20	52.86	.1942	24.84	54.26	.1992	25.48	55.66
.1843	23.58	51.49	.1893	24.22	52.89	.1943	24.86	54.29	.1993	25.50	55.68
.1844	23.59	51.52	.1894	24.23	52.92	.1944	24.87	54.32	.1994	25.51	55.71
.1845	23.60	51.55	.1895	24.24	52.95	.1945	24.88	54.34	.1995	25.52	55.74
.1846	23.62	51.58	.1896	24.26	52.97	.1946	24.90	54.37	.1996	25.53	55.77
.1847	23.63	51.61	.1897	24.27	53.00	.1947	24.91	54.40	.1997	25.55	55.80
.1848	23.64	51.63	.1898	24.28	53.03	.1948	24.92	54.43	.1998	25.56	55.82
.1849	23.65	51.66	.1899	24.29	53.06	.1949	24.93	54.46	.1999	25.57	55.85

Gramme .2000—.2199.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.2000	25.59	55.88	.2050	26.23	57.28	.2100	26.87	58.67	.2150	27.50	60.07
.2001	25.60	55.91	.2051	26.24	57.30	.2101	26.88	58.70	.2151	27.52	60.10
.2002	25.61	55.94	.2052	26.25	57.33	.2102	26.89	58.73	.2152	27.53	60.13
.2003	25.62	55.96	.2053	26.26	57.36	.2103	26.90	58.76	.2153	27.54	60.15
.2004	25.64	55.99	.2054	26.28	57.39	.2104	26.92	58.79	.2154	27.56	60.18
.2005	25.65	56.02	.2055	26.29	57.42	.2105	26.93	58.81	.2155	27.57	60.21
.2006	25.66	56.05	.2056	26.30	57.44	.2106	26.94	58.84	.2156	27.58	60.24
.2007	25.68	56.08	.2057	26.32	57.47	.2107	26.95	58.87	.2157	27.59	60.27
.2008	25.69	56.10	.2058	26.33	57.50	.2108	26.97	58.90	.2158	27.61	60.29
.2009	25.70	56.13	.2059	26.34	57.53	.2109	26.98	58.93	.2159	27.62	60.32
.2010	25.71	56.16	.2060	26.35	57.56	.2110	26.99	58.95	.2160	27.63	60.35
.2011	25.73	56.19	.2061	26.37	57.58	.2111	27.01	58.98	.2161	27.65	60.38
.2012	25.74	56.22	.2062	26.38	57.61	.2112	27.02	59.01	.2162	27.66	60.41
.2013	25.75	56.24	.2063	26.39	57.64	.2113	27.03	59.04	.2163	27.67	60.43
.2014	25.77	56.27	.2064	26.40	57.67	.2114	27.04	59.07	.2164	27.68	60.46
.2015	25.78	56.30	.2065	26.42	57.70	.2115	27.06	59.09	.2165	27.70	60.49
.2016	25.79	56.33	.2066	26.43	57.72	.2116	27.07	59.12	.2166	27.71	60.52
.2017	25.80	56.35	.2067	26.44	57.75	.2117	27.08	59.15	.2167	27.72	60.55
.2018	25.82	56.38	.2068	26.46	57.78	.2118	27.10	59.18	.2168	27.74	60.57
.2019	25.83	56.41	.2069	26.47	57.81	.2119	27.11	59.20	.2169	27.75	60.60
.2020	25.84	56.44	.2070	26.48	57.84	.2120	27.12	59.23	.2170	27.76	60.53
.2021	25.85	56.47	.2071	26.49	57.86	.2121	27.13	59.26	.2171	27.77	60.66
.2022	25.87	56.49	.2072	26.51	57.89	.2122	27.15	59.29	.2172	27.79	60.69
.2023	25.88	56.52	.2073	26.52	57.92	.2123	27.16	59.32	.2173	27.80	60.71
.2024	25.89	56.55	.2074	26.53	57.95	.2124	27.17	59.34	.2174	27.81	60.74
.2025	25.91	56.58	.2075	26.55	57.98	.2125	27.19	59.37	.2175	27.82	60.77
.2026	25.92	56.61	.2076	26.56	58.00	.2126	27.20	59.40	.2176	27.84	60.80
.2027	25.93	56.63	.2077	26.57	58.03	.2127	27.21	59.43	.2177	27.85	60.83
.2028	25.94	56.66	.2078	26.58	58.06	.2128	27.22	59.46	.2178	27.86	60.85
.2029	25.96	56.69	.2079	26.60	58.09	.2129	27.24	59.48	.2179	27.88	60.88
.2030	25.97	56.72	.2080	26.61	58.12	.2130	27.25	59.51	.2180	27.89	60.91
.2031	25.98	56.75	.2081	26.62	58.14	.2131	27.26	59.54	.2181	27.90	60.94
.2032	26.00	56.77	.2082	26.64	58.17	.2132	27.27	59.57	.2182	27.91	60.97
.2033	26.01	56.80	.2083	26.65	58.20	.2133	27.29	59.60	.2183	27.93	61.00
.2034	26.02	56.83	.2084	26.66	58.23	.2134	27.30	59.62	.2184	27.94	61.02
.2035	26.03	56.86	.2085	26.67	58.25	.2135	27.31	59.65	.2185	27.95	61.05
.2036	26.05	56.89	.2086	26.69	58.28	.2136	27.33	59.68	.2186	27.97	61.08
.2037	26.06	56.91	.2087	26.70	58.31	.2137	27.34	59.71	.2187	27.98	61.10
.2038	26.07	56.94	.2088	26.71	58.34	.2138	27.35	59.74	.2188	27.99	61.13
.2039	26.08	56.97	.2089	26.72	58.37	.2139	27.36	59.76	.2189	28.00	61.16
.2040	26.10	57.00	.2090	26.74	58.39	.2140	27.38	59.79	.2190	28.02	61.19
.2041	26.11	57.03	.2091	26.75	58.42	.2141	27.39	59.82	.2191	28.03	61.22
.2042	26.12	57.05	.2092	26.76	58.45	.2142	27.40	59.85	.2192	28.04	61.24
.2043	26.14	57.08	.2093	26.78	58.48	.2143	27.42	59.88	.2193	28.06	61.27
.2044	26.15	57.11	.2094	26.79	58.51	.2144	27.43	59.90	.2194	28.07	61.30
.2045	26.16	57.14	.2095	26.80	58.53	.2145	27.44	59.93	.2195	28.08	61.33
.2046	26.17	57.17	.2096	26.81	58.56	.2146	27.45	59.96	.2196	28.09	61.36
.2047	26.19	57.19	.2097	26.83	58.59	.2147	27.47	59.99	.2197	28.11	61.38
.2048	26.20	57.22	.2098	26.84	58.62	.2148	27.48	60.02	.2198	28.12	61.41
.2049	26.21	57.25	.2099	26.85	58.65	.2149	27.49	60.04	.2199	28.13	61.44

## Gramme .2200—.2399.

Grm.	%	%	Grm.	%	%	Grm.	%	%	Grm.	%	%
Mg <sub>3</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>3</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>3</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	Mg <sub>3</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .
.2200	28.14	61.47	.2250	28.78	62.87	.2300	29.42	64.26	.2350	30.06	65.66
.2201	28.16	61.50	.2251	28.80	62.89	.2301	29.44	64.29	.2351	30.08	65.69
.2202	28.17	61.52	.2252	28.81	62.92	.2302	29.45	64.32	.2352	30.09	65.71
.2203	28.18	61.55	.2253	28.82	62.95	.2303	29.46	64.35	.2353	30.10	65.74
.2204	28.20	61.58	.2254	28.84	62.98	.2304	29.48	64.37	.2354	30.11	65.77
.2205	28.21	61.61	.2255	28.85	63.00	.2305	29.49	64.40	.2355	30.13	65.80
.2206	28.22	61.64	.2256	28.86	63.03	.2306	29.50	64.43	.2356	30.14	65.83
.2207	28.23	61.66	.2257	28.87	63.06	.2307	29.51	64.46	.2357	30.15	65.85
.2208	28.25	61.69	.2258	28.89	63.09	.2308	29.53	64.49	.2358	30.17	65.88
.2209	28.26	61.72	.2259	28.90	63.12	.2309	29.54	64.51	.2359	30.18	65.91
.2210	28.27	61.75	.2260	28.91	63.14	.2310	29.55	64.54	.2360	30.19	65.94
.2211	28.29	61.78	.2261	28.92	63.17	.2311	29.56	64.57	.2361	30.20	65.97
.2212	28.30	61.80	.2262	28.94	63.20	.2312	29.58	64.60	.2362	30.22	65.99
.2213	28.31	61.83	.2263	28.95	63.23	.2313	29.59	64.63	.2363	30.23	66.02
.2214	28.32	61.86	.2264	28.96	63.26	.2314	29.60	64.65	.2364	30.24	66.05
.2215	28.34	61.89	.2265	28.98	63.28	.2315	29.62	64.68	.2365	30.26	66.08
.2216	28.35	61.92	.2266	28.99	63.31	.2316	29.63	64.71	.2366	30.27	66.11
.2217	28.36	61.94	.2267	29.00	63.34	.2317	29.64	64.74	.2367	30.28	66.13
.2218	28.37	61.97	.2268	29.01	63.37	.2318	29.65	64.76	.2368	30.29	66.16
.2219	28.39	62.00	.2269	29.03	63.40	.2319	29.67	64.79	.2369	30.31	66.19
.2220	28.40	62.03	.2270	29.04	63.42	.2320	29.68	64.82	.2370	30.32	66.22
.2221	28.41	62.05	.2271	29.05	63.45	.2321	29.69	64.85	.2371	30.33	66.25
.2222	28.43	62.08	.2272	29.07	63.48	.2322	29.71	64.88	.2372	30.34	66.27
.2223	28.44	62.11	.2273	29.08	63.51	.2323	29.72	64.90	.2373	30.36	66.30
.2224	28.45	62.14	.2274	29.09	63.54	.2324	29.73	64.93	.2374	30.37	66.33
.2225	28.46	62.17	.2275	29.10	63.56	.2325	29.74	64.96	.2375	30.38	66.36
.2226	28.48	62.19	.2276	29.12	63.59	.2326	29.76	64.99	.2376	30.40	66.39
.2227	28.49	62.22	.2277	29.13	63.62	.2327	29.77	65.02	.2377	30.41	66.41
.2228	28.50	62.25	.2278	29.14	63.65	.2328	29.78	65.04	.2378	30.42	66.44
.2229	28.52	62.28	.2279	29.16	63.68	.2329	29.79	65.07	.2379	30.43	66.47
.2230	28.53	62.31	.2280	29.17	63.70	.2330	29.81	65.10	.2380	30.45	66.50
.2231	28.54	62.33	.2281	29.18	63.73	.2331	29.82	65.13	.2381	30.46	66.53
.2232	28.55	62.36	.2282	29.19	63.76	.2332	29.83	65.16	.2382	30.47	66.55
.2233	28.57	62.39	.2283	29.21	63.79	.2333	29.85	65.18	.2383	30.49	66.58
.2234	28.58	62.42	.2284	29.22	63.81	.2334	29.86	65.21	.2384	30.50	66.61
.2235	28.59	62.45	.2285	29.23	63.84	.2335	29.87	65.24	.2385	30.51	66.64
.2236	28.61	62.47	.2286	29.24	63.87	.2336	29.88	65.27	.2386	30.52	66.66
.2237	28.62	62.50	.2287	29.26	63.90	.2337	29.90	65.30	.2387	30.54	66.69
.2238	28.63	62.53	.2288	29.27	63.93	.2338	29.91	65.32	.2388	30.55	66.72
.2239	28.64	62.56	.2289	29.28	63.95	.2339	29.92	65.35	.2389	30.56	66.75
.2240	28.66	62.59	.2290	29.30	63.98	.2340	29.94	65.38	.2390	30.58	66.78
.2241	28.67	62.61	.2291	29.31	64.01	.2341	29.95	65.41	.2391	30.59	66.80
.2242	28.68	62.64	.2292	29.32	64.04	.2342	29.96	65.44	.2392	30.60	66.83
.2243	28.69	62.67	.2293	29.33	64.07	.2343	29.97	65.46	.2393	30.61	66.86
.2244	28.71	62.70	.2294	29.35	64.09	.2344	29.99	65.49	.2394	30.63	66.89
.2245	28.72	62.73	.2295	29.36	64.12	.2345	30.00	65.52	.2395	30.64	66.92
.2246	28.73	62.75	.2296	29.37	64.15	.2346	30.01	65.55	.2396	30.65	66.94
.2247	28.75	62.78	.2297	29.39	64.18	.2347	30.03	65.58	.2397	30.66	66.97
.2248	28.76	62.81	.2298	29.40	64.21	.2348	30.04	65.60	.2398	30.68	67.00
.2249	28.77	62.84	.2299	29.41	64.23	.2349	30.05	65.63	.2399	30.69	67.03



## TABLE II.

## POTASH CONVERSION TABLE.

The Potash Table is intended to be used in ordinary fertilizer and kainit analyses, where the per cents of  $K_2O$  rarely or never run above seven or eight in the former and fifteen in the latter. It gives the per cents of  $K_2O$  from weights of  $K_2PtCl_6$ , from 0.01 per cent. up to 14.00 per cent. It is based on the supposition that *one gramme* of substance is taken for the analysis, (or an aliquot corresponding to 1.0 gramme from a solution of any number of grammes) this, in our opinion, being the most convenient amount to be taken in substances where the per cents of  $K_2O$  run as low as they do in ordinary commercial fertilizers.

When the weight of  $K_2PtCl_6$  has been obtained, look in the table, take the weight there given *nearest* to the weight obtained, and the per cent. of  $K_2O$  will be found opposite. In the kainits or other substances having higher per cents of  $K_2O$ , one-half gramme is enough to be taken for the analysis. In such cases and in all cases where 0.5 gramme is taken, it will be sufficient for all practical purposes to *double* the per cent. read in the table. In case of fertilizers and substances with *low* per cents of  $K_2O$ , and when only 0.5 gramme has been taken, it will, of course, be more accurate to double the *weight* of  $K_2PtCl_6$  found and then read from the table.

It will be observed that by moving the decimal point two places to the left in the column of per cents, the *weight* of  $K_2O$  from a known weight of  $K_2PtCl_6$  may be read.

The Potash Table is constructed with the factor (0.19308) given in the "Potash Method" of the "Report of the Convention of Official Agricultural Chemists, held at Philadelphia, Sept. 8th and 9th, 1884." Although this factor is based on atomic weights different from the latest and most accurately determined weights, (e. g. Pt = 197.18, when it is really 194.415: see determinations of Seubert, cited in "Constants of Nature," Part V. 1882, p. 249,) yet, as Dr.

Jenkins of the Connecticut Experiment Station, the author of the method, says, "for practical purposes the question is not what is the actual atomic weight, but what factor will give the correct result with the method universally employed. Fresenius shows from very careful determinations by himself and others that  $K_2PtCl_6 \times 0.3056$  gives the actual KCl which was used in the control determinations and which corresponds to Pt. 197.18. Hence, unless painful precautions are taken, such as Seubert took to remove *Verknüchtungs-Wasser* which will not go at  $100^\circ$  or  $130^\circ$ , 0.193076 or 0.19308 would be the most correct factor to use. Vide Fresenius Zeitschr. für Analyt. Chem. XXI, 1882, p. 234."

