

Inorganic Chemicals: First Quarter 2005

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Economics and Statistics Administration
U.S. CENSUS BUREAU

Table 1. Summary of Production of Principal Inorganic Chemicals: 2005 and 2004
 [Short tons]

Quarter and year	Chlorine gas (100 percent) (3251811111)	Sodium hydroxide, total liquid (100 percent) (3251814111)	Hydrochloric acid (100 percent) (3251884125, 4131)	Aluminum sulfate commercial (17 percent Al ₂ O ₃) (3251887151)	Sodium sulfate, high purity (100 percent Na ₂ SO ₄) (325188A1A1)	Finished sodium bicarbonate (58 percent NaHCO ₃) (3251817131)	Sodium chlorate (100 percent) (325188A141)
Year-to-date:							
2005.....	3,348,311	2,601,417	1,370,151	232,789	133,138	149,893	175,240
2004.....	3,239,477	2,544,084	1,347,303	223,383	119,871	144,585	175,238
2005							
First quarter.....	3,348,311	2,601,417	1,370,151	232,789	133,138	149,893	175,240
2004							
Total.....	13,414,818	10,482,817	5,519,825	1,020,961	521,667	637,783	726,192
Fourth quarter.....	3,353,823	2,648,024	1,370,176	251,987	126,548	165,978	169,431
Third quarter.....	3,381,753	2,679,370	1,397,931	287,207	140,841	167,378	202,122
Second quarter.....	3,439,765	2,611,339	1,404,415	258,384	134,407	159,842	179,401
First quarter.....	3,239,477	2,544,084	1,347,303	223,383	119,871	144,585	175,238

Table 2. Primary Production and Stocks of Inorganic Chemicals
[Short tons, unless otherwise noted]

