

# Mineral Industry Surveys

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## SULFUR IN MARCH 2004

During the month, production of recovered elemental sulfur was 766,000 metric tons, according to the U.S. Geological Survey. March production was 15% higher than February 2004, and slightly higher than that of March 2003. Shipments were 13% higher than those of February 2004. Producers' ending stocks for March 2004 were 182,000 tons.

Import and export data for March 2004 were not available at the time of publication and will be published in the Sulfur in April 2004 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for February 2004

were estimated to be 225,000 tons; exports were 6,000 tons. Imports of sulfuric acid for February 2004 were 204,000 tons; exports were 13,000 tons.

Significant adjustments have been made to the sulfur import data. Reports from the U.S. Census Bureau appear to underreport sulfur imports especially material from Canada. The revised figures are based on Census information, data and personal communications with industry experts. Better strategies for estimating import data from Canada are being explored.

TABLE 1  
SALIENT SULFUR STATISTICS<sup>1</sup>

(Thousand metric tons)

Period	Production			Shipments, all sources
	Petroleum <sup>2</sup>	Natural gas	Total	
2003:				
January-December	7,130	1,790	8,930	8,920
January-March	1,730	478	2,210	2,170
March	595	161	756	736
April	639	155	794	810
May	639	135	773	769
June	556	132	688	680
July	615	141	755	760
August	567	156	723	723
September	557	141	698	708
October	561	153	714	715
November	628	147	775	783
December	642	155	797	803
2004:				
January	577 <sup>r</sup>	165	742 <sup>r</sup>	762 <sup>r</sup>
February <sup>r</sup>	501	167	667	680
March <sup>p</sup>	601	165	766	767
Total	1,680	497	2,180	2,210

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes a small quantity from coking operations.

TABLE 2  
U.S. IMPORTS OF SULFUR<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Total, all countries <sup>2</sup>	
	Quantity <sup>e</sup>	Value <sup>3</sup>	Quantity	Value <sup>3</sup>	Quantity <sup>e</sup>	Value <sup>3</sup>
2003:						
January-December	2,080	32,000	535	26,500	2,810	69,100
January-February	350	3,610	89	4,310	439	7,990
February	170	2,330	45	1,850	215	4,250
March	200	2,870	45	2,130	245	5,660
April	190	2,950	44	2,380	234	5,230
May	200	4,160	45	2,530	266	7,760
June	180	2,940	44	2,410	241	6,270
July	160	2,440	45	2,180	241	6,390
August	160	2,040	45	1,940	267	4,820
September	160	2,910	44	2,070	213	6,160
October	160	2,460	49	2,470	229	5,760
November	160	2,850	45	2,170	205	6,860
December	160	2,770	40	1,960	230	6,180
2004:						
January	160	1,720	50	2,400	247	5,850
February <sup>e</sup>	160	3,130	35	3,050	225	7,930
Total	320	4,850	85	5,450	472	13,800

<sup>e</sup>Estimated.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentalSul North America Sulphur Service.

TABLE 3  
U.S. IMPORTS OF SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Canada			Europe			Total, all countries <sup>2</sup>		
	Quantity	Sulfur content	Value <sup>3</sup>	Quantity	Sulfur content	Value <sup>3</sup>	Quantity	Sulfur content	Value <sup>3</sup>
2003:									
January-December	387	126	16,200	266	86	5,870	905	298	28,800
January-February	68	23	2,400	54	17	1,350	124	41	4,260
February	30	10	1,080	25	8	836	57	19	2,360
March	42	14	1,740	19	6	279	63	21	2,480
April	44	14	1,680	--	--	--	54	18	2,200
May	34	11	1,320	29	10	638	75	25	2,710
June	26	8	963	40	13	1,350	84	27	2,770
July	23	8	1,020	19	6	318	82	27	1,950
August	19	6	980	74	24	751	103	34	2,410
September	22	7	1,150	9	3	382	70	23	2,230
October	35	11	1,520	1	(4)	36	104	34	1,550
November	33	11	1,590	1	(4)	36 <sup>e</sup>	71	23	3,350
December	41	13	1,880	20	7	734	75	25	2,900
2004:									
January	97	32	3,930	--	--	--	114	37	4,610
February	179	58	7,480	21	7	488	204	69	8,450
Total	276	90	11,400	21	7	488	318	106	13,100

<sup>e</sup>Estimated. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

<sup>4</sup>Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF SULFUR AND SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value <sup>2</sup>	Quantity	Sulfur content	Value <sup>2</sup>
2003:					
January-December	742	46,100	207	68	18,800
January-February	174	8,000	28	9	2,520
February	63	3,410	16	5	1,150
March	34	2,830	11	3	1,360
April	94	4,030	12	4	1,430
May	41	2,430	22	7	1,610
June	70	6,650	21	7	1,790
July	55	4,700	28	10	2,430
August	57	2,190	27	9	2,060
September	50	2,090	23	7	1,910
October	72	4,360	12	4	1,200
November	27	4,880	12	4	1,170
December	67	3,920	12	4	1,360
2004:					
January	18	1,740	10	3	1,120
February	6	1,530	13	4	1,520
Total	24	3,270	23	7	2,640