**Gramme .0000-.1554.**

Grm.	%	Grm.	%	Grm.	%	Grm.	%	Grm.	%	Grm.	%
K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.
.0005	.01	.0264	.51	.0523	1.01	.0782	1.51	.1041	2.01	.1300	2.51
.0010	.02	.0269	.52	.0528	1.02	.0787	1.52	.1046	2.02	.1305	2.52
.0016	.03	.0275	.53	.0534	1.03	.0793	1.53	.1052	2.03	.1311	2.53
.0021	.04	.0280	.54	.0539	1.04	.0798	1.54	.1057	2.04	.1316	2.54
.0026	.05	.0285	.55	.0544	1.05	.0803	1.55	.1062	2.05	.1321	2.55
.0031	.06	.0290	.56	.0549	1.06	.0808	1.56	.1067	2.06	.1326	2.56
.0036	.07	.0295	.57	.0554	1.07	.0813	1.57	.1072	2.07	.1331	2.57
.0041	.08	.0300	.58	.0559	1.08	.0818	1.58	.1077	2.08	.1336	2.58
.0047	.09	.0306	.59	.0565	1.09	.0824	1.59	.1083	2.09	.1342	2.59
.0052	.10	.0311	.60	.0570	1.10	.0829	1.60	.1088	2.10	.1347	2.60
.0057	.11	.0316	.61	.0575	1.11	.0834	1.61	.1093	2.11	.1352	2.61
.0062	.12	.0321	.62	.0580	1.12	.0839	1.62	.1098	2.12	.1357	2.62
.0067	.13	.0326	.63	.0585	1.13	.0844	1.63	.1103	2.13	.1362	2.63
.0073	.14	.0332	.64	.0591	1.14	.0850	1.64	.1109	2.14	.1368	2.64
.0078	.15	.0337	.65	.0596	1.15	.0855	1.65	.1114	2.15	.1373	2.65
.0083	.16	.0342	.66	.0601	1.16	.0860	1.66	.1119	2.16	.1378	2.66
.0088	.17	.0347	.67	.0606	1.17	.0865	1.67	.1124	2.17	.1383	2.67
.0093	.18	.0352	.68	.0611	1.18	.0870	1.68	.1129	2.18	.1388	2.68
.0098	.19	.0357	.69	.0616	1.19	.0875	1.69	.1134	2.19	.1393	2.69
.0104	.20	.0363	.70	.0622	1.20	.0881	1.70	.1140	2.20	.1399	2.70
.0109	.21	.0368	.71	.0627	1.21	.0886	1.71	.1145	2.21	.1404	2.71
.0114	.22	.0373	.72	.0632	1.22	.0891	1.72	.1150	2.22	.1409	2.72
.0119	.23	.0378	.73	.0637	1.23	.0896	1.73	.1155	2.23	.1414	2.73
.0124	.24	.0383	.74	.0642	1.24	.0901	1.74	.1160	2.24	.1419	2.74
.0130	.25	.0389	.75	.0648	1.25	.0907	1.75	.1166	2.25	.1425	2.75
.0135	.26	.0394	.76	.0653	1.26	.0912	1.76	.1171	2.26	.1430	2.76
.0140	.27	.0399	.77	.0658	1.27	.0917	1.77	.1176	2.27	.1435	2.77
.0145	.28	.0404	.78	.0663	1.28	.0922	1.78	.1181	2.28	.1440	2.78
.0150	.29	.0409	.79	.0668	1.29	.0927	1.79	.1186	2.29	.1445	2.79
.0155	.30	.0414	.80	.0673	1.30	.0932	1.80	.1191	2.30	.1450	2.80
.0161	.31	.0420	.81	.0679	1.31	.0938	1.81	.1197	2.31	.1456	2.81
.0166	.32	.0425	.82	.0684	1.32	.0943	1.82	.1202	2.32	.1461	2.82
.0171	.33	.0430	.83	.0689	1.33	.0948	1.83	.1207	2.33	.1466	2.83
.0176	.34	.0435	.84	.0694	1.34	.0953	1.84	.1212	2.34	.1471	2.84
.0181	.35	.0440	.85	.0699	1.35	.0958	1.85	.1217	2.35	.1476	2.85
.0186	.36	.0445	.86	.0704	1.36	.0963	1.86	.1222	2.36	.1481	2.86
.0192	.37	.0451	.87	.0710	1.37	.0969	1.87	.1228	2.37	.1487	2.87
.0197	.38	.0456	.88	.0715	1.38	.0974	1.88	.1233	2.38	.1492	2.88
.0202	.39	.0461	.89	.0720	1.39	.0979	1.89	.1238	2.39	.1497	2.89
.0207	.40	.0466	.90	.0725	1.40	.0984	1.90	.1243	2.40	.1502	2.90
.0212	.41	.0471	.91	.0730	1.41	.0989	1.91	.1248	2.41	.1507	2.91
.0218	.42	.0477	.92	.0736	1.42	.0995	1.92	.1254	2.42	.1513	2.92
.0223	.43	.0482	.93	.0741	1.43	.1000	1.93	.1259	2.43	.1518	2.93
.0228	.44	.0487	.94	.0746	1.44	.1005	1.94	.1264	2.44	.1523	2.94
.0233	.45	.0492	.95	.0751	1.45	.1010	1.95	.1269	2.45	.1528	2.95
.0238	.46	.0497	.96	.0756	1.46	.1015	1.96	.1274	2.46	.1533	2.96
.0243	.47	.0502	.97	.0761	1.47	.1020	1.97	.1279	2.47	.1538	2.97
.0249	.48	.0508	.98	.0767	1.48	.1026	1.98	.1285	2.48	.1544	2.98
.0254	.49	.0513	.99	.0772	1.49	.1031	1.99	.1290	2.49	.1549	2.99
.0259	.50	.0518	1.00	.0777	1.50	.1036	2.00	.1295	2.50	.1554	3.00

## Gramme .1555—3108.

Grm.	%	Grm.	%	Grm.	%	Grm.	%	Grm.	%	Grm.	%
K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.
.1559	3.01	.1818	3.51	.2077	4.01	.2336	4.51	.2595	5.01	.2854	5.51
.1564	3.02	.1823	3.52	.2082	4.02	.2341	4.52	.2600	5.02	.2859	5.52
.1570	3.03	.1829	3.53	.2088	4.03	.2347	4.53	.2606	5.03	.2865	5.53
.1575	3.04	.1834	3.54	.2093	4.04	.2352	4.54	.2611	5.04	.2870	5.54
.1580	3.05	.1839	3.55	.2098	4.05	.2357	4.55	.2616	5.05	.2875	5.55
.1585	3.06	.1844	3.56	.2103	4.06	.2362	4.56	.2621	5.06	.2880	5.56
.1590	3.07	.1849	3.57	.2108	4.07	.2367	4.57	.2626	5.07	.2885	5.57
.1595	3.08	.1854	3.58	.2113	4.08	.2372	4.58	.2631	5.08	.2890	5.58
.1601	3.09	.1860	3.59	.2119	4.09	.2378	4.59	.2637	5.09	.2896	5.59
.1606	3.10	.1865	3.60	.2124	4.10	.2383	4.60	.2642	5.10	.2901	5.60
.1611	3.11	.1870	3.61	.2129	4.11	.2388	4.61	.2647	5.11	.2906	5.61
.1616	3.12	.1875	3.62	.2134	4.12	.2393	4.62	.2652	5.12	.2911	5.62
.1621	3.13	.1880	3.63	.2139	4.13	.2398	4.63	.2657	5.13	.2916	5.63
.1627	3.14	.1886	3.64	.2145	4.14	.2404	4.64	.2663	5.14	.2922	5.64
.1632	3.15	.1891	3.65	.2150	4.15	.2409	4.65	.2668	5.15	.2927	5.65
.1637	3.16	.1896	3.66	.2155	4.16	.2414	4.66	.2673	5.16	.2932	5.66
.1642	3.17	.1901	3.67	.2160	4.17	.2419	4.67	.2678	5.17	.2937	5.67
.1647	3.18	.1906	3.68	.2165	4.18	.2424	4.68	.2683	5.18	.2942	5.68
.1652	3.19	.1911	3.69	.2170	4.19	.2429	4.69	.2688	5.19	.2947	5.69
.1658	3.20	.1917	3.70	.2176	4.20	.2435	4.70	.2694	5.20	.2953	5.70
.1663	3.21	.1922	3.71	.2181	4.21	.2440	4.71	.2699	5.21	.2958	5.71
.1668	3.22	.1927	3.72	.2186	4.22	.2445	4.72	.2704	5.22	.2963	5.72
.1673	3.23	.1932	3.73	.2191	4.23	.2450	4.73	.2709	5.23	.2968	5.73
.1678	3.24	.1937	3.74	.2196	4.24	.2455	4.74	.2714	5.24	.2973	5.74
.1684	3.25	.1943	3.75	.2202	4.25	.2461	4.75	.2720	5.25	.2979	5.75
.1689	3.26	.1948	3.76	.2207	4.26	.2466	4.76	.2725	5.26	.2984	5.76
.1694	3.27	.1953	3.77	.2212	4.27	.2471	4.77	.2730	5.27	.2989	5.77
.1699	3.28	.1958	3.78	.2217	4.28	.2476	4.78	.2735	5.28	.2994	5.78
.1704	3.29	.1963	3.79	.2222	4.29	.2481	4.79	.2740	5.29	.2999	5.79
.1709	3.30	.1968	3.80	.2227	4.30	.2486	4.80	.2745	5.30	.3004	5.80
.1715	3.31	.1974	3.81	.2233	4.31	.2492	4.81	.2751	5.31	.3010	5.81
.1720	3.32	.1979	3.82	.2238	4.32	.2497	4.82	.2756	5.32	.3015	5.82
.1725	3.33	.1984	3.83	.2243	4.33	.2502	4.83	.2761	5.33	.3020	5.83
.1730	3.34	.1989	3.84	.2248	4.34	.2507	4.84	.2766	5.34	.3025	5.84
.1735	3.35	.1994	3.85	.2253	4.35	.2512	4.85	.2771	5.35	.3030	5.85
.1740	3.36	.1999	3.86	.2258	4.36	.2517	4.86	.2776	5.36	.3035	5.86
.1746	3.37	.2005	3.87	.2264	4.37	.2523	4.87	.2782	5.37	.3041	5.87
.1751	3.38	.2010	3.88	.2269	4.38	.2528	4.88	.2787	5.38	.3046	5.88
.1756	3.39	.2015	3.89	.2274	4.39	.2533	4.89	.2792	5.39	.3051	5.89
.1761	3.40	.2020	3.90	.2279	4.40	.2538	4.90	.2797	5.40	.3056	5.90
.1766	3.41	.2025	3.91	.2284	4.41	.2543	4.91	.2802	5.41	.3061	5.91
.1772	3.42	.2031	3.92	.2290	4.42	.2549	4.92	.2808	5.42	.3067	5.92
.1777	3.43	.2036	3.93	.2295	4.43	.2554	4.93	.2813	5.43	.3072	5.93
.1782	3.44	.2041	3.94	.2300	4.44	.2559	4.94	.2818	5.44	.3077	5.94
.1787	3.45	.2046	3.95	.2305	4.45	.2564	4.95	.2823	5.45	.3082	5.95
.1792	3.46	.2051	3.96	.2310	4.46	.2569	4.96	.2828	5.46	.3087	5.96
.1797	3.47	.2056	3.97	.2315	4.47	.2574	4.97	.2833	5.47	.3092	5.97
.1803	3.48	.2062	3.98	.2321	4.48	.2580	4.98	.2839	5.48	.3098	5.98
.1808	3.49	.2067	3.99	.2326	4.49	.2585	4.99	.2844	5.49	.3103	5.99
.1813	3.50	.2072	4.00	.2331	4.50	.2590	5.00	.2849	5.50	.3108	6.00

**Gramme .3109—.4662.**

Grm.	%	Grm.	%	Grm.	%	Grm.	%	Grm.	%	Grm.	%
K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.
.3113	6.01	.3372	6.51	.3631	7.01	.3890	7.51	.4149	8.01	.4408	8.51
.3118	6.02	.3377	6.52	.3636	7.02	.3895	7.52	.4154	8.02	.4413	8.52
.3124	6.03	.3383	6.53	.3642	7.03	.3901	7.53	.4160	8.03	.4419	8.53
.3129	6.04	.3388	6.54	.3647	7.04	.3906	7.54	.4165	8.04	.4424	8.54
.3134	6.05	.3393	6.55	.3652	7.05	.3911	7.55	.4170	8.05	.4429	8.55
.3139	6.06	.3398	6.56	.3657	7.06	.3916	7.56	.4175	8.06	.4434	8.56
.3144	6.07	.3403	6.57	.3662	7.07	.3921	7.57	.4180	8.07	.4439	8.57
.3149	6.08	.3408	6.58	.3667	7.08	.3926	7.58	.4185	8.08	.4444	8.58
.3155	6.09	.3414	6.59	.3673	7.09	.3932	7.59	.4191	8.09	.4450	8.59
.3160	6.10	.3419	6.60	.3678	7.10	.3937	7.60	.4196	8.10	.4455	8.60
.3165	6.11	.3424	6.61	.3683	7.11	.3942	7.61	.4201	8.11	.4460	8.61
.3170	6.12	.3429	6.62	.3688	7.12	.3947	7.62	.4206	8.12	.4465	8.62
.3175	6.13	.3434	6.63	.3693	7.13	.3952	7.63	.4211	8.13	.4470	8.63
.3181	6.14	.3440	6.64	.3699	7.14	.3958	7.64	.4217	8.14	.4476	8.64
.3186	6.15	.3445	6.65	.3704	7.15	.3963	7.65	.4222	8.15	.4481	8.65
.3191	6.16	.3450	6.66	.3709	7.16	.3968	7.66	.4227	8.16	.4486	8.66
.3196	6.17	.3455	6.67	.3714	7.17	.3973	7.67	.4232	8.17	.4491	8.67
.3201	6.18	.3460	6.68	.3719	7.18	.3978	7.68	.4237	8.18	.4496	8.68
.3206	6.19	.3465	6.69	.3724	7.19	.3983	7.69	.4242	8.19	.4501	8.69
.3212	6.20	.3471	6.70	.3730	7.20	.3989	7.70	.4248	8.20	.4507	8.70
.3217	6.21	.3476	6.71	.3735	7.21	.3994	7.71	.4253	8.21	.4512	8.71
.3222	6.22	.3481	6.72	.3740	7.22	.3999	7.72	.4258	8.22	.4517	8.72
.3227	6.23	.3486	6.73	.3745	7.23	.4004	7.73	.4263	8.23	.4522	8.73
.3232	6.24	.3491	6.74	.3750	7.24	.4009	7.74	.4268	8.24	.4527	8.74
.3238	6.25	.3497	6.75	.3756	7.25	.4015	7.75	.4274	8.25	.4533	8.75
.3243	6.26	.3502	6.76	.3761	7.26	.4020	7.76	.4279	8.26	.4538	8.76
.3248	6.27	.3507	6.77	.3766	7.27	.4025	7.77	.4284	8.27	.4543	8.77
.3253	6.28	.3512	6.78	.3771	7.28	.4030	7.78	.4289	8.28	.4548	8.78
.3258	6.29	.3517	6.79	.3776	7.29	.4035	7.79	.4294	8.29	.4553	8.79
.3263	6.30	.3522	6.80	.3781	7.30	.4040	7.80	.4299	8.30	.4558	8.80
.3269	6.31	.3528	6.81	.3787	7.31	.4046	7.81	.4305	8.31	.4564	8.81
.3274	6.32	.3533	6.82	.3792	7.32	.4051	7.82	.4310	8.32	.4569	8.82
.3279	6.33	.3538	6.83	.3797	7.33	.4056	7.83	.4315	8.33	.4574	8.83
.3284	6.34	.3543	6.84	.3802	7.34	.4061	7.84	.4320	8.34	.4579	8.84
.3289	6.35	.3548	6.85	.3807	7.35	.4066	7.85	.4325	8.35	.4584	8.85
.3294	6.36	.3553	6.86	.3812	7.36	.4071	7.86	.4330	8.36	.4589	8.86
.3300	6.37	.3559	6.87	.3818	7.37	.4077	7.87	.4336	8.37	.4595	8.87
.3305	6.38	.3564	6.88	.3823	7.38	.4082	7.88	.4341	8.38	.4600	8.88
.3310	6.39	.3569	6.89	.3828	7.39	.4087	7.89	.4346	8.39	.4605	8.89
.3315	6.40	.3574	6.90	.3833	7.40	.4092	7.90	.4351	8.40	.4610	8.90
.3320	6.41	.3579	6.91	.3838	7.41	.4097	7.91	.4356	8.41	.4615	8.91
.3326	6.42	.3585	6.92	.3844	7.42	.4103	7.92	.4362	8.42	.4621	8.92
.3331	6.43	.3590	6.93	.3849	7.43	.4108	7.93	.4367	8.43	.4626	8.93
.3336	6.44	.3595	6.94	.3854	7.44	.4113	7.94	.4372	8.44	.4631	8.94
.3341	6.45	.3600	6.95	.3859	7.45	.4118	7.95	.4377	8.45	.4636	8.95
.3346	6.46	.3605	6.96	.3864	7.46	.4123	7.96	.4382	8.46	.4641	8.96
.3351	6.47	.3610	6.97	.3869	7.47	.4128	7.97	.4387	8.47	.4646	8.97
.3357	6.48	.3616	6.98	.3875	7.48	.4134	7.98	.4393	8.48	.4652	8.98
.3362	6.49	.3621	6.99	.3880	7.49	.4139	7.99	.4398	8.49	.4657	8.99
.3367	6.50	.3626	7.00	.3885	7.50	.4144	8.00	.4403	8.50	.4662	9.00