Product code	Product description	First quarter 2005					Fourth quarter 2004				
		Total production (quantity)	Total shipments, including interplant transfers		Total production (quantity)	Total shipments, including interplant transfers					
			Quantity	Value		Quantity	Value				
Chlorine and alkalis:											
Chlorine (100 percent):											
3251811111	Gas 1/.....	a/ 3,348,311	a/ 2,824,113	a/ 431,246	a/ 3,353,823	a/ 2,879,440	a/ 433,190				
3251811121	Liquid.....	a/ 2,860,624	b/ 3,227,373	a/ 543,066	a/ 2,909,109	b/ 3,264,022	a/ 532,435				
Sodium hydroxide (caustic soda) (100 percent) all processes:											
3251814111	Liquid 2/.....	a/ 2,601,417	(X)	(X)	a/ 2,648,024	(X)	(X)				
3251817111	Potassium hydroxide (caustic potash) (88-92 percent), liquid 2/.....	156,914	200,619	52,407	153,730	205,632	51,153				
3251817131	Finished sodium bicarbonate (58 percent NaHCO3).....	a/ 149,893	(S)	(S)	165,978	(S)	(S)				
2123913111	Sodium carbonate, natural (soda ash) (58 percent) 3/.....	3,055	(X)	(X)	3,082	(X)	(X)				
Chlorine bleaches and other inorganic bleaching compounds:											
325188G1P4	Industrial, liquid and dry.....	(S)	(S)	(S)	(S)	(S)	(S)				
Acids:											
Hydrochloric (100 percent)											
3251884125	From chlorine and hydrogen.....	b/ 71,583	a/ 30,570	6,580	b/r/ 88,565	a/ 39,126	8,299				
3251884131	Byproduct and other 4/.....	a/ 1,298,568	a/ 927,666	a/ 41,927	a/ 1,281,611	a/ 920,288	a/ 37,946				
3251884141	Hydrocyanic, including anhydrous (100 percent).....	b/ 68,568	(S)	a/ 41,026	b/ 74,700	b/ 62,244	a/ 38,491				
Aluminum oxide and aluminum compounds:											
3313110100	Aluminum oxide (except natural) alumina (100 percent Al2O3).....	(D)	(D)	b/ 255,148	(D)	(D)	b/ 244,111				
3251887121	Aluminum chloride, anhydrous (100 percent).....	(S)	(D)	(D)	(S)	(D)	(D)				
3251887131	Aluminum hydroxide, trihydrate (100 percent).....	117,654	124,971	b/ 47,125	r/ 117,874	r/ 124,845	b/ 43,411				
Aluminum sulfate:											
3251887151	Commercial (17 percent aluminum oxide) 5/.....	a/ 232,789	a/ 228,524	a/ 27,806	a/ 251,987	a/ 246,753	a/ 29,147				
3251887161	Iron-free (17 percent aluminum oxide).....	70,124	a/ 71,707	a/ 6,307	r/ 81,856	r/ 82,491	a/r/ 6,598				
3251887171	Aluminates (sodium aluminate, potassium aluminate, etc.) (100 percent).....	84,707	83,164	14,014	99,350	97,649	16,369				
Potassium and sodium compounds:											
325188A111	Potassium iodide (100 percent).....	94	(D)	(D)	93	(D)	(D)				
325188A117	Potassium pyrophosphate (tetrapotassium pyrophosphate) (anhydrous, 100 percent).....	(S)	(D)	(D)	(S)	(D)	(D)				
325188A124	Potassium phosphates (100 percent by weight).....	b/ 6,643	b/ 4,659	a/ 5,480	b/ 6,026	(D)	a/ 3,175				
325188A141	Sodium chlorate (100 percent).....	a/ 175,240	a/ 176,065	a/ 51,560	a/ 169,431	a/ 183,838	a/ 53,958				
325188A147	Sodium hydrosulfide (sodium sulfhydrate (100 percent).....	(D)	(D)	(D)	(D)	(D)	(D)				
325188A151	Sodium hydrosulfite (100 percent).....	(D)	(D)	(D)	(D)	(D)	(D)				
Sodium phosphates:											
325188A157	Dibasic (produced for sale) (100 percent) 6/.....	b/ 5,465	4,607	5,132	b/ 5,684	4,538	5,047				
325188A164	Tetrabasic (pyro) (100 percent).....	(S)	(D)	(S)	(S)	(S)	(S)				
325188A167	Meta (100 percent).....	a/ 9,629	9,607	9,528	a/ 8,697	8,367	8,169				
325188A171	Acid pyro (100 percent).....	a/ 10,823	a/ 10,863	a/ 9,012	a/ 11,550	a/ 10,627	a/ 8,768				
325188A174	Tripoly (100 percent).....	(D)	(D)	(D)	(D)	(D)	(D)				
325188A177	Other sodium phosphates, including mono- and tribasic.....	(X)	(X)	4,064	(X)	(X)	6,092				
325188A181	Sodium silicate (soluble silicate glass, liquid, and solid) (anhydrous) 7/.....	b/ 305,659	a/ 172,005	b/ 56,726	b/ 304,315	a/ 183,654	b/ 57,285				
325188A184	Metasilicate pentahydrate (100 percent).....	8,461	8,394	2,222	7,717	7,215	1,852				
325188A187	Metasilicate anhydrous (100 percent).....	8,414	7,618	3,044	6,960	7,231	2,864				
Sodium sulfate (100 percent):											
325188A1A1	High purity.....	b/ 133,138	b/ 152,891	b/ 12,259	b/ 126,548	b/ 116,180	b/ 7,881				
325188A1A7	Sodium sulfite (100 percent).....	b/ 27,271	b/ 28,756	(S)	b/ 22,049	b/ 28,309	(S)				
Other inorganic chemicals:											
325188G141	Calcium carbonate (precipitated) (100 percent).....	a/ 556,274	a/ 541,288	a/ 71,338	a/ 564,573	a/ 549,735	a/ 70,341				
325188G144	Calcium chloride (100 percent).....	(D)	(D)	(D)	(D)	a/ 334,346	50,659				
Calcium phosphates:											
325188G147	Monobasic (21 percent minimum P) (100 percent).....	236,165	268,832	a/ 60,788	209,613	264,548	a/ 55,624				
325188G151	Dibasic (18.5 percent minimum P) (100 percent).....	91,986	79,262	21,825	78,180	77,053	20,157				
3253124241	Tribasic (deflourinated phosphate rock) (18.0 percent minimum P) 8/: Animal feed grade (deflourinated phosphate rock) (100 percent).....	67,322	68,358	19,869	(D)	64,402	18,915				

Table 2. Primary Production and Stocks of Inorganic Chemicals
[Short tons, unless otherwise noted]