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5  
U.S. CONSUMPTION OF SULFUR<sup>1</sup>

(Thousand metric tons)

Period	Domestic sources <sup>2</sup>	Imports <sup>c</sup>	Consumption
<b>2003:</b>			
January-December	8,180	2,810	11,000
January-February	1,260	439	1,700
February	595	215	810
March	702	245	947
April	716	234	950
May	728	266	994
June	610	241	851
July	705	241	946
August	666	267	933
September	658	213	871
October	643	229	872
November	756	205	961
December	736	230	966
Total	8,180	2,810	11,000
<b>2004:</b>			
January	744 <sup>r</sup>	247	991 <sup>r</sup>
February	674	225	899
Total	1,420	472	1,890

<sup>c</sup>Estimated. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Calculated as shipments minus exports.

TABLE 6  
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,  
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT<sup>1</sup>

(Thousand metric tons)

District and source	March 2004 <sup>p</sup>		February 2004		Total 2004 <sup>2</sup>		Year to date 2003 <sup>2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
<b>PAD 1:</b>								
Petroleum and coke	22	22	9	9	48	48	60	61
Natural gas	2	2	14	14	18	18	6	6
Total	24	24	23	24	66	66	66	66
<b>PAD 2:</b>								
Petroleum and coke	66	70	74	74	215	222	223 <sup>r</sup>	216 <sup>r</sup>
Natural gas	4	4	4	4	11	12	11	11
Total	70	74	77	77	226	233	233 <sup>r</sup>	227 <sup>r</sup>
<b>PAD 3:<sup>3</sup></b>								
Petroleum and coke	394	397	334	344	1,110	1,130	1,100 <sup>r</sup>	1,090 <sup>r</sup>
Natural gas	33	32	43 <sup>r</sup>	44	123	125	97 <sup>r</sup>	97 <sup>r</sup>
Total	427	430	376 <sup>r</sup>	388	1,230	1,260	1,200 <sup>r</sup>	1,190 <sup>r</sup>
<b>PAD 4 and 5:<sup>4</sup></b>								
Petroleum and coke	119	122	84 <sup>r</sup>	84 <sup>r</sup>	307	315	347 <sup>r</sup>	334 <sup>r</sup>
Natural gas	126	118	107 <sup>r</sup>	108 <sup>r</sup>	346	340	364 <sup>r</sup>	350 <sup>r</sup>
California	84	86	63 <sup>r</sup>	63 <sup>r</sup>	226	231	269 <sup>r</sup>	265 <sup>r</sup>
Total	245	240	191 <sup>r</sup>	191 <sup>r</sup>	653	655	711 <sup>r</sup>	684 <sup>r</sup>
Grand total	766	767	667 <sup>r</sup>	680 <sup>r</sup>	2,180	2,210	2,210 <sup>r</sup>	2,170 <sup>r</sup>

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include revisions to prior months.

<sup>3</sup>Includes the U.S. Virgin Islands.

<sup>4</sup>Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7  
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS<sup>1</sup>

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

	2004			2003 total
	March	February	Year to date	
Production	9.04	8.42 <sup>r</sup>	8.75 <sup>r</sup>	8.93
Shipments	9.06	8.58 <sup>r</sup>	8.89 <sup>r</sup>	8.92
Exports of sulfur	NA	0.08	0.15	0.74
Imports of sulfur:				
Canada	NA	2.02 <sup>e</sup>	1.95 <sup>e</sup>	2.08
Mexico	NA	0.44	0.52	0.54
Total <sup>2</sup>	NA	2.84 <sup>e</sup>	2.88 <sup>e</sup>	2.81
Export of H <sub>2</sub> SO <sub>4</sub>	NA	0.16	0.14	0.21
Import of H <sub>2</sub> SO <sub>4</sub> :				
Canada	NA	2.26	1.68	0.39
Europe	NA	0.27	0.13	0.27
Total <sup>2</sup>	NA	2.57	1.94	0.91
Consumption: <sup>3</sup>				
Domestic sources	NA	8.51	8.65	8.18
Imports	NA	2.84 <sup>e</sup>	2.88 <sup>e</sup>	2.81
Total	NA	11.40	11.50	11.00
Sulfur export values <sup>4</sup>	NA	\$255	\$136	\$62
Sulfur import values: <sup>4</sup>				
Canada	NA	\$20	\$15	\$15
Mexico	NA	\$87	\$64	\$50
Average	NA	\$35	\$29	\$25
H <sub>2</sub> SO <sub>4</sub> export values <sup>4</sup>	NA	\$117	\$115	\$91
H <sub>2</sub> SO <sub>4</sub> import values: <sup>4</sup>				
Canada	NA	\$42	\$41	\$42
Europe	NA	\$23	\$23	\$22
Average	NA	\$41	\$41	\$32

<sup>e</sup>Estimated. <sup>r</sup>Revised. NA Not available.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes other countries not listed.

<sup>3</sup>Because March trade data were not available, March consumption was not determined.

<sup>4</sup>Average value per ton for most recent data available.