## Gramme .4663—.6216.

Grm.	%	Grm.	%	Grm.	%	Grm.	%	Grm.	%	Grm.	%
K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.
.4667	9.01	.4926	9.51	.5185	10.01	.5444	10.51	.5703	11.01	.5962	11.51
.4672	9.02	.4931	9.52	.5190	10.02	.5449	10.52	.5708	11.02	.5967	11.52
.4678	9.03	.4937	9.53	.5196	10.03	.5455	10.53	.5714	11.03	.5973	11.53
.4683	9.04	.4942	9.54	.5201	10.04	.5460	10.54	.5719	11.04	.5978	11.54
.4688	9.05	.4947	9.55	.5206	10.05	.5465	10.55	.5724	11.05	.5983	11.55
.4693	9.06	.4952	9.56	.5211	10.06	.5470	10.56	.5729	11.06	.5988	11.56
.4698	9.07	.4957	9.57	.5216	10.07	.5475	10.57	.5734	11.07	.5993	11.57
.4703	9.08	.4962	9.58	.5221	10.08	.5480	10.58	.5739	11.08	.5998	11.58
.4709	9.09	.4968	9.59	.5227	10.09	.5486	10.59	.5745	11.09	.6004	11.59
.4714	9.10	.4973	9.60	.5232	10.10	.5491	10.60	.5750	11.10	.6009	11.60
.4719	9.11	.4978	9.61	.5237	10.11	.5496	10.61	.5755	11.11	.6014	11.61
.4724	9.12	.4983	9.62	.5242	10.12	.5501	10.62	.5760	11.12	.6019	11.62
.4729	9.13	.4988	9.63	.5247	10.13	.5506	10.63	.5765	11.13	.6024	11.63
.4735	9.14	.4994	9.64	.5253	10.14	.5512	10.64	.5771	11.14	.6030	11.64
.4740	9.15	.4999	9.65	.5258	10.15	.5517	10.65	.5776	11.15	.6035	11.65
.4745	9.16	.5004	9.66	.5263	10.16	.5522	10.66	.5781	11.16	.6040	11.66
.4750	9.17	.5009	9.67	.5268	10.17	.5527	10.67	.5786	11.17	.6045	11.67
.4755	9.18	.5014	9.68	.5273	10.18	.5532	10.68	.5791	11.18	.6050	11.68
.4760	9.19	.5019	9.69	.5278	10.19	.5537	10.69	.5796	11.19	.6055	11.69
.4766	9.20	.5025	9.70	.5284	10.20	.5543	10.70	.5802	11.20	.6061	11.70
.4771	9.21	.5030	9.71	.5289	10.21	.5548	10.71	.5807	11.21	.6066	11.71
.4776	9.22	.5035	9.72	.5294	10.22	.5553	10.72	.5812	11.22	.6071	11.72
.4781	9.23	.5040	9.73	.5299	10.23	.5558	10.73	.5817	11.23	.6076	11.73
.4786	9.24	.5045	9.74	.5304	10.24	.5563	10.74	.5822	11.24	.6081	11.74
.4792	9.25	.5051	9.75	.5310	10.25	.5569	10.75	.5828	11.25	.6087	11.75
.4797	9.26	.5056	9.76	.5315	10.26	.5574	10.76	.5833	11.26	.6092	11.76
.4802	9.27	.5061	9.77	.5320	10.27	.5579	10.77	.5838	11.27	.6097	11.77
.4807	9.28	.5066	9.78	.5325	10.28	.5584	10.78	.5843	11.28	.6102	11.78
.4812	9.29	.5071	9.79	.5330	10.29	.5589	10.79	.5848	11.29	.6107	11.79
.4817	9.30	.5076	9.80	.5335	10.30	.5594	10.80	.5853	11.30	.6112	11.80
.4823	9.31	.5082	9.81	.5341	10.31	.5600	10.81	.5859	11.31	.6118	11.81
.4828	9.32	.5087	9.82	.5346	10.32	.5605	10.82	.5864	11.32	.6123	11.82
.4833	9.33	.5092	9.83	.5351	10.33	.5610	10.83	.5869	11.33	.6128	11.83
.4838	9.34	.5097	9.84	.5356	10.34	.5615	10.84	.5874	11.34	.6133	11.84
.4843	9.35	.5102	9.85	.5361	10.35	.5620	10.85	.5879	11.35	.6138	11.85
.4848	9.36	.5107	9.86	.5366	10.36	.5625	10.86	.5884	11.36	.6143	11.86
.4854	9.37	.5113	9.87	.5372	10.37	.5631	10.87	.5890	11.37	.6149	11.87
.4859	9.38	.5118	9.88	.5377	10.38	.5636	10.88	.5895	11.38	.6154	11.88
.4864	9.39	.5123	9.89	.5382	10.39	.5641	10.89	.5900	11.39	.6159	11.89
.4869	9.40	.5128	9.90	.5387	10.40	.5646	10.90	.5905	11.40	.6164	11.90
.4874	9.41	.5133	9.91	.5392	10.41	.5651	10.91	.5910	11.41	.6169	11.91
.4880	9.42	.5139	9.92	.5398	10.42	.5657	10.92	.5916	11.42	.6175	11.92
.4885	9.43	.5144	9.93	.5403	10.43	.5662	10.93	.5921	11.43	.6180	11.93
.4890	9.44	.5149	9.94	.5408	10.44	.5667	10.94	.5926	11.44	.6185	11.94
.4895	9.45	.5154	9.95	.5413	10.45	.5672	10.95	.5931	11.45	.6190	11.95
.4900	9.46	.5159	9.96	.5418	10.46	.5677	10.96	.5936	11.46	.6195	11.96
.4905	9.47	.5164	9.97	.5423	10.47	.5682	10.97	.5941	11.47	.6200	11.97
.4911	9.48	.5170	9.98	.5429	10.48	.5688	10.98	.5947	11.48	.6206	11.98
.4916	9.49	.5175	9.99	.5434	10.49	.5693	10.99	.5952	11.49	.6211	11.99
.4921	9.50	.5180	10.00	.5439	10.50	.5698	11.00	.5957	11.50	.6216	12.00

POTASH TABLE.

25

Gramme .6217—7770.

Grm.	%	Grm.	%	Grm.	%	Grm.	%	Grm.	%	Grm.	%
K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.
.6221	12.01	.6480	12.51	.6739	13.01	.6998	13.51	.7257	14.01	.7516	14.51
.6226	12.02	.6485	12.52	.6744	13.02	.7003	13.52	.7262	14.02	.7521	14.52
.6232	12.03	.6491	12.53	.6750	13.03	.7009	13.53	.7268	14.03	.7527	14.53
.6237	12.04	.6496	12.54	.6755	13.04	.7014	13.54	.7273	14.04	.7532	14.54
.6242	12.05	.6501	12.55	.6760	13.05	.7019	13.55	.7278	14.05	.7537	14.55
.6247	12.06	.6506	12.56	.6765	13.06	.7024	13.56	.7283	14.06	.7542	14.56
.6252	12.07	.6511	12.57	.6770	13.07	.7029	13.57	.7288	14.07	.7547	14.57
.6257	12.08	.6516	12.58	.6775	13.08	.7034	13.58	.7293	14.08	.7552	14.58
.6263	12.09	.6522	12.59	.6781	13.09	.7040	13.59	.7299	14.09	.7558	14.59
.6268	12.10	.6527	12.60	.6786	13.10	.7045	13.60	.7304	14.10	.7563	14.60
.6273	12.11	.6532	12.61	.6791	13.11	.7050	13.61	.7309	14.11	.7568	14.61
.6278	12.12	.6537	12.62	.6796	13.12	.7055	13.62	.7314	14.12	.7573	14.62
.6283	12.13	.6542	12.63	.6801	13.13	.7060	13.63	.7319	14.13	.7578	14.63
.6289	12.14	.6548	12.64	.6807	13.14	.7066	13.64	.7325	14.14	.7584	14.64
.6294	12.15	.6553	12.65	.6812	13.15	.7071	13.65	.7330	14.15	.7589	14.65
.6299	12.16	.6558	12.66	.6817	13.16	.7076	13.66	.7335	14.16	.7594	14.66
.6304	12.17	.6563	12.67	.6822	13.17	.7081	13.67	.7340	14.17	.7599	14.67
.6309	12.18	.6568	12.68	.6827	13.18	.7086	13.68	.7345	14.18	.7604	14.68
.6314	12.19	.6573	12.69	.6832	13.19	.7091	13.69	.7350	14.19	.7609	14.69
.6320	12.20	.6579	12.70	.6838	13.20	.7097	13.70	.7356	14.20	.7615	14.70
.6325	12.21	.6584	12.71	.6843	13.21	.7102	13.71	.7361	14.21	.7620	14.71
.6330	12.22	.6589	12.72	.6848	13.22	.7107	13.72	.7366	14.22	.7625	14.72
.6335	12.23	.6594	12.73	.6853	13.23	.7112	13.73	.7371	14.23	.7630	14.73
.6340	12.24	.6599	12.74	.6858	13.24	.7117	13.74	.7376	14.24	.7635	14.74
.6346	12.25	.6605	12.75	.6864	13.25	.7123	13.75	.7382	14.25	.7641	14.75
.6351	12.26	.6610	12.76	.6869	13.26	.7128	13.76	.7387	14.26	.7646	14.76
.6356	12.27	.6615	12.77	.6874	13.27	.7133	13.77	.7392	14.27	.7651	14.77
.6361	12.28	.6620	12.78	.6879	13.28	.7138	13.78	.7397	14.28	.7656	14.78
.6366	12.29	.6625	12.79	.6884	13.29	.7143	13.79	.7402	14.29	.7661	14.79
.6371	12.30	.6630	12.80	.6889	13.30	.7148	13.80	.7407	14.30	.7666	14.80
.6377	12.31	.6636	12.81	.6895	13.31	.7154	13.81	.7413	14.31	.7672	14.81
.6382	12.32	.6641	12.82	.6900	13.32	.7159	13.82	.7418	14.32	.7677	14.82
.6387	12.33	.6646	12.83	.6905	13.33	.7164	13.83	.7423	14.33	.7682	14.83
.6392	12.34	.6651	12.84	.6910	13.34	.7169	13.84	.7428	14.34	.7687	14.84
.6397	12.35	.6656	12.85	.6915	13.35	.7174	13.85	.7433	14.35	.7692	14.85
.6402	12.36	.6661	12.86	.6920	13.36	.7179	13.86	.7438	14.36	.7697	14.86
.6408	12.37	.6667	12.87	.6926	13.37	.7185	13.87	.7444	14.37	.7703	14.87
.6413	12.38	.6672	12.88	.6931	13.38	.7190	13.88	.7449	14.38	.7708	14.88
.6418	12.39	.6677	12.89	.6936	13.39	.7195	13.89	.7454	14.39	.7713	14.89
.6423	12.40	.6682	12.90	.6941	13.40	.7200	13.90	.7459	14.40	.7718	14.90
.6428	12.41	.6687	12.91	.6946	13.41	.7205	13.91	.7464	14.41	.7723	14.91
.6434	12.42	.6693	12.92	.6952	13.42	.7211	13.92	.7470	14.42	.7729	14.92
.6439	12.43	.6698	12.93	.6957	13.43	.7216	13.93	.7475	14.43	.7734	14.93
.6444	12.44	.6703	12.94	.6962	13.44	.7221	13.94	.7480	14.44	.7739	14.94
.6449	12.45	.6708	12.95	.6967	13.45	.7226	13.95	.7485	14.45	.7744	14.95
.6454	12.46	.6713	12.96	.6972	13.46	.7231	13.96	.7490	14.46	.7749	14.96
.6459	12.47	.6718	12.97	.6977	13.47	.7236	13.97	.7495	14.47	.7754	14.97
.6465	12.48	.6724	12.98	.6983	13.48	.7242	13.98	.7501	14.48	.7760	14.98
.6470	12.49	.6729	12.99	.6988	13.49	.7247	13.99	.7506	14.49	.7765	14.99
.6475	12.50	.6734	13.00	.6993	13.50	.7252	14.00	.7511	14.50	.7770	15.00

TABLE III.

## AMMONIA CONVERSION TABLE.

The Ammonia Table is constructed for use more particularly in fertilizer analyses, but can be used as well in all cases where the per cent. or weight of ammonia gas ( $\text{NH}_3$ ) is desired from a known per cent. or weight of nitrogen (N). It is rather to be used, however, to derive per cent. from per cent., since the decimals are not carried far enough for the accurate reading of weights. It extends from 0.01 % to 15.00 % of N, or from 0.01 % to 18.21 % of  $\text{NH}_3$ , being comprehensive enough to embrace all commercial substances containing nitrogenous materials likely to come up for analysis. In cases of substances having larger per cents of N than the table gives, it will suffice to take half the per cent. of N found and then double the per cent. of  $\text{NH}_3$  given in the column opposite.

The factor used in constructing this table is (1.21396 or) 1.214, based on the atomic weight of N, 14.021.

If the determination of ammonia is made by the so-called "copper oxide" method, and the N caught and measured, then by Table IV found following this, the weight of N is read from the volume of N (corrected for temperature and air pressure as designated by the thermometric and barometric heights), and from the weight of N, the per cent. of N is calculated in a moment's time. Having then the per cent. of N, the per cent. of  $\text{NH}_3$  is read from the accompanying "Ammonia Table."

In cases where the determination of ammonia is made by the so-called "soda-lime" method, or the modification of the same, the "Ruffle Method," and the N comes off from the combustion combined with H, as  $\text{NH}_3$ , and is caught in a standard solution of  $\text{H}_2\text{SO}_4$ , then the table is still useful, especially when the solutions are prepared in the following very convenient manner. The standard solution of  $\text{H}_2\text{SO}_4$  is made so that each c.c. contains 0.02 gramme of  $\text{SO}_3$ . The KHO solution is made so that 1 c.c. exactly neutralizes 1 c.c. of the



$\text{H}_2\text{SO}_4$  solution. After the evolution of the  $\text{NH}_3$  and its absorption in a measured number of c.c. of the  $\text{H}_2\text{SO}_4$  solution, the  $\text{KHO}$  solution is run in from a burette until all the remaining  $\text{H}_2\text{SO}_4$  is exactly neutralized (designated best by coralline solution). Subtract the number of c.c. of the  $\text{KHO}$  used from the total number of c.c. of the  $\text{H}_2\text{SO}_4$  solution taken, and the difference in c.c. is *twice the per cent.* of  $\text{N}$ , *provided* that the amount of substance taken for the analysis was 1.4 grammes. Therefore, take half the difference in c.c. for the per cent. of  $\text{N}$  and from it read in the table the per cent. of  $\text{NH}_3$ .