Product code	Product description	First quarter 2005			Fourth quarter 2004		
		Total production (quantity)	Total shipments, including interplant transfers		Total production (quantity)	Total shipments, including interplant transfers	
			Quantity	Value		Quantity	Value
325998H1E4	Carbon, activated 9/:						
	Granular carbons (dry weight) 10/.....	(D)	(D)	(D)	(D)	(D)	(D)
325998H1E7	Pulverized carbons (dry weight).....	(D)	(D)	(D)	a/ 9,455	(D)	(D)
325188G181	Hydrogen peroxide (100 percent by weight).....	(S)	(S)	(S)	(S)	(S)	(S)
325188G184	Iodine (100 percent) quantity in pounds.....	(D)	(D)	9,563	(D)	(D)	9,739
325188G187	Ferric chloride (100 percent).....	(S)	(S)	(S)	(S)	(S)	(S)
325188G191	Iron oxides and hydroxides, excluding iron oxide pigments (100 percent).....	(D)	(D)	(D)	(D)	(D)	(D)
325188G1A1	Magnesium chloride (100 percent).....	(D)	(D)	5,020	(D)	(D)	5,502
325188G1B1	Manganese dioxide (100 percent).....	a/ 16,595	a/ 14,762	17,939	a/ 14,801	a/ 14,027	17,339
325188G1F1	Phosphorus oxychloride (100 percent).....	(D)	(D)	(D)	(D)	(D)	(D)
325188G1F7	Phosphorus trichloride (chloride) (100 percent).....	(D)	(D)	(D)	(D)	(D)	b/ 3,068
325188G1G7	Silicon tetrachloride (sitet) (100 percent SiCl4).....	(D)	(S)	(S)	(D)	(S)	(S)
325188G1K1	Sulfur dioxide (100 percent).....	12,242	a/ 10,835	b/ 2,018	17,213	a/ 14,444	b/ 2,284
325188G1M1	Zinc sulfate (100 percent).....	a/ 9,658	(D)	a/ 7,743	a/ 9,489	(D)	a/ 4,958

D Withheld to avoid disclosing data for individual companies. r/Revised by 5 percent or more from previously published data. S Does not meet publication standards. X Not applicable.

- 1/Production includes amounts liquefied.
- 2/Liquid production data represent total production, including quantities later evaporated to solid caustic.
- 3/Source: U.S. Geological Survey. Quantity reported in thousands of short tons.
- 4/Includes production from salt and acid.
- 5/Excludes quantities produced and consumed in municipalities.
- 6/Represents quantities produced only for sale or interplant transfer.
- 7/Excludes amounts produced and consumed in making meta, ortho, and sesquisilicates.
- 8/Includes animal feed, but excludes other grades and superphosphate or other fertilizer materials.
- 9/Excludes reactivated carbon.
- 10/Includes pelleted carbon.

Note: Percent of estimation of each item is indicated as follows: a/10 to 25 percent of this item is estimated. b/26 to 50 percent of this item is estimated. c/Over 50 percent of this item is estimated.

Table 3a. Production, Exports, Imports, and Apparent Consumption of Selected Inorganic Chemicals: First Quarter 2005
[Metric tons]

Product code	Product description	Quantity produced	Exports of domestic merchandise 1/	Imports for consumption 2/	Apparent consumption 3/	Percent imports to apparent consumption
3251881111	Chlorine gas.....	3,037,537	2,328	132,876	3,168,085	4.2
3251814111	Sodium hydroxide, total liquid (all processes).....	2,359,966	804,509	277,737	1,833,194	15.2
3251817111	Potassium hydroxide, liquid.....	142,350	86,945	2,069	57,474	3.6
3251817131	Finished sodium bicarbonate.....	135,981	14,113	4,405	126,273	3.5
3251884125, 4131	Hydrochloric acid.....	1,242,980	14	26	1,242,992	-
3313110100	Aluminum oxide.....	(D)	323,700	424,981	(D)	(D)
3251887121	Aluminum chloride.....	(S)	2,818	197	(S)	(S)
3251887131	Aluminum hydroxide, trihydrate.....	106,734	17,471	40,158	129,421	31.0
3251887151	Aluminum sulfate (commercial).....	211,183	2,647	2,219	210,755	1.1
3251887171	Aluminates.....	76,845	9,605	1,723	68,963	2.5
325188A111	Potassium iodide.....	85	32	184	237	77.5
325188A124	Potassium phosphates.....	6,026	647	5,721	11,100	51.5
325188A141	Sodium chlorate.....	158,975	6,739	156,648	308,884	50.7
325188A174	Sodium phosphate tripoly.....	(D)	2,166	34,641	(D)	(D)
325188A181	Sodium silicates.....	277,289	12,638	6,771	271,422	2.5
325188A184, A187	Sodium metasilicates.....	15,309	4,279	45	11,075	0.4
325188A1A7	Sodium sulfite.....	24,740	9,952	8,761	23,549	37.2
325188G141	Calcium carbonate, precipitated.....	504,643	21,356	8,548	491,835	1.7
325188G144	Calcium chloride.....	(D)	72,545	30,565	(D)	(D)
325998H1E4, H1E7	Carbon activated (granular and pulverized).....	(D)	12,950	18,830	(D)	(D)
325188G181	Hydrogen peroxide.....	(S)	11,691	9,108	(S)	(S)
325188G184	Iodine.....	(D)	360	1,627	(D)	(D)
325188G191	Iron oxides and hydroxides.....	(D)	17,820	921	(D)	(D)
325188G1A1	Magnesium chloride.....	(D)	1,006	12,413	(D)	(D)
325188G1B1	Manganese dioxide.....	15,055	1,112	8,511	22,454	37.9
325188G1F1 G1F7	Phosphorous, oxychloride and trichloride.....	(D)	315	430	(D)	(D)
325188G1K1	Sulfur dioxide.....	11,106	864	20,181	30,423	66.3
325188G1M1	Zinc sulfate.....	8,762	684	7,719	15,797	48.9