## Nitrogen .00—2.99.

N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .
.00	.00	.50	.61	1.00	1.21	1.50	1.82	2.00	2.43	2.50	3.04
.01	.01	.51	.62	1.01	1.23	1.51	1.83	2.01	2.44	2.51	3.05
.02	.02	.52	.63	1.02	1.24	1.52	1.85	2.02	2.45	2.52	3.06
.03	.04	.53	.64	1.03	1.25	1.53	1.86	2.03	2.46	2.53	3.07
.04	.05	.54	.66	1.04	1.26	1.54	1.87	2.04	2.48	2.54	3.08
.05	.06	.55	.67	1.05	1.27	1.55	1.88	2.05	2.49	2.55	3.10
.06	.07	.56	.68	1.06	1.29	1.56	1.89	2.06	2.50	2.56	3.11
.07	.08	.57	.69	1.07	1.30	1.57	1.91	2.07	2.51	2.57	3.12
.08	.10	.58	.70	1.08	1.31	1.58	1.92	2.08	2.53	2.58	3.13
.09	.11	.59	.72	1.09	1.32	1.59	1.93	2.09	2.54	2.59	3.14
.10	.12	.60	.73	1.10	1.34	1.60	1.94	2.10	2.55	2.60	3.16
.11	.13	.61	.74	1.11	1.35	1.61	1.95	2.11	2.56	2.61	3.17
.12	.15	.62	.75	1.12	1.36	1.62	1.97	2.12	2.57	2.62	3.18
.13	.16	.63	.76	1.13	1.37	1.63	1.98	2.13	2.59	2.63	3.19
.14	.17	.64	.78	1.14	1.38	1.64	1.99	2.14	2.60	2.64	3.20
.15	.18	.65	.79	1.15	1.40	1.65	2.00	2.15	2.61	2.65	3.22
.16	.19	.66	.80	1.16	1.41	1.66	2.02	2.16	2.62	2.66	3.23
.17	.21	.67	.81	1.17	1.42	1.67	2.03	2.17	2.63	2.67	3.24
.18	.22	.68	.83	1.18	1.43	1.68	2.04	2.18	2.65	2.68	3.25
.19	.23	.69	.84	1.19	1.44	1.69	2.05	2.19	2.66	2.69	3.27
.20	.24	.70	.85	1.20	1.46	1.70	2.06	2.20	2.67	2.70	3.28
.21	.25	.71	.86	1.21	1.47	1.71	2.08	2.21	2.68	2.71	3.29
.22	.27	.72	.87	1.22	1.48	1.72	2.09	2.22	2.70	2.72	3.30
.23	.28	.73	.89	1.23	1.49	1.73	2.10	2.23	2.71	2.73	3.31
.24	.29	.74	.90	1.24	1.51	1.74	2.11	2.24	2.72	2.74	3.33
.25	.30	.75	.91	1.25	1.52	1.75	2.12	2.25	2.73	2.75	3.34
.26	.32	.76	.92	1.26	1.53	1.76	2.14	2.26	2.74	2.76	3.35
.27	.33	.77	.93	1.27	1.54	1.77	2.15	2.27	2.76	2.77	3.36
.28	.34	.78	.95	1.28	1.55	1.78	2.16	2.28	2.77	2.78	3.37
.29	.35	.79	.96	1.29	1.57	1.79	2.17	2.29	2.78	2.79	3.39
.30	.36	.80	.97	1.30	1.58	1.80	2.19	2.30	2.79	2.80	3.40
.31	.38	.81	.98	1.31	1.59	1.81	2.20	2.31	2.80	2.81	3.41
.32	.39	.82	1.00	1.32	1.60	1.82	2.21	2.32	2.82	2.82	3.42
.33	.40	.83	1.01	1.33	1.61	1.83	2.22	2.33	2.83	2.83	3.44
.34	.41	.84	1.02	1.34	1.63	1.84	2.23	2.34	2.84	2.84	3.45
.35	.42	.85	1.03	1.35	1.64	1.85	2.25	2.35	2.85	2.85	3.46
.36	.44	.86	1.04	1.36	1.65	1.86	2.26	2.36	2.87	2.86	3.47
.37	.45	.87	1.06	1.37	1.66	1.87	2.27	2.37	2.88	2.87	3.48
.38	.46	.88	1.07	1.38	1.68	1.88	2.28	2.38	2.89	2.88	3.50
.39	.47	.89	1.08	1.39	1.69	1.89	2.29	2.39	2.90	2.89	3.51
.40	.49	.90	1.09	1.40	1.70	1.90	2.31	2.40	2.91	2.90	3.52
.41	.50	.91	1.10	1.41	1.71	1.91	2.32	2.41	2.93	2.91	3.53
.42	.51	.92	1.12	1.42	1.72	1.92	2.33	2.42	2.94	2.92	3.54
.43	.52	.93	1.13	1.43	1.74	1.93	2.34	2.43	2.95	2.93	3.56
.44	.53	.94	1.14	1.44	1.75	1.94	2.36	2.44	2.96	2.94	3.57
.45	.55	.95	1.15	1.45	1.76	1.95	2.37	2.45	2.97	2.95	3.58
.46	.56	.96	1.17	1.46	1.77	1.96	2.38	2.46	2.99	2.96	3.59
.47	.57	.97	1.18	1.47	1.78	1.97	2.39	2.47	3.00	2.97	3.61
.48	.58	.98	1.19	1.48	1.80	1.98	2.40	2.48	3.01	2.98	3.62
.49	.59	.99	1.20	1.49	1.81	1.99	2.42	2.49	3.02	2.99	3.63

## Nitrogen 3.00—5.99.

N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .
3.00	3.64	3.50	4.25	4.00	4.86	4.50	5.46	5.00	6.07	5.50	6.68
3.01	3.65	3.51	4.26	4.01	4.87	4.51	5.48	5.01	6.08	5.51	6.69
3.02	3.67	3.52	4.27	4.02	4.88	4.52	5.49	5.02	6.09	5.52	6.70
3.03	3.68	3.53	4.29	4.03	4.89	4.53	5.50	5.03	6.11	5.53	6.71
3.04	3.69	3.54	4.30	4.04	4.90	4.54	5.51	5.04	6.12	5.54	6.73
3.05	3.70	3.55	4.31	4.05	4.92	4.55	5.52	5.05	6.13	5.55	6.74
3.06	3.71	3.56	4.32	4.06	4.93	4.56	5.54	5.06	6.14	5.56	6.75
3.07	3.73	3.57	4.33	4.07	4.94	4.57	5.55	5.07	6.15	5.57	6.76
3.08	3.74	3.58	4.35	4.08	4.95	4.58	5.56	5.08	6.17	5.58	6.77
3.09	3.75	3.59	4.36	4.09	4.97	4.59	5.57	5.09	6.18	5.59	6.79
3.10	3.76	3.60	4.37	4.10	4.98	4.60	5.58	5.10	6.19	5.60	6.80
3.11	3.78	3.61	4.38	4.11	4.99	4.61	5.60	5.11	6.20	5.61	6.81
3.12	3.79	3.62	4.39	4.12	5.00	4.62	5.61	5.12	6.22	5.62	6.82
3.13	3.80	3.63	4.41	4.13	5.01	4.63	5.62	5.13	6.23	5.63	6.83
3.14	3.81	3.64	4.42	4.14	5.03	4.64	5.63	5.14	6.24	5.64	6.85
3.15	3.82	3.65	4.43	4.15	5.04	4.65	5.65	5.15	6.25	5.65	6.86
3.16	3.84	3.66	4.44	4.16	5.05	4.66	5.66	5.16	6.26	5.66	6.87
3.17	3.85	3.67	4.46	4.17	5.06	4.67	5.67	5.17	6.28	5.67	6.88
3.18	3.86	3.68	4.47	4.18	5.07	4.68	5.68	5.18	6.29	5.68	6.90
3.19	3.87	3.69	4.48	4.19	5.09	4.69	5.69	5.19	6.30	5.69	6.91
3.20	3.88	3.70	4.49	4.20	5.10	4.70	5.71	5.20	6.31	5.70	6.92
3.21	3.90	3.71	4.50	4.21	5.11	4.71	5.72	5.21	6.32	5.71	6.93
3.22	3.91	3.72	4.52	4.22	5.12	4.72	5.73	5.22	6.34	5.72	6.94
3.23	3.92	3.73	4.53	4.23	5.14	4.73	5.74	5.23	6.35	5.73	6.96
3.24	3.93	3.74	4.54	4.24	5.15	4.74	5.75	5.24	6.36	5.74	6.97
3.25	3.95	3.75	4.55	4.25	5.16	4.75	5.77	5.25	6.37	5.75	6.98
3.26	3.96	3.76	4.56	4.26	5.17	4.76	5.78	5.26	6.39	5.76	6.99
3.27	3.97	3.77	4.58	4.27	5.18	4.77	5.79	5.27	6.40	5.77	7.00
3.28	3.98	3.78	4.59	4.28	5.20	4.78	5.80	5.28	6.41	5.78	7.02
3.29	3.99	3.79	4.60	4.29	5.21	4.79	5.82	5.29	6.42	5.79	7.03
3.30	4.01	3.80	4.61	4.30	5.22	4.80	5.83	5.30	6.43	5.80	7.04
3.31	4.02	3.81	4.63	4.31	5.23	4.81	5.84	5.31	6.45	5.81	7.05
3.32	4.03	3.82	4.64	4.32	5.24	4.82	5.85	5.32	6.46	5.82	7.07
3.33	4.04	3.83	4.65	4.33	5.26	4.83	5.86	5.33	6.47	5.83	7.08
3.34	4.05	3.84	4.66	4.34	5.27	4.84	5.88	5.34	6.48	5.84	7.09
3.35	4.07	3.85	4.67	4.35	5.28	4.85	5.89	5.35	6.49	5.85	7.10
3.36	4.08	3.86	4.69	4.36	5.29	4.86	5.90	5.36	6.51	5.86	7.11
3.37	4.00	3.87	4.70	4.37	5.31	4.87	5.91	5.37	6.52	5.87	7.13
3.38	4.10	3.88	4.71	4.38	5.32	4.88	5.92	5.38	6.53	5.88	7.14
3.39	4.12	3.89	4.72	4.39	5.33	4.89	5.94	5.39	6.54	5.89	7.15
3.40	4.13	3.90	4.73	4.40	5.34	4.90	5.95	5.40	6.56	5.90	7.16
3.41	4.14	3.91	4.75	4.41	5.35	4.91	5.96	5.41	6.57	5.91	7.17
3.42	4.15	3.92	4.76	4.42	5.37	4.92	5.97	5.42	6.58	5.92	7.19
3.43	4.16	3.93	4.77	4.43	5.38	4.93	5.99	5.43	6.59	5.93	7.20
3.44	4.18	3.94	4.78	4.44	5.39	4.94	6.00	5.44	6.60	5.94	7.21
3.45	4.19	3.95	4.80	4.45	5.40	4.95	6.01	5.45	6.62	5.95	7.22
3.46	4.20	3.96	4.81	4.46	5.41	4.96	6.02	5.46	6.63	5.96	7.24
3.47	4.21	3.97	4.82	4.47	5.43	4.97	6.03	5.47	6.64	5.97	7.25
3.48	4.22	3.98	4.83	4.48	5.44	4.98	6.05	5.48	6.65	5.98	7.26
3.49	4.24	3.99	4.84	4.49	5.45	4.99	6.06	5.49	6.66	5.99	7.27

## Nitrogen 6.00—8.99.

N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .
6.00	7.28	6.50	7.89	7.00	8.50	7.50	9.11	8.00	9.71	8.50	10.32
6.01	7.30	6.51	7.90	7.01	8.51	7.51	9.12	8.01	9.72	8.51	10.33
6.02	7.31	6.52	7.92	7.02	8.52	7.52	9.13	8.02	9.74	8.52	10.34
6.03	7.32	6.53	7.93	7.03	8.53	7.53	9.14	8.03	9.75	8.53	10.36
6.04	7.33	6.54	7.94	7.04	8.55	7.54	9.15	8.04	9.76	8.54	10.37
6.05	7.34	6.55	7.95	7.05	8.56	7.55	9.17	8.05	9.77	8.55	10.38
6.06	7.36	6.56	7.96	7.06	8.57	7.56	9.18	8.06	9.78	8.56	10.39
6.07	7.37	6.57	7.98	7.07	8.58	7.57	9.19	8.07	9.80	8.57	10.40
6.08	7.38	6.58	7.99	7.08	8.60	7.58	9.20	8.08	9.81	8.58	10.42
6.09	7.39	6.59	8.00	7.09	8.61	7.59	9.21	8.09	9.82	8.59	10.43
6.10	7.41	6.60	8.01	7.10	8.62	7.60	9.23	8.10	9.83	8.60	10.44
6.11	7.42	6.61	8.02	7.11	8.63	7.61	9.24	8.11	9.85	8.61	10.45
6.12	7.43	6.62	8.04	7.12	8.64	7.62	9.25	8.12	9.86	8.62	10.46
6.13	7.44	6.63	8.05	7.13	8.66	7.63	9.26	8.13	9.87	8.63	10.48
6.14	7.45	6.64	8.06	7.14	8.67	7.64	9.27	8.14	9.88	8.64	10.49
6.15	7.47	6.65	8.07	7.15	8.68	7.65	9.29	8.15	9.89	8.65	10.50
6.16	7.48	6.66	8.09	7.16	8.69	7.66	9.30	8.16	9.91	8.66	10.51
6.17	7.49	6.67	8.10	7.17	8.70	7.67	9.31	8.17	9.92	8.67	10.53
6.18	7.50	6.68	8.11	7.18	8.72	7.68	9.32	8.18	9.93	8.68	10.54
6.19	7.51	6.69	8.12	7.19	8.73	7.69	9.34	8.19	9.94	8.69	10.55
6.20	7.53	6.70	8.13	7.20	8.74	7.70	9.35	8.20	9.95	8.70	10.56
6.21	7.54	6.71	8.15	7.21	8.75	7.71	9.36	8.21	9.97	8.71	10.57
6.22	7.55	6.72	8.16	7.22	8.77	7.72	9.37	8.22	9.98	8.72	10.59
6.23	7.56	6.73	8.17	7.23	8.78	7.73	9.38	8.23	9.99	8.73	10.60
6.24	7.58	6.74	8.18	7.24	8.79	7.74	9.40	8.24	10.00	8.74	10.61
6.25	7.59	6.75	8.19	7.25	8.80	7.75	9.41	8.25	10.02	8.75	10.62
6.26	7.60	6.76	8.21	7.26	8.81	7.76	9.42	8.26	10.03	8.76	10.63
6.27	7.61	6.77	8.22	7.27	8.83	7.77	9.43	8.27	10.04	8.77	10.65
6.28	7.62	6.78	8.23	7.28	8.84	7.78	9.44	8.28	10.05	8.78	10.66
6.29	7.64	6.79	8.24	7.29	8.85	7.79	9.46	8.29	10.06	8.79	10.67
6.30	7.65	6.80	8.26	7.30	8.86	7.80	9.47	8.30	10.08	8.80	10.68
6.31	7.66	6.81	8.27	7.31	8.87	7.81	9.48	8.31	10.09	8.81	10.70
6.32	7.67	6.82	8.28	7.32	8.89	7.82	9.49	8.32	10.10	8.82	10.71
6.33	7.68	6.83	8.29	7.33	8.90	7.83	9.51	8.33	10.11	8.83	10.72
6.34	7.70	6.84	8.30	7.34	8.91	7.84	9.52	8.34	10.12	8.84	10.73
6.35	7.71	6.85	8.32	7.35	8.92	7.85	9.53	8.35	10.14	8.85	10.74
6.36	7.72	6.86	8.33	7.36	8.94	7.86	9.54	8.36	10.15	8.86	10.76
6.37	7.73	6.87	8.34	7.37	8.95	7.87	9.55	8.37	10.16	8.87	10.77
6.38	7.75	6.88	8.35	7.38	8.96	7.88	9.57	8.38	10.17	8.88	10.78
6.39	7.76	6.89	8.36	7.39	8.97	7.89	9.58	8.39	10.19	8.89	10.79
6.40	7.77	6.90	8.38	7.40	8.98	7.90	9.59	8.40	10.20	8.90	10.80
6.41	7.78	6.91	8.39	7.41	9.00	7.91	9.60	8.41	10.21	8.91	10.82
6.42	7.79	6.92	8.40	7.42	9.01	7.92	9.61	8.42	10.22	8.92	10.83
6.43	7.81	6.93	8.41	7.43	9.02	7.93	9.63	8.43	10.23	8.93	10.84
6.44	7.82	6.94	8.43	7.44	9.03	7.94	9.64	8.44	10.25	8.94	10.85
6.45	7.83	6.95	8.44	7.45	9.04	7.95	9.65	8.45	10.26	8.95	10.87
6.46	7.84	6.96	8.45	7.46	9.06	7.96	9.66	8.46	10.27	8.96	10.88
6.47	7.85	6.97	8.46	7.47	9.07	7.97	9.68	8.47	10.28	8.97	10.89
6.48	7.87	6.98	8.47	7.48	9.08	7.98	9.69	8.48	10.29	8.98	10.90
6.49	7.88	6.99	8.49	7.49	9.09	7.99	9.70	8.49	10.31	8.99	10.91