- Represents zero. D Withheld to avoid disclosing data for individual companies. S Does not meet publication standards.

1/Source: Census Bureau report EM 545, U.S. Exports (see Table 4).

2/Source: Census Bureau report IM 145, U.S. Imports for Consumption (see Table 4).

3/Apparent consumption represents new domestic supply and is derived by subtracting exports from the total of manufacturers' production plus imports.

Note: Export and import data for the following product descriptions have been deleted from this report due to a lack of comparability with this survey: Bleaches (sodium and calcium hypochlorite, etc.); sodium phosphate, mono- and dibasic; sodium phosphate, tribasic; sodium sulfate; and calcium phosphates.

Table 3b. Production, Exports, Imports, and Apparent Consumption of Selected Inorganic Chemicals: Fourth Quarter 2004
[Metric tons]

Product code	Product description	Quantity produced	Exports of domestic merchandise 1/	Imports for consumption 2/	Apparent consumption 3/	Percent imports to apparent consumption
3251881111	Chlorine gas.....	3,042,537	2,012	124,155	3,164,680	3.9
3251814111	Sodium hydroxide, total liquid (all processes).....	2,402,247	785,840	267,417	1,883,824	14.2
3251817111	Potassium hydroxide, liquid.....	139,462	63,092	1,849	78,219	2.4
3251817131	Finished sodium bicarbonate.....	150,573	15,366	4,014	139,221	2.9
3251884125, 4131	Hydrochloric acid.....	1,243,003	15	27	1,243,015	-
3313110100	Aluminum oxide.....	(D)	282,957	422,704	(D)	(D)
3251887121	Aluminum chloride.....	(S)	2,723	383	(S)	(S)
3251887131	Aluminum hydroxide, trihydrate.....	r/ 106,934	17,902	65,554	154,586	42.4
3251887151	Aluminum sulfate (commercial).....	228,599	2,292	1,826	228,133	0.8
3251887171	Aluminates.....	90,129	7,792	1,647	83,984	2.0
325188A111	Potassium iodide.....	84	26	209	267	78.2
325188A124	Potassium phosphates.....	5,467	640	4,512	9,339	48.3
325188A141	Sodium chlorate.....	153,705	4,290	152,321	301,736	50.5
325188A174	Sodium phosphate tripoly.....	(D)	3,060	34,041	(D)	(D)
325188A181	Sodium silicates.....	276,070	18,388	9,054	266,736	3.4
325188A184, A187	Sodium metasilicates.....	13,315	3,849	81	9,547	0.8
325188A1A7	Sodium sulfite.....	20,003	9,751	8,219	18,471	44.5
325188G141	Calcium carbonate, precipitated.....	512,172	22,911	7,332	496,593	1.5
325188G144	Calcium chloride.....	(D)	58,525	77,442	(D)	(D)
325998H1E4, H1E7	Carbon activated (granular and pulverized).....	(D)	11,680	18,915	(D)	(D)
325188G181	Hydrogen peroxide.....	(S)	16,501	8,323	(S)	(S)
325188G184	Iodine.....	(D)	142	1,897	(D)	(D)
325188G191	Iron oxides and hydroxides.....	(D)	17,229	2,376	(D)	(D)
325188G1A1	Magnesium chloride.....	(D)	1,011	43,975	(D)	(D)
325188G1B1	Manganese dioxide.....	13,427	1,239	8,193	20,381	40.2
325188G1F1 G1F7	Phosphorous, oxychloride and trichloride.....	(D)	83	1,069	(D)	(D)
325188G1K1	Sulfur dioxide.....	15,615	824	13,376	28,167	47.5
325188G1M1	Zinc sulfate.....	8,608	701	7,604	15,511	49.0