## Nitrogen 9.00—11.99.

N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .
9.00	10.93	9.50	11.53	10.00	12.14	10.50	12.75	11.00	13.35
9.01	10.94	9.51	11.55	10.01	12.15	10.51	12.76	11.01	13.37
9.02	10.95	9.52	11.56	10.02	12.16	10.52	12.77	11.02	13.38
9.03	10.96	9.53	11.57	10.03	12.18	10.53	12.78	11.03	13.39
9.04	10.97	9.54	11.58	10.04	12.19	10.54	12.80	11.04	13.40
9.05	10.99	9.55	11.59	10.05	12.20	10.55	12.81	11.05	13.41
9.06	11.00	9.56	11.61	10.06	12.21	10.56	12.82	11.06	13.43
9.07	11.01	9.57	11.62	10.07	12.22	10.57	12.83	11.07	13.44
9.08	11.02	9.58	11.63	10.08	12.24	10.58	12.84	11.08	13.45
9.09	11.04	9.59	11.64	10.09	12.25	10.59	12.86	11.09	13.46
9.10	11.05	9.60	11.65	10.10	12.26	10.60	12.87	11.10	13.48
9.11	11.06	9.61	11.67	10.11	12.27	10.61	12.88	11.11	13.49
9.12	11.07	9.62	11.68	10.12	12.29	10.62	12.89	11.12	13.50
9.13	11.08	9.63	11.69	10.13	12.30	10.63	12.90	11.13	13.51
9.14	11.10	9.64	11.70	10.14	12.31	10.64	12.92	11.14	13.52
9.15	11.11	9.65	11.72	10.15	12.32	10.65	12.93	11.15	13.54
9.16	11.12	9.66	11.73	10.16	12.33	10.66	12.94	11.16	13.55
9.17	11.13	9.67	11.74	10.17	12.35	10.67	12.95	11.17	13.56
9.18	11.14	9.68	11.75	10.18	12.36	10.68	12.97	11.18	13.57
9.19	11.16	9.69	11.76	10.19	12.37	10.69	12.98	11.19	13.58
9.20	11.17	9.70	11.78	10.20	12.38	10.70	12.99	11.20	13.60
9.21	11.18	9.71	11.79	10.21	12.39	10.71	13.00	11.21	13.61
9.22	11.19	9.72	11.80	10.22	12.41	10.72	13.01	11.22	13.62
9.23	11.21	9.73	11.81	10.23	12.42	10.73	13.03	11.23	13.63
9.24	11.22	9.74	11.82	10.24	12.43	10.74	13.04	11.24	13.65
9.25	11.23	9.75	11.84	10.25	12.44	10.75	13.05	11.25	13.66
9.26	11.24	9.76	11.85	10.26	12.46	10.76	13.06	11.26	13.67
9.27	11.25	9.77	11.86	10.27	12.47	10.77	13.07	11.27	13.68
9.28	11.27	9.78	11.87	10.28	12.48	10.78	13.09	11.28	13.69
9.29	11.28	9.79	11.89	10.29	12.49	10.79	13.10	11.29	13.71
9.30	11.29	9.80	11.90	10.30	12.50	10.80	13.11	11.30	13.72
9.31	11.30	9.81	11.91	10.31	12.52	10.81	13.12	11.31	13.73
9.32	11.31	9.82	11.92	10.32	12.53	10.82	13.14	11.32	13.74
9.33	11.33	9.83	11.93	10.33	12.54	10.83	13.15	11.33	13.75
9.34	11.34	9.84	11.95	10.34	12.55	10.84	13.16	11.34	13.77
9.35	11.35	9.85	11.96	10.35	12.56	10.85	13.17	11.35	13.78
9.36	11.36	9.86	11.97	10.36	12.58	10.86	13.18	11.36	13.79
9.37	11.38	9.87	11.98	10.37	12.59	10.87	13.20	11.37	13.80
9.38	11.39	9.88	11.99	10.38	12.60	10.88	13.21	11.38	13.82
9.39	11.40	9.89	12.01	10.39	12.61	10.89	13.22	11.39	13.83
9.40	11.41	9.90	12.02	10.40	12.63	10.90	13.23	11.40	13.84
9.41	11.42	9.91	12.03	10.41	12.64	10.91	13.24	11.41	13.85
9.42	11.44	9.92	12.04	10.42	12.65	10.92	13.26	11.42	13.86
9.43	11.45	9.93	12.06	10.43	12.66	10.93	13.27	11.43	13.88
9.44	11.46	9.94	12.07	10.44	12.67	10.94	13.28	11.44	13.89
9.45	11.47	9.95	12.08	10.45	12.69	10.95	13.29	11.45	13.90
9.46	11.48	9.96	12.09	10.46	12.70	10.96	13.31	11.46	13.91
9.47	11.50	9.97	12.10	10.47	12.71	10.97	13.32	11.47	13.92
9.48	11.51	9.98	12.12	10.48	12.72	10.98	13.33	11.48	13.94
9.49	11.52	9.99	12.13	10.49	12.73	10.99	13.34	11.49	13.95

## Nitrogen 12.00—14.99.

N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .	N.	NH <sub>3</sub> .
12.00	14.57	12.50	15.18	13.00	15.78	13.50	16.39	14.00	17.00	14.50	17.60
12.01	14.58	12.51	15.19	13.01	15.79	13.51	16.40	14.01	17.01	14.51	17.62
12.02	14.59	12.52	15.20	13.02	15.81	13.52	16.41	14.02	17.02	14.52	17.63
12.03	14.60	12.53	15.21	13.03	15.82	13.53	16.43	14.03	17.03	14.53	17.64
12.04	14.62	12.54	15.22	13.04	15.83	13.54	16.44	14.04	17.04	14.54	17.65
12.05	14.63	12.55	15.24	13.05	15.84	13.55	16.45	14.05	17.06	14.55	17.66
12.06	14.64	12.56	15.25	13.06	15.85	13.56	16.46	14.06	17.07	14.56	17.68
12.07	14.65	12.57	15.26	13.07	15.87	13.57	16.47	14.07	17.08	14.57	17.69
12.08	14.67	12.58	15.27	13.08	15.88	13.58	16.49	14.08	17.09	14.58	17.70
12.09	14.68	12.59	15.28	13.09	15.89	13.59	16.50	14.09	17.11	14.59	17.71
12.10	14.69	12.60	15.30	13.10	15.90	13.60	16.51	14.10	17.12	14.60	17.72
12.11	14.70	12.61	15.31	13.11	15.92	13.61	16.52	14.11	17.13	14.61	17.74
12.12	14.71	12.62	15.32	13.12	15.93	13.62	16.53	14.12	17.14	14.62	17.75
12.13	14.73	12.63	15.33	13.13	15.94	13.63	16.55	14.13	17.15	14.63	17.76
12.14	14.74	12.64	15.34	13.14	15.95	13.64	16.56	14.14	17.17	14.64	17.77
12.15	14.75	12.65	15.36	13.15	15.96	13.65	16.57	14.15	17.18	14.65	17.79
12.16	14.76	12.66	15.37	13.16	15.98	13.66	16.58	14.16	17.19	14.66	17.80
12.17	14.77	12.67	15.38	13.17	15.99	13.67	16.60	14.17	17.20	14.67	17.81
12.18	14.79	12.68	15.39	13.18	16.00	13.68	16.61	14.18	17.21	14.68	17.82
12.19	14.80	12.69	15.41	13.19	16.01	13.69	16.62	14.19	17.23	14.69	17.83
12.20	14.81	12.70	15.42	13.20	16.02	13.70	16.63	14.20	17.24	14.70	17.85
12.21	14.82	12.71	15.43	13.21	16.04	13.71	16.64	14.21	17.25	14.71	17.86
12.22	14.84	12.72	15.44	13.22	16.05	13.72	16.66	14.22	17.26	14.72	17.87
12.23	14.85	12.73	15.45	13.23	16.06	13.73	16.67	14.23	17.28	14.73	17.88
12.24	14.86	12.74	15.47	13.24	16.07	13.74	16.68	14.24	17.29	14.74	17.89
12.25	14.87	12.75	15.48	13.25	16.09	13.75	16.69	14.25	17.30	14.75	17.91
12.26	14.88	12.76	15.49	13.26	16.10	13.76	16.70	14.26	17.31	14.76	17.92
12.27	14.90	12.77	15.50	13.27	16.11	13.77	16.72	14.27	17.32	14.77	17.93
12.28	14.91	12.78	15.51	13.28	16.12	13.78	16.73	14.28	17.34	14.78	17.94
12.29	14.92	12.79	15.53	13.29	16.13	13.79	16.74	14.29	17.35	14.79	17.96
12.30	14.93	12.80	15.54	13.30	16.15	13.80	16.75	14.30	17.36	14.80	17.97
12.31	14.94	12.81	15.55	13.31	16.16	13.81	16.77	14.31	17.37	14.81	17.98
12.32	14.96	12.82	15.56	13.32	16.17	13.82	16.78	14.32	17.38	14.82	17.99
12.33	14.97	12.83	15.58	13.33	16.18	13.83	16.79	14.33	17.40	14.83	18.00
12.34	14.98	12.84	15.59	13.34	16.19	13.84	16.80	14.34	17.41	14.84	18.02
12.35	14.99	12.85	15.60	13.35	16.21	13.85	16.81	14.35	17.42	14.85	18.03
12.36	15.01	12.86	15.61	13.36	16.22	13.86	16.83	14.36	17.43	14.86	18.04
12.37	15.02	12.87	15.62	13.37	16.23	13.87	16.84	14.37	17.45	14.87	18.05
12.38	15.03	12.88	15.64	13.38	16.24	13.88	16.85	14.38	17.46	14.88	18.06
12.39	15.04	12.89	15.65	13.39	16.26	13.89	16.86	14.39	17.47	14.89	18.08
12.40	15.05	12.90	15.66	13.40	16.27	13.90	16.87	14.40	17.48	14.90	18.09
12.41	15.07	12.91	15.67	13.41	16.28	13.91	16.89	14.41	17.49	14.91	18.10
12.42	15.08	12.92	15.68	13.42	16.29	13.92	16.90	14.42	17.51	14.92	18.11
12.43	15.09	12.93	15.70	13.43	16.30	13.93	16.91	14.43	17.52	14.93	18.13
12.44	15.10	12.94	15.71	13.44	16.32	13.94	16.92	14.44	17.53	14.94	18.14
12.45	15.11	12.95	15.72	13.45	16.33	13.95	16.94	14.45	17.54	14.95	18.15
12.46	15.13	12.96	15.73	13.46	16.34	13.96	16.95	14.46	17.55	14.96	18.16
12.47	15.14	12.97	15.75	13.47	16.35	13.97	16.96	14.47	17.57	14.97	18.17
12.48	15.15	12.98	15.76	13.48	16.36	13.98	16.97	14.48	17.58	14.98	18.19
12.49	15.16	12.99	15.77	13.49	16.38	13.99	16.98	14.49	17.59	14.99	18.20

## TABLE IV.

## NITROGEN CONVERSION TABLE.

(Volume of N to weight of N).

The following table is adapted from that of F. Frerichs, published in Germany in 1877. It gives the weight of one cubic centimetre of nitrogen, for all variations of temperature and barometric height, the latter being given in both millimetres and inches. Multiply the volume of N found by the weight of one c. c. at the observed temperature and pressure and the weight of the N in milligrammes is obtained.

Fractions of a thermometric degree or of a millimetre may be disregarded since the error thus arising is less than that incident to imperfect reading of the volume of N. Generally the errors caused by incorrect reading of barometric height and of temperature will equalize each other.

Degrees Cent.	726 mm. 28.58 in.	727 mm. 28.62 in.	728 mm. 28.66 in.	729 mm. 28.70 in.	730 mm. 28.74 in.	731 mm. 28.78 in.	732 mm. 28.82 in.	733 mm. 28.86 in.	734 mm. 28.90 in.
0°	1.1927	1.1944	1.1960	1.1977	1.1993	1.2010	1.2026	1.2043	1.2059
1°	1.1879	1.1895	1.1912	1.1928	1.1945	1.1961	1.1978	1.1994	1.2011
2°	1.1829	1.1846	1.1862	1.1879	1.1895	1.1911	1.1928	1.1944	1.1961
3°	1.1781	1.1797	1.1814	1.1830	1.1846	1.1863	1.1879	1.1895	1.1912
4°	1.1731	1.1748	1.1764	1.1780	1.1797	1.1813	1.1829	1.1845	1.1862
5°	1.1682	1.1698	1.1714	1.1731	1.1747	1.1763	1.1779	1.1796	1.1812
6°	1.1632	1.1649	1.1665	1.1681	1.1697	1.1713	1.1729	1.1746	1.1762
7°	1.1583	1.1599	1.1615	1.1631	1.1647	1.1664	1.1680	1.1696	1.1712
8°	1.1533	1.1549	1.1566	1.1582	1.1598	1.1614	1.1630	1.1646	1.1662
9°	1.1484	1.1500	1.1516	1.1532	1.1548	1.1564	1.1580	1.1596	1.1612
10°	1.1433	1.1449	1.1465	1.1481	1.1497	1.1513	1.1529	1.1545	1.1561
11°	1.1384	1.1400	1.1416	1.1432	1.1448	1.1463	1.1479	1.1495	1.1511
12°	1.1332	1.1348	1.1364	1.1380	1.1396	1.1412	1.1427	1.1443	1.1459
13°	1.1282	1.1298	1.1314	1.1329	1.1345	1.1361	1.1377	1.1392	1.1408
14°	1.1231	1.1247	1.1263	1.1279	1.1294	1.1310	1.1326	1.1342	1.1357
15°	1.1180	1.1196	1.1211	1.1227	1.1243	1.1258	1.1274	1.1290	1.1305
16°	1.1128	1.1144	1.1160	1.1175	1.1191	1.1207	1.1222	1.1238	1.1253
17°	1.1077	1.1092	1.1108	1.1124	1.1139	1.1155	1.1170	1.1186	1.1201
18°	1.1023	1.1039	1.1054	1.1070	1.1085	1.1101	1.1116	1.1132	1.1147
19°	1.0971	1.0986	1.1002	1.1017	1.1033	1.1048	1.1064	1.1079	1.1095
20°	1.0917	1.0933	1.0948	1.0964	1.0979	1.0994	1.1010	1.1025	1.1041
21°	1.0863	1.0878	1.0894	1.0909	1.0924	1.0940	1.0955	1.0970	1.0986
22°	1.0808	1.0824	1.0839	1.0854	1.0869	1.0885	1.0900	1.0915	1.0931
23°	1.0753	1.0768	1.0783	1.0799	1.0814	1.0829	1.0844	1.0860	1.0875
24°	1.0697	1.0712	1.0728	1.0743	1.0758	1.0773	1.0788	1.0804	1.0819
25°	1.0640	1.0655	1.0670	1.0685	1.0700	1.0715	1.0731	1.0746	1.0761
26°	1.0583	1.0598	1.0613	1.0628	1.0644	1.0659	1.0674	1.0689	1.0704
27°	1.0526	1.0541	1.0556	1.0571	1.0586	1.0601	1.0616	1.0631	1.0646
28°	1.0467	1.0482	1.0497	1.0512	1.0527	1.0542	1.0557	1.0572	1.0587
29°	1.0406	1.0421	1.0436	1.0451	1.0466	1.0481	1.0496	1.0511	1.0526
30°	1.0347	1.0362	1.0377	1.0392	1.0407	1.0421	1.0436	1.0451	1.0466
31°	1.0285	1.0300	1.0315	1.0329	1.0344	1.0359	1.0374	1.0389	1.0404
32°	1.0222	1.0237	1.0251	1.0266	1.0281	1.0296	1.0311	1.0325	1.0340
33°	1.0159	1.0174	1.0188	1.0203	1.0218	1.0233	1.0247	1.0262	1.0277
34°	1.0093	1.0107	1.0122	1.0137	1.0152	1.0166	1.0181	1.0196	1.0210
35°	1.0028	1.0042	1.0057	1.0072	1.0086	1.0101	1.0116	1.0130	1.0145



NITROGEN TABLE.