- Represents zero. D Withheld to avoid disclosing data for individual companies. r/Revised by 5 percent or more from previously published data. S Does not meet publication standards.

1/Source: Census Bureau report EM 545, U.S. Exports (see Table 4).

2/Source: Census Bureau report IM 145, U.S. Imports for Consumption (see Table 4).

3/Apparent consumption represents new domestic supply and is derived by subtracting exports from the total of manufacturers' production plus imports.

Note: Export and import data for the following product descriptions have been deleted from this report due to a lack of comparability with this survey: Bleaches (sodium and calcium hypochlorite, etc.); sodium phosphate, mono- and dibasic; sodium phosphate, tribasic; sodium sulfate; and calcium phosphates.

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes, and HTSUSA Import Codes: 2005

Product code	Product description	Export code 1/	Import code 2/
3251881111	Chlorine gas.....	2801.10.0000	2801.10.0000
3251814111	Sodium hydroxide, total liquid (all processes).....	2815.11.0000 2815.12.0000	2815.11.0000 2815.12.0000
3251817111	Potassium hydroxide, liquid.....	2815.20.0050 2815.20.0090	2815.20.0050 2815.20.0090
3251817131	Finished sodium bicarbonate.....	2836.30.0000	2836.30.0000
3251884125, 4131	Hydrochloric acid.....	2806.10.0000	2806.10.0000
3313110100	Aluminum oxide.....	2818.20.0000	2818.20.0000
3251887121	Aluminum chloride.....	2827.32.0000	2827.32.0000
3251887131	Aluminum hydroxide, trihydrate.....	2818.30.0000	2818.30.0000
3251887151	Aluminum sulfate (commercial).....	2833.22.0000	2833.22.0000
3251887171	Aluminates.....	2841.10.0000	2841.10.0000
325188A111	Potassium iodide.....	2827.60.2000	2827.60.2000
325188A124	Potassium phosphates.....	2835.24.0000	2835.24.0000
325188A141	Sodium chlorate.....	2829.11.0000	2829.11.0000
325188A174	Sodium phosphate tripoly.....	2835.31.0000	2835.31.0000
325188A181	Sodium silicates.....	2839.19.0000	2839.19.0000
325188A184, A187	Sodium metasilicates.....	2839.11.0000	2839.11.0000
325188A1A7	Sodium sulfite.....	2832.10.0000	2832.10.0000
325188G141	Calcium carbonate, precipitated.....	2836.50.0000	2836.50.0000
325188G144	Calcium chloride.....	2827.20.0000 2835.26.0000	2827.20.0000 2835.26.0000
325998H1E4, H1E7	Carbon activated (granular and pulverized).....	3802.10.0000	3802.10.0000
325188G181	Hydrogen peroxide.....	2847.00.0000	2847.00.0000
325188G184	Iodine.....	2801.20.0000	2801.20.0000

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes, and HTSUSA Import Codes: 2005

Product code	Product description	Export code 1/	Import code 2/
325188G191	Iron oxides and hydroxides.....	2821.10.0050	2821.10.0050
325188G01A1	Magnesium chloride.....	2827.31.0000	2827.31.0000
325188G01B1	Manganese dioxide.....	2820.10.0000	2820.10.0000
325188G1F1 G1F7	Phosphorous, oxychloride and trichloride.....	2812.10.5010	2812.10.5010
325188G1K1	Sulfur dioxide.....	2811.23.0000	2811.23.0000
325188G1M1	Zinc sulfate.....	2833.26.0000	2833.26.0000
3251311100	Titanium dioxide (composite and pure).....	2823.00.0000 3206.11.0000 3206.19.0000	2823.00.0000 3206.11.0000 3206.19.0000

1/Source: 2005 edition, Harmonized System-Based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated (2005).