Degrees Cent.	735 mm. 28.94 in.	736 mm. 28.98 in.	737 mm. 29.02 in.	738 mm. 29.06 in.	739 mm. 29.09 in.	740 mm. 29.13 in.	741 mm. 29.17 in.	742 mm. 29.21 in.	743 mm. 29.25 in.
0°	1.2076	1.2092	1.2109	1.2125	1.2142	1.2158	1.2175	1.2192	1.2208
1°	1.2027	1.2043	1.2060	1.2076	1.2093	1.2109	1.2126	1.2142	1.2159
2°	1.1977	1.1993	1.2010	1.2026	1.2043	1.2059	1.2075	1.2092	1.2108
3°	1.1928	1.1944	1.1961	1.1977	1.1993	1.2010	1.2025	1.2041	1.2058
4°	1.1878	1.1894	1.1911	1.1927	1.1943	1.1959	1.1976	1.1992	1.2008
5°	1.1828	1.1844	1.1860	1.1877	1.1893	1.1909	1.1925	1.1942	1.1958
6°	1.1778	1.1794	1.1810	1.1827	1.1843	1.1859	1.1875	1.1891	1.1907
7°	1.1728	1.1744	1.1760	1.1776	1.1792	1.1809	1.1825	1.1841	1.1857
8°	1.1678	1.1694	1.1710	1.1726	1.1742	1.1758	1.1774	1.1790	1.1807
9°	1.1628	1.1644	1.1660	1.1676	1.1692	1.1708	1.1724	1.1740	1.1756
10°	1.1577	1.1593	1.1609	1.1625	1.1641	1.1657	1.1673	1.1689	1.1705
11°	1.1527	1.1543	1.1559	1.1575	1.1591	1.1606	1.1622	1.1638	1.1654
12°	1.1475	1.1491	1.1507	1.1523	1.1538	1.1554	1.1570	1.1586	1.1602
13°	1.1424	1.1440	1.1456	1.1471	1.1487	1.1503	1.1519	1.1534	1.1550
14°	1.1373	1.1389	1.1404	1.1420	1.1436	1.1452	1.1467	1.1483	1.1499
15°	1.1321	1.1337	1.1352	1.1368	1.1384	1.1399	1.1415	1.1431	1.1446
16°	1.1269	1.1285	1.1300	1.1316	1.1331	1.1347	1.1363	1.1378	1.1394
17°	1.1217	1.1233	1.1248	1.1264	1.1279	1.1295	1.1310	1.1326	1.1342
18°	1.1163	1.1179	1.1194	1.1210	1.1225	1.1241	1.1256	1.1272	1.1287
19°	1.1110	1.1125	1.1141	1.1156	1.1172	1.1187	1.1203	1.1218	1.1234
20°	1.1056	1.1071	1.1087	1.1102	1.1118	1.1133	1.1148	1.1164	1.1179
21°	1.1001	1.1016	1.1032	1.1047	1.1062	1.1078	1.1093	1.1108	1.1124
22°	1.0946	1.0961	1.0977	1.0992	1.1007	1.1023	1.1038	1.1053	1.1068
23°	1.0890	1.0905	1.0921	1.0936	1.0951	1.0966	1.0982	1.0997	1.1012
24°	1.0834	1.0849	1.0864	1.0880	1.0895	1.0910	1.0925	1.0940	1.0956
25°	1.0776	1.0791	1.0806	1.0821	1.0837	1.0852	1.0867	1.0882	1.0897
26°	1.0719	1.0734	1.0749	1.0764	1.0779	1.0794	1.0810	1.0825	1.0840
27°	1.0661	1.0676	1.0691	1.0706	1.0721	1.0736	1.0751	1.0766	1.0781
28°	1.0602	1.0617	1.0632	1.0647	1.0662	1.0677	1.0692	1.0707	1.0722
29°	1.0544	1.0559	1.0574	1.0589	1.0604	1.0619	1.0634	1.0649	1.0664
30°	1.0488	1.0496	1.0511	1.0526	1.0541	1.0555	1.0570	1.0585	1.0600
31°	1.0431	1.0433	1.0448	1.0463	1.0478	1.0493	1.0508	1.0522	1.0537
32°	1.0375	1.0370	1.0385	1.0399	1.0414	1.0429	1.0444	1.0459	1.0473
33°	1.0292	1.0306	1.0321	1.0336	1.0351	1.0365	1.0380	1.0395	1.0410
34°	1.0225	1.0240	1.0254	1.0269	1.0284	1.0299	1.0313	1.0328	1.0343
35°	1.0160	1.0174	1.0189	1.0204	1.0218	1.0233	1.0248	1.0262	1.0277

Degrees Cent.	744 mm. 29.29 in.	745 mm. 29.33 in.	746 mm. 29.37 in.	747 mm. 29.41 in.	748 mm. 29.45 in.	749 mm. 29.49 in.	750 mm. 29.53 in.	751 mm. 29.57 in.	752 mm. 29.61 in.
0°	1.2225	1.2241	1.2258	1.2274	1.2291	1.2307	1.2324	1.2340	1.2357
1°	1.2175	1.2192	1.2208	1.2225	1.2241	1.2258	1.2274	1.2291	1.2307
2°	1.2125	1.2141	1.2158	1.2174	1.2190	1.2207	1.2223	1.2240	1.2256
3°	1.2074	1.2090	1.2107	1.2123	1.2140	1.2156	1.2172	1.2189	1.2205
4°	1.2025	1.2041	1.2057	1.2074	1.2090	1.2106	1.2122	1.2139	1.2155
5°	1.1974	1.1990	1.2007	1.2023	1.2039	1.2055	1.2072	1.2088	1.2104
6°	1.1924	1.1940	1.1956	1.1972	1.1988	1.2005	1.2021	1.2037	1.2053
7°	1.1873	1.1889	1.1905	1.1921	1.1938	1.1954	1.1970	1.1986	1.2002
8°	1.1823	1.1839	1.1855	1.1871	1.1887	1.1903	1.1919	1.1935	1.1951
9°	1.1772	1.1788	1.1804	1.1820	1.1836	1.1852	1.1868	1.1884	1.1900
10°	1.1721	1.1737	1.1753	1.1769	1.1784	1.1800	1.1816	1.1832	1.1848
11°	1.1670	1.1686	1.1702	1.1718	1.1734	1.1750	1.1765	1.1781	1.1797
12°	1.1618	1.1633	1.1649	1.1665	1.1681	1.1697	1.1713	1.1728	1.1744
13°	1.1566	1.1582	1.1598	1.1613	1.1629	1.1645	1.1661	1.1677	1.1692
14°	1.1515	1.1530	1.1546	1.1562	1.1577	1.1593	1.1609	1.1625	1.1640
15°	1.1462	1.1478	1.1493	1.1509	1.1525	1.1540	1.1556	1.1572	1.1587
16°	1.1410	1.1425	1.1441	1.1456	1.1472	1.1488	1.1503	1.1519	1.1535
17°	1.1357	1.1373	1.1388	1.1404	1.1419	1.1435	1.1450	1.1466	1.1482
18°	1.1303	1.1318	1.1334	1.1349	1.1365	1.1380	1.1396	1.1411	1.1427
19°	1.1249	1.1265	1.1280	1.1296	1.1311	1.1326	1.1342	1.1357	1.1373
20°	1.1195	1.1210	1.1225	1.1241	1.1256	1.1272	1.1287	1.1303	1.1318
21°	1.1139	1.1155	1.1170	1.1185	1.1201	1.1216	1.1231	1.1247	1.1262
22°	1.1084	1.1099	1.1114	1.1130	1.1145	1.1160	1.1176	1.1191	1.1206
23°	1.1027	1.1043	1.1058	1.1073	1.1088	1.1103	1.1119	1.1134	1.1149
24°	1.0971	1.0986	1.1001	1.1016	1.1032	1.1047	1.1062	1.1077	1.1092
25°	1.0912	1.0927	1.0943	1.0958	1.0973	1.0988	1.1003	1.1018	1.1034
26°	1.0855	1.0870	1.0885	1.0900	1.0915	1.0930	1.0945	1.0961	1.0976
27°	1.0796	1.0811	1.0827	1.0842	1.0857	1.0872	1.0887	1.0902	1.0917
28°	1.0737	1.0752	1.0767	1.0782	1.0797	1.0812	1.0827	1.0842	1.0857
29°	1.0676	1.0690	1.0705	1.0720	1.0735	1.0750	1.0765	1.0780	1.0795
30°	1.0615	1.0630	1.0645	1.0660	1.0675	1.0690	1.0704	1.0719	1.0734
31°	1.0552	1.0567	1.0582	1.0597	1.0612	1.0626	1.0641	1.0656	1.0671
32°	1.0488	1.0503	1.0518	1.0533	1.0547	1.0562	1.0577	1.0592	1.0607
33°	1.0424	1.0439	1.0454	1.0469	1.0483	1.0498	1.0513	1.0528	1.0542
34°	1.0357	1.0372	1.0387	1.0401	1.0416	1.0431	1.0446	1.0460	1.0475
35°	1.0291	1.0306	1.0321	1.0335	1.0350	1.0365	1.0379	1.0394	1.0409

NITROGEN TABLE.

Degrees Cent.	753 mm. 29.65 in.	754 mm. 29.69 in.	755 mm. 29.72 in.	756 mm. 29.76 in.	757 mm. 29.80 in.	758 mm. 29.84 in.	759 mm. 29.88 in.	760 mm. 29.92 in.	761 mm. 29.96 in.
0°	1.2373	1.2390	1.2406	1.2423	1.2440	1.2456	1.2473	1.2489	1.2506
1°	1.2324	1.2340	1.2356	1.2373	1.2389	1.2406	1.2422	1.2439	1.2455
2°	1.2272	1.2289	1.2305	1.2322	1.2338	1.2355	1.2371	1.2387	1.2404
3°	1.2221	1.2238	1.2254	1.2270	1.2287	1.2303	1.2320	1.2336	1.2352
4°	1.2171	1.2188	1.2204	1.2220	1.2237	1.2253	1.2269	1.2285	1.2302
5°	1.2120	1.2137	1.2153	1.2169	1.2185	1.2202	1.2218	1.2234	1.2250
6°	1.2069	1.2085	1.2102	1.2118	1.2134	1.2150	1.2166	1.2182	1.2199
7°	1.2018	1.2034	1.2051	1.2067	1.2083	1.2099	1.2115	1.2131	1.2147
8°	1.1967	1.1983	1.1999	1.2015	1.2031	1.2047	1.2064	1.2080	1.2096
9°	1.1916	1.1932	1.1948	1.1964	1.1980	1.1996	1.2012	1.2028	1.2044
10°	1.1864	1.1880	1.1896	1.1912	1.1928	1.1944	1.1960	1.1976	1.1992
11°	1.1813	1.1829	1.1845	1.1861	1.1877	1.1893	1.1909	1.1924	1.1940
12°	1.1760	1.1776	1.1792	1.1808	1.1823	1.1839	1.1855	1.1871	1.1887
13°	1.1708	1.1724	1.1740	1.1755	1.1771	1.1787	1.1803	1.1819	1.1834
14°	1.1656	1.1672	1.1687	1.1703	1.1719	1.1735	1.1750	1.1766	1.1782
15°	1.1603	1.1619	1.1634	1.1650	1.1666	1.1681	1.1697	1.1713	1.1729
16°	1.1550	1.1566	1.1581	1.1597	1.1613	1.1628	1.1644	1.1660	1.1675
17°	1.1497	1.1513	1.1528	1.1544	1.1559	1.1575	1.1591	1.1606	1.1622
18°	1.1442	1.1458	1.1473	1.1489	1.1504	1.1520	1.1535	1.1551	1.1566
19°	1.1388	1.1404	1.1419	1.1435	1.1450	1.1466	1.1481	1.1496	1.1512
20°	1.1333	1.1349	1.1364	1.1380	1.1395	1.1410	1.1426	1.1441	1.1457
21°	1.1277	1.1293	1.1308	1.1323	1.1339	1.1354	1.1369	1.1385	1.1400
22°	1.1221	1.1237	1.1252	1.1267	1.1283	1.1298	1.1313	1.1329	1.1344
23°	1.1164	1.1180	1.1195	1.1210	1.1225	1.1241	1.1256	1.1271	1.1286
24°	1.1108	1.1123	1.1138	1.1153	1.1168	1.1184	1.1199	1.1214	1.1229
25°	1.1049	1.1064	1.1079	1.1094	1.1109	1.1124	1.1140	1.1155	1.1170
26°	1.0991	1.1006	1.1021	1.1036	1.1051	1.1066	1.1081	1.1096	1.1112
27°	1.0932	1.0947	1.0962	1.0977	1.0992	1.1007	1.1022	1.1037	1.1052
28°	1.0872	1.0887	1.0902	1.0917	1.0932	1.0947	1.0962	1.0977	1.0992
29°	1.0810	1.0825	1.0840	1.0855	1.0870	1.0885	1.0900	1.0915	1.0930
30°	1.0749	1.0764	1.0779	1.0794	1.0809	1.0824	1.0839	1.0853	1.0868
31°	1.0686	1.0701	1.0716	1.0730	1.0745	1.0760	1.0775	1.0790	1.0805
32°	1.0621	1.0636	1.0651	1.0666	1.0681	1.0695	1.0710	1.0725	1.0740
33°	1.0557	1.0572	1.0587	1.0601	1.0616	1.0631	1.0646	1.0660	1.0675
34°	1.0490	1.0505	1.0519	1.0534	1.0549	1.0563	1.0578	1.0593	1.0607
35°	1.0423	1.0438	1.0453	1.0467	1.0482	1.0497	1.0511	1.0526	1.0541

Degrees Cent.	762 mm. 30.00 in.	763 mm. 30.04 in.	764 mm. 30.08 in.	765 mm. 30.12 in.	766 mm. 30.16 in.	767 mm. 30.20 in.	768 mm. 30.24 in.	769 mm. 30.28 in.	770 mm. 30.32 in.
0°	1.2522	1.2539	1.2555	1.2572	1.2588	1.2605	1.2621	1.2638	1.2654
1°	1.2472	1.2488	1.2505	1.2521	1.2538	1.2554	1.2571	1.2587	1.2604
2°	1.2420	1.2437	1.2453	1.2469	1.2486	1.2502	1.2519	1.2535	1.2551
3°	1.2369	1.2385	1.2401	1.2418	1.2434	1.2450	1.2467	1.2483	1.2499
4°	1.2318	1.2334	1.2351	1.2367	1.2383	1.2399	1.2416	1.2432	1.2448
5°	1.2267	1.2283	1.2299	1.2315	1.2332	1.2348	1.2364	1.2380	1.2397
6°	1.2215	1.2231	1.2247	1.2263	1.2279	1.2296	1.2312	1.2328	1.2344
7°	1.2163	1.2179	1.2196	1.2212	1.2228	1.2244	1.2260	1.2276	1.2292
8°	1.2112	1.2128	1.2144	1.2160	1.2176	1.2192	1.2208	1.2224	1.2240
9°	1.2060	1.2076	1.2092	1.2108	1.2124	1.2140	1.2156	1.2172	1.2188
10°	1.2008	1.2024	1.2040	1.2056	1.2072	1.2088	1.2103	1.2119	1.2135
11°	1.1956	1.1972	1.1988	1.2004	1.2020	1.2036	1.2052	1.2067	1.2083
12°	1.1903	1.1918	1.1934	1.1950	1.1966	1.1982	1.1998	1.2013	1.2029
13°	1.1850	1.1866	1.1882	1.1897	1.1913	1.1929	1.1945	1.1961	1.1976
14°	1.1798	1.1813	1.1829	1.1845	1.1860	1.1876	1.1892	1.1908	1.1923
15°	1.1744	1.1760	1.1776	1.1791	1.1807	1.1823	1.1838	1.1854	1.1870
16°	1.1691	1.1706	1.1722	1.1738	1.1753	1.1769	1.1784	1.1800	1.1816
17°	1.1637	1.1653	1.1668	1.1684	1.1700	1.1715	1.1731	1.1746	1.1762
18°	1.1582	1.1597	1.1613	1.1628	1.1644	1.1659	1.1675	1.1690	1.1706
19°	1.1527	1.1543	1.1558	1.1574	1.1589	1.1605	1.1620	1.1636	1.1651
20°	1.1472	1.1487	1.1503	1.1518	1.1534	1.1549	1.1564	1.1580	1.1595
21°	1.1416	1.1431	1.1446	1.1462	1.1477	1.1492	1.1508	1.1523	1.1538
22°	1.1359	1.1374	1.1390	1.1405	1.1420	1.1436	1.1451	1.1466	1.1482
23°	1.1302	1.1317	1.1332	1.1347	1.1363	1.1378	1.1393	1.1408	1.1424
24°	1.1244	1.1260	1.1275	1.1290	1.1305	1.1320	1.1336	1.1351	1.1366
25°	1.1185	1.1200	1.1215	1.1230	1.1246	1.1261	1.1276	1.1291	1.1306
26°	1.1127	1.1142	1.1157	1.1172	1.1187	1.1202	1.1217	1.1232	1.1247
27°	1.1067	1.1082	1.1097	1.1112	1.1127	1.1142	1.1157	1.1172	1.1188
28°	1.1007	1.1022	1.1037	1.1052	1.1067	1.1082	1.1097	1.1112	1.1127
29°	1.0945	1.0960	1.0974	1.0989	1.1004	1.1019	1.1034	1.1049	1.1064
30°	1.0883	1.0898	1.0913	1.0928	1.0943	1.0958	1.0973	1.0988	1.1002
31°	1.0819	1.0834	1.0849	1.0864	1.0879	1.0893	1.0909	1.0923	1.0938
32°	1.0755	1.0769	1.0784	1.0799	1.0814	1.0829	1.0843	1.0858	1.0873
33°	1.0690	1.0705	1.0719	1.0734	1.0749	1.0764	1.0778	1.0793	1.0808
34°	1.0622	1.0637	1.0652	1.0666	1.0681	1.0696	1.0710	1.0725	1.0740
35°	1.0555	1.0570	1.0585	1.0599	1.0614	1.0629	1.0643	1.0658	1.0673

TABLE V.

ATOMIC WEIGHTS.

According to Clarke, "Constants of Nature, Part V, 1882."  
(Quantivalences after Bloxam.)

Aluminum,	Al.	III.	27.009	Mercury,	Hg.	I. II.	199.712
Antimony,	Sb.	III. V.	119.955	Molybdenum,	Mo.	VI.	95.527
Arsenic,	As.	III. V.	74.918	Nickel,	Ni.	II. III.	57.928
Barium,	Ba.	II.	136.763	Nitrogen,	N.	III. V.	14.021
Bismuth,	Bi.	III. V.	207.523	Osmium,	Os.	VI.	198.494
Boron,	B.	III.	10.941	Oxygen,	O.	II.	15.9633
Bromine,	Br.	I.	79.768	Palladium,	Pd.	II. V.	105.737
Cadmium,	Cd.	II.	111.835	Phosphorus,	P.	III. V.	30.958
Caesium,	Cs.	I.	132.583	Platinum,	Pt.	II. IV.	194.415
Calcium,	Ca.	II.	39.990	Potassium,	K.	I.	39.019
Carbon,	C.	IV.	11.9736	Rhodium,	Rh.	III.	104.055
Cerium,	Ce.	II.	140.424	Rubidium,	Rb.	I.	85.251
Chlorine,	Cl.	I.	35.370	Ruthenium,	Ru.	IV.	104.217
Chromium,	Cr.	III. VI.	52.009	Scandium,	Sc.		43.980
Cobalt,	Co.	II. III.	58.887	Selenium,	Se.	II.	78.797
Columbium,	Cb.		93.812	Silicon,	Si.	IV.	28.195
Copper,	Cu.	I. II.	63.173	Silver,	Ag.	I.	107.675
Didymium,	D.	II.	144.573	Sodium,	Na.	I.	22.998
Erbium,	E.	II.	165.891	Strontium,	Sr.	II.	87.374
Fluorine,	F.	I.	18.984	Sulphur,	S.	II.	31.984
Gallium,	Ga.	III.	68.854	Tantalum,	Ta.	V.	182.144
Glucinum,	Gl.	II.	9.085	Tellurium,	Te.	II.	127.960
Gold,	Au.	III.	196.155	Thallium,	Tl.	I.	203.715
Hydrogen,	H.	I.	1.000	Thorium,	Th.	II.	233.414
Indium,	In.	III.	113.398	Tin,	Sn.	II. IV.	117.698
Iodine,	I.	I.	126.557	Titanium,	Ti.	IV.	49.846
Iridium,	Ir.	IV.	192.651	Tungsten,	W.	VI.	183.610
Iron,	Fe.	II. III.	55.913	Uranium,	U.	II. III.	238.482
Lanthanum,	La.	II.	138.526	Vanadium,	V.	III. V.	51.256
Lead,	Pb.	II.	206.471	Ytterbium,	Yb.		172.761
Lithium,	Li.	I.	7.0073	Yttrium,	Yt.	II.	89.816
Magnesium,	Mg.	II.	23.959	Zinc,	Zn.	II.	64.9045
Manganese,	Mn.	II. IV.	53.906	Zirconium,	Zr.	IV.	89.367

TABLE VI.  
CONVERSION FACTORS MORE COMMONLY NEEDED IN AGRICULTURAL ANALYSIS.

AFTER THE LATEST ATOMIC WEIGHTS.

	FOUND.	SOUGHT.	1.	2.	3.	4.	5.	6.	7.	8.	9.
1	AgCl.	Cl.	.24726	.49453	.74179	.98906	1.23632	1.48358	1.73085	1.97811	2.22538
2	AgCl.	HCl.	.25426	.50851	.76277	1.01702	1.27128	1.52553	1.77979	2.03404	2.28830
3	AgCl.	Ag.	.73274	1.46547	2.25821	3.01094	3.76368	4.51641	5.26915	6.02188	6.77462
4	BaSO <sub>4</sub> .	SO <sub>3</sub> .	.34340	.68679	1.03019	1.37358	1.71698	2.06037	2.40377	2.74716	3.09056
5	BaSO <sub>4</sub> .	S.	.13751	.27501	.41252	.55002	.68753	.82504	.96254	1.10005	1.23755
6	CaO.	CaCO <sub>3</sub> .	1.78459	3.56917	5.35376	7.13834	8.92293	10.70752	12.49210	14.27669	16.06127
7	CaO.	CaSO <sub>4</sub> .2H <sub>2</sub> O.	3.06959	6.13918	9.20878	12.27837	15.34796	18.41755	21.48714	24.55674	27.62633
8	CaO.	CaSO <sub>4</sub> .	2.42751	4.85502	7.28253	9.71004	12.13755	14.56506	16.99257	19.42008	21.84759
9	CaCO <sub>3</sub> .	CaO.	.56035	1.12071	1.68106	2.24141	2.80177	3.36212	3.92247	4.48282	5.04318
10	CaSO <sub>4</sub> .	CaO.	.41194	.82389	1.23583	1.64778	2.05972	2.47166	2.88361	3.29555	3.70750
11	CaSO <sub>4</sub> .	CaCO <sub>3</sub> .	.73515	1.47030	2.20545	2.94060	3.67575	4.41091	5.14606	5.88121	6.61636
12	CaCO <sub>3</sub> .	CaSO <sub>4</sub> .2H <sub>2</sub> O.	1.72000	3.44012	5.16017	6.88023	8.60029	10.32035	12.04040	13.76046	15.48052
13	CO <sub>2</sub> .	CaCO <sub>3</sub> .	2.27456	4.54911	6.82367	9.09822	11.37278	13.64734	15.92189	18.19645	20.47100
14	Cl.	NaCl.	1.65921	3.30042	4.95064	6.60085	8.25106	9.90127	11.55148	13.20170	14.85191
15	Fe <sub>2</sub> O <sub>3</sub> .	2Fe.	.70016	1.40031	2.10047	2.80062	3.50078	4.20093	4.90109	5.60125	6.30140
16	K <sub>2</sub> PtCl <sub>6</sub> .	2KCl.*	.30697	.61393	.92090	1.22786	1.53483	1.84179	2.14876	2.45573	2.76269
17	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> SO <sub>4</sub> .	.38875	.77749	1.16624	1.55499	1.94374	2.33248	2.72123	3.10998	3.49872
18	K <sub>2</sub> PtCl <sub>6</sub> .	K <sub>2</sub> O.*	.10395	.20789	.31184	.41578	.51972	.62366	.72760	.83154	.93548
19	K <sub>2</sub> O.	K <sub>2</sub> SO <sub>4</sub> .	1.84971	3.69942	5.54913	7.39884	9.24855	11.09826	12.94797	14.79768	16.64739
20	K <sub>2</sub> O.	2KCl.	1.58272	3.16544	4.74817	6.33089	7.91361	9.49833	11.07905	12.66178	14.24450
21	K <sub>2</sub> .	K <sub>2</sub> O.	1.20456	2.40912	3.61367	4.81823	6.02279	7.22735	8.43191	9.63646	10.84102
22	K.	KCl.	1.90648	3.81296	5.71944	7.62592	9.53241	11.43889	13.34537	15.25185	17.15833
23	Mg <sub>3</sub> P <sub>2</sub> O <sub>7</sub> .	2MgO.	.36035	.72069	1.08104	1.44138	1.80173	2.16208	2.52242	2.88277	3.24311
24	MgSO <sub>4</sub> .	MgO.	.33325	.66650	.99976	1.33301	1.66626	1.99951	2.33276	2.66601	2.99927
25	MnSO <sub>4</sub> .	MnO.	.46659	.93319	1.39978	1.86638	2.33297	2.79956	3.26616	3.73275	4.19935
26	MnS.	MnO.	.81347	1.62695	2.44042	3.25390	4.06737	4.88084	5.69432	6.50779	7.32127
27	Mn <sub>2</sub> O <sub>4</sub> .	3MnO.	.92923	1.85846	2.78769	3.71692	4.64616	5.57539	6.50462	7.43385	8.36308

	FOUND.	SOUGHT.	1.	2.	3.	4.	5.	6.	7.	8.	9.
28	Mn <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	2MnO.	.49646	.99292	1.48937	1.98583	2.48229	2.97875	3.47521	3.97166	4.46812
29	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	P <sub>2</sub> O <sub>5</sub> .	.63965	1.27931	1.91896	2.55861	3.19827	3.83792	4.47757	5.11722	5.75688
30	Mg <sub>2</sub> P <sub>2</sub> O <sub>7</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	1.39722	2.79444	4.19167	5.58889	6.98611	8.38333	9.78055	11.17778	12.57500
31	2NaCl.	Na <sub>2</sub> O.	.53076	1.06153	1.59229	2.12306	2.65382	3.18458	3.71535	4.24611	4.77688
32	Na <sub>2</sub> O.	2NaCl.	1.88408	3.76815	5.65223	7.53630	9.42038	11.30445	13.18853	15.07260	16.95668
33	Na <sub>2</sub> .	Na <sub>2</sub> O.	1.34706	2.69412	4.04117	5.38823	6.73529	8.08235	9.42941	10.77646	12.12352
34	Na.	NaCl.	2.53796	5.07592	7.61388	10.15184	12.68980	15.22775	17.76571	20.30367	22.84163
35	Na <sub>2</sub> SO <sub>4</sub> .	Na <sub>2</sub> O.	.43685	.87369	1.31054	1.74738	2.18423	2.62108	3.05792	3.49477	3.93161
36	(NH <sub>4</sub> ) <sub>2</sub> PtCl <sub>6</sub> .	2NH <sub>3</sub> .	.07690	.15380	.23070	.30760	.38450	.46140	.53830	.61520	.69210
37	(NH <sub>4</sub> ) <sub>2</sub> PtCl <sub>6</sub> .	2N.	.06335	.12669	.19004	.25338	.31673	.38008	.44342	.50677	.57011
38	N.	NH <sub>3</sub> .	1.21396	2.42793	3.64189	4.85586	6.06982	7.28378	8.49775	9.71171	10.92568
39	Pt.	2N.	.14424	.28847	.43271	.57695	.72119	.86542	1.00966	1.15390	1.29813
40	Pt.	2NH <sub>3</sub> .	.17510	.35020	.52530	.70040	.87550	1.05059	1.22569	1.40079	1.57589
41	P <sub>2</sub> O <sub>5</sub> .	Ca <sub>3</sub> P <sub>2</sub> O <sub>8</sub> .	2.18434	4.36869	6.55303	8.73737	10.92172	13.10606	15.29040	17.47474	19.65909

\*Different from the factors used in constructing Table II; see introduction to same.

TABLE VII.

## METRIC SYSTEM OF WEIGHTS AND MEASURES.

1 Metre=39.37079 inches. 1 Gramme=15.43235 grains.

## AVOIRDUPOIS WEIGHT.

		Grammes.
Dr.	[16]*	1.7718
Oz.	[16]	28.3495
Lb.	[14]	453.5926
St.	[2]	6350.2964
Qr.	[4]	12701.
Cwt.	[20]	50802.
Gross ton		1016047.
Net ton		907185.

## TROY WEIGHT.

		Grammes.
Grain	[24]	.0648
Dwt.	[20]	1.5552
Oz.	[12]	31.1035
Lb.		373.2419

## APOTHECARIES WEIGHT.

		Grammes.
Grain	[20]	.0648
Scruple	[3]	1.2960
Dr.	[8]	3.8879
Oz.	[12]	31.1035
Lb.		373.2419

## MEASURES OF CAPACITY.

		Grains of water at 62°F.	C.c.
Minim	[60]	0.95	0.061
Fl. dr.	[8]	56.95	3.690
Fl. oz.	[16]	455.61	29.570
Pt.	[2]	7289.75	473.150
Qt.	[4]	14579.50	946.300
Gal.		58318.00	3785.200

## MEASURES OF DISTANCE.

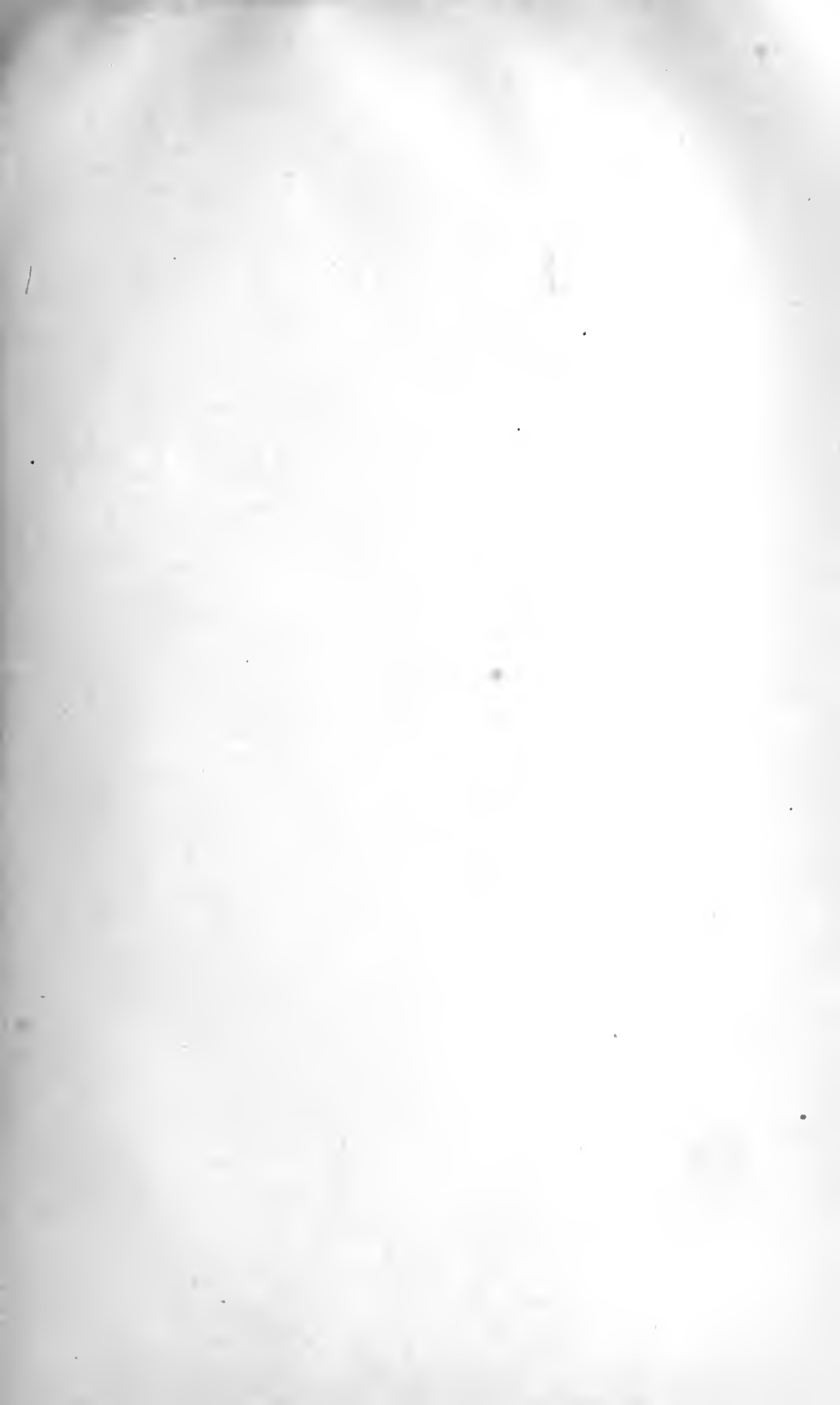
		Metres.
In.	[12]	.02539954
Ft.	[3]	.30479449
Yd.	[220]	.91438347
Furlong	[8]	201.1644
Mile		1609.3149

## MISCELLANEOUS.

	Lbs. Av.	Grms.
1 cu. ft. water at 62°F	=62.3550	=28215.0000
1 cu. in. " "	=.0361	=16.3862
1 Imperial gal.	=277.274 cu. in.	=4543.0 c.c.
1 U. S. gallon	=231.000 " "	=3785.2 c.c.
1 oz. Av.	=437.50 grains	=28.3495 grammes.
1 oz. Troy, 1 oz. Apoth.	=480 grains	=31.1035 grammes.

\*The figures in brackets denote the number requisite to compose the denomination immediately below.





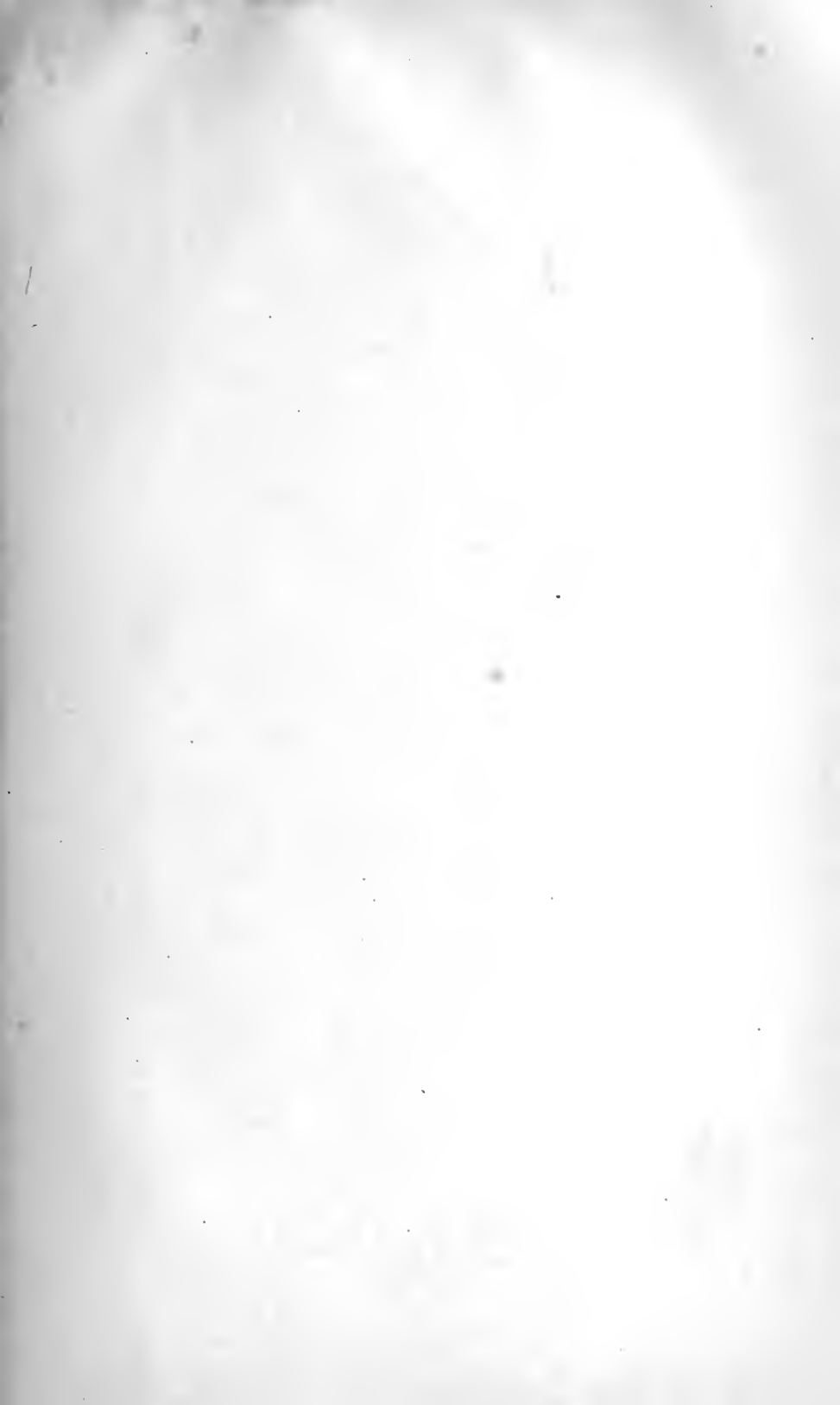






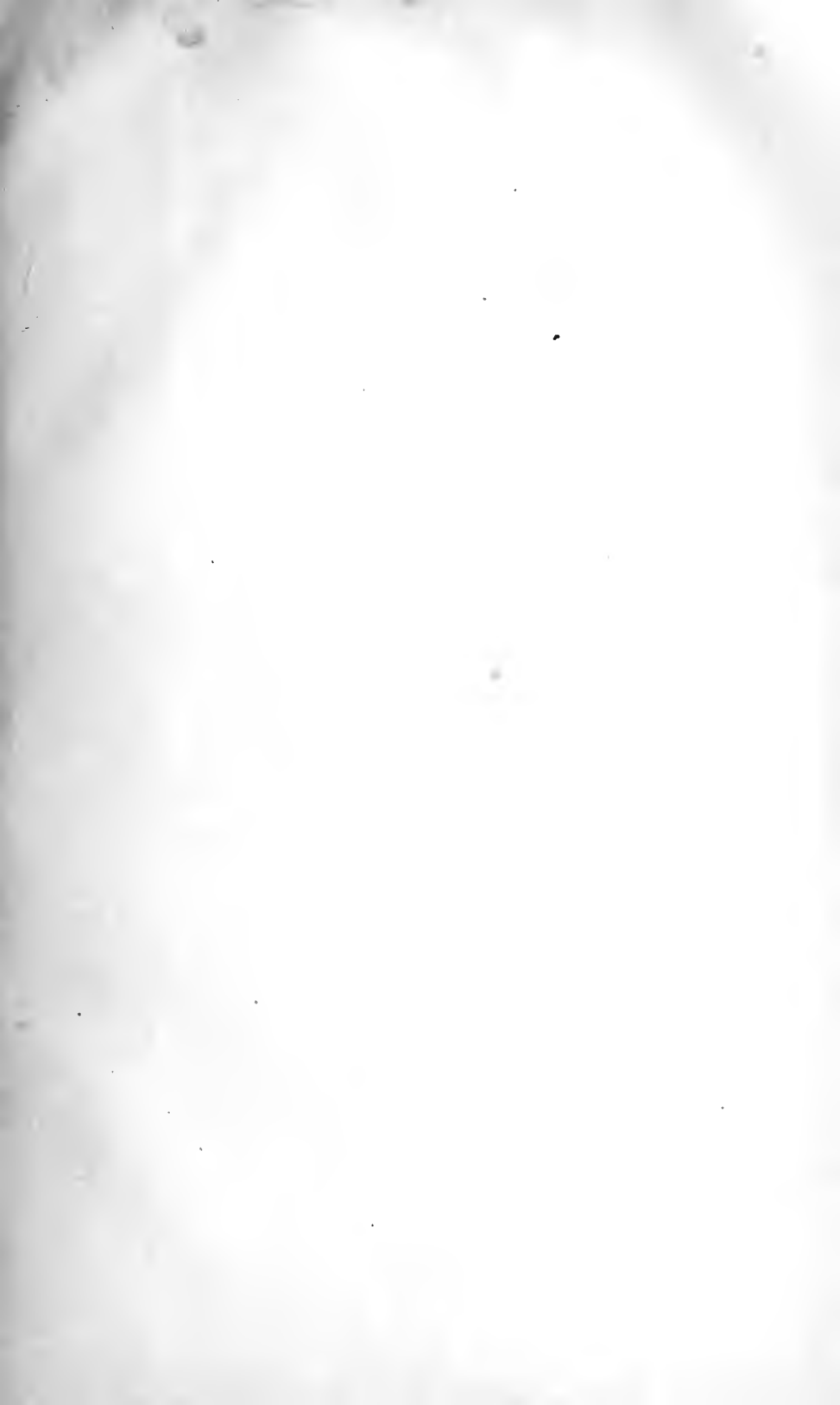




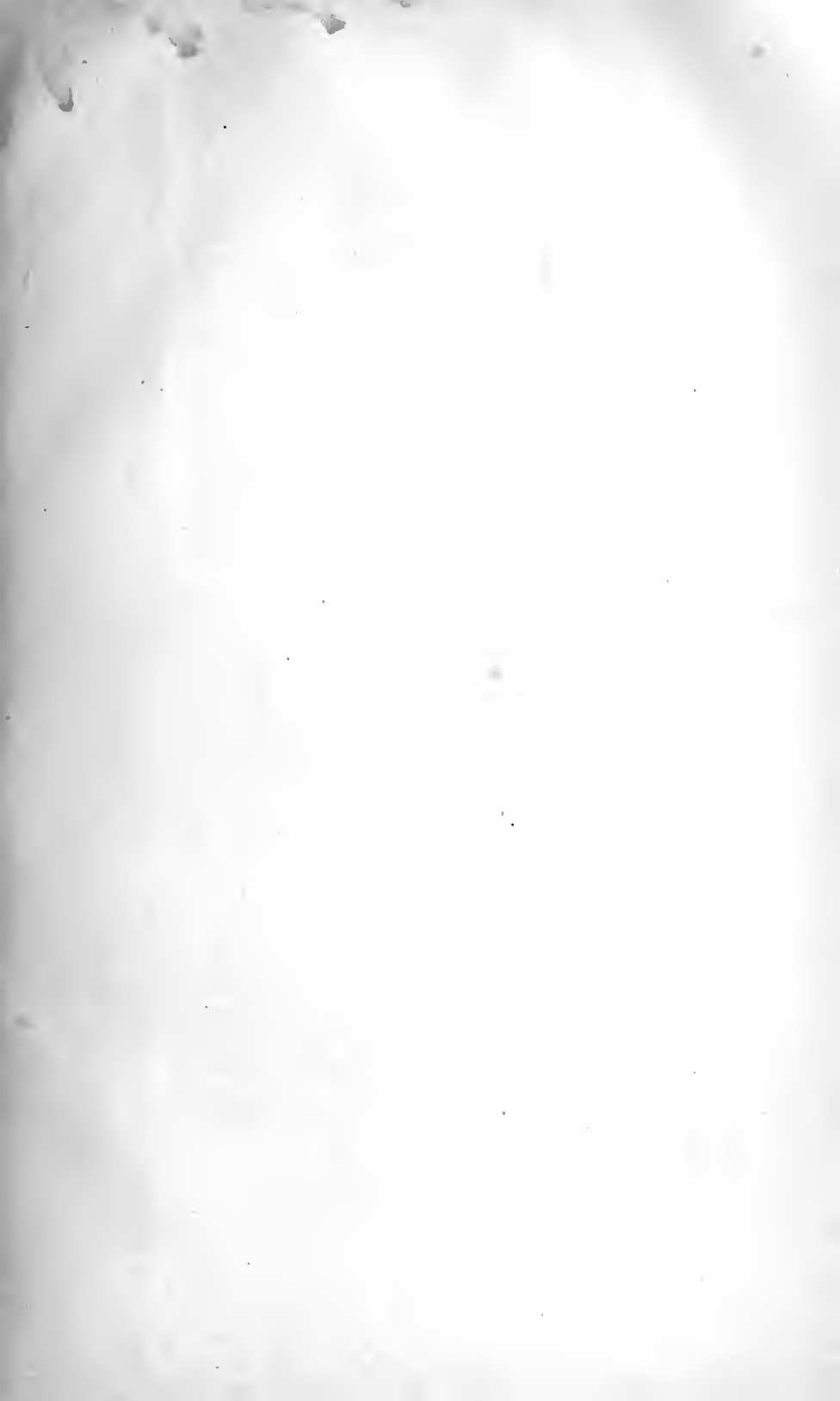








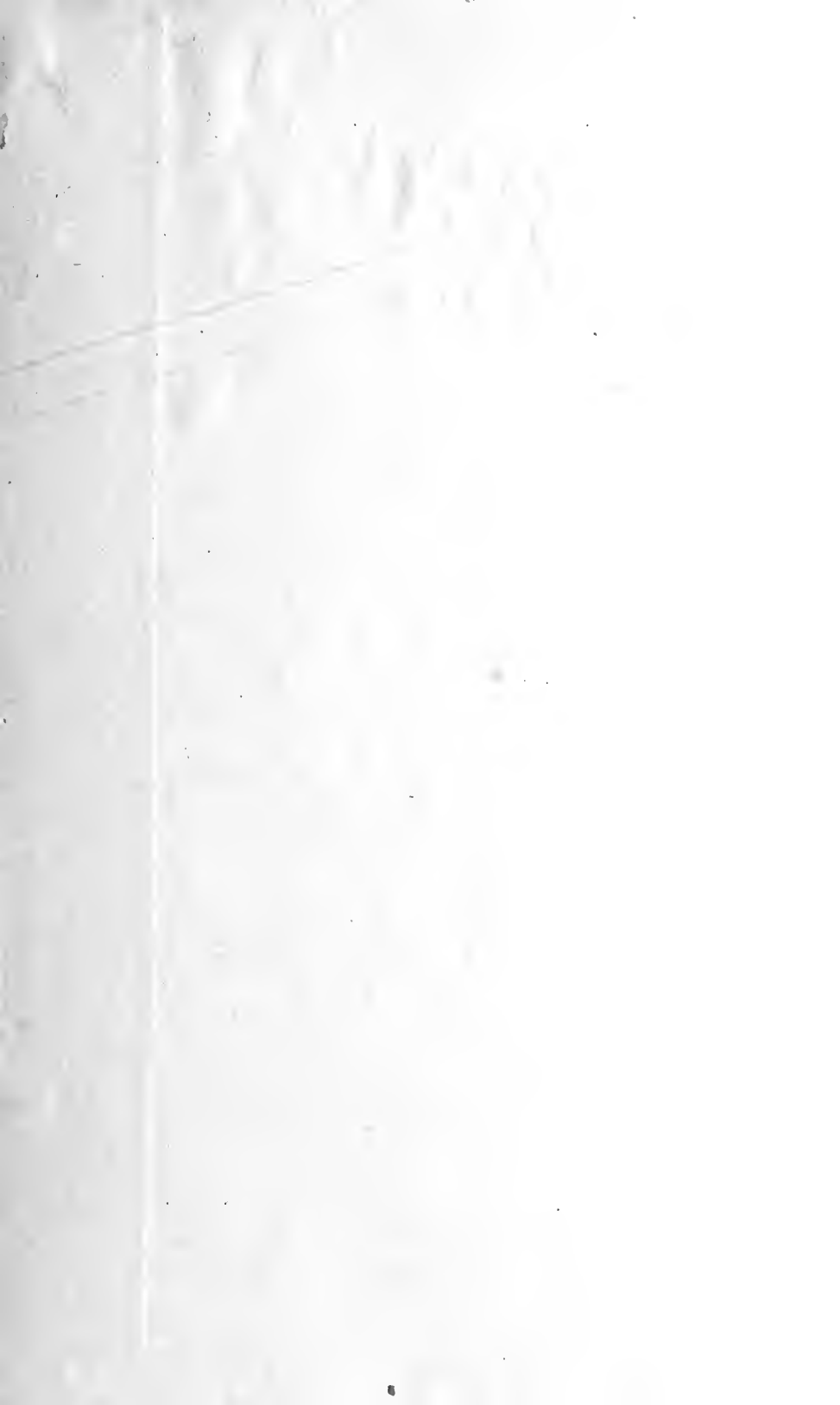












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