

# Mineral Industry Surveys

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**For information, contact:**

Joyce A. Ober, Sulfur Commodity Specialist  
U.S. Geological Survey  
983 National Center  
Reston, VA 20192  
Telephone: (703) 648-7717, Fax: (703) 648-7757  
E-mail: [jober@usgs.gov](mailto:jober@usgs.gov)

Robin C. Kaiser (Data)  
Telephone: (703) 648-7948  
Fax: (703) 648-7792  
E-mail: [rkaiser@usgs.gov](mailto:rkaiser@usgs.gov)

**Internet:** <http://minerals.usgs.gov/minerals>

## SULFUR IN FEBRUARY 2008

During the month, production of recovered elemental sulfur was 620,000 metric tons (t), according to the U.S. Geological Survey. February 2008 production was 10.7% lower than that of January 2008 and slightly higher than that of February 2007. Shipments were 624,000 t, 10.0% lower than those of January 2008. Producers' ending stocks for February 2008 were 180,000 t.

Imports of recovered sulfur for February 2008 were estimated to be 289,000 t; exports were 92,000 t. Imports of sulfuric acid for February 2008 were 242,000 t; exports were 18,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 821,000 t in February 2008. This was 14.9% less than that of January 2008 and 10.9% higher than that of February 2007.

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 and data from personal communications with industry experts.

The most significant development in the sulfur industry in 2008 is increased prices. As a result of tight supplies domestically and globally, sulfur prices have skyrocketed. In February 2007, the average value of sulfur imported into the United States was about \$17 per ton. One year later, the average value was \$168 per ton, with the expectation that prices will continue to rise. Several factors have contributed to this increase, including high global demand resulting from significantly increased production of phosphate fertilizer, decreased supplies due to lower than expected sulfur content of crude petroleum processed in domestic refineries, and more inelasticity of supply due to delays in completion of projects that would increase sulfur production.

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

(Thousand metric tons)

Period	Production			Shipments, all sources	Ending stocks <sup>3</sup>
	Petroleum <sup>2</sup>	Natural gas	Total		
2007:					
January-December	7,000	1,280	8,280	8,320	XX
January-February	1,100	229	1,330	1,330	XX
February	501	110	612	582	211
March	591	97	688	705	207
April	558	98	656	674	164
May	570	101	671	667	163
June	554	115	668	672	160
July	597	106	703	681	183
August	612	107	719	744	171
September	581	104	685	681	190
October	602	106	708	719 <sup>r</sup>	167
November	602	105	707	710	168
December	629	114	744	727	187
2008:					
January	610	86	694 <sup>r</sup>	694 <sup>r</sup>	190
February <sup>p</sup>	526	93	620	624	180
Total	1,140	178	1,310	1,320	XX

<sup>p</sup>Preliminary. <sup>r</sup>Revised. XX Not applicable.

<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.

<sup>3</sup>Subject to inventory adjustments.

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

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Venezuela		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>	Quantity <sup>e</sup>	Value <sup>3</sup>
2007:								
January-December	2,090	43,200	424	16,100	406	17,200	2,930	79,400
January-February	315	4,150	74	2,390	43	1,200	431	7,890
February	145	1,670	30	1,090	20	503	195	3,290
March	170	2,010	29	661	17	376	216	3,120
April	165	2,260	41	891	60	1,320	266	4,630
May	170	2,170	58	1,460	50	1,360	278	5,030
June	165	1,740	43	1,390	22	714	245	5,420
July	190	1,900	29	1,030	37	1,300	257	4,300
August	190	4,480	29	1,000	32	1,420	251	7,020
September	185	4,940	29	1,520	33	1,730	247	8,390
October	180	6,850	33	2,040	25	1,560	238	10,600
November	175	5,110	44	2,550	34	2,250	253	10,200
December	180	7,610	15	1,140	53	3,930	248	12,800
2008:								
January	180	23,100 <sup>r</sup>	55 <sup>r</sup>	3,780 <sup>r</sup>	66 <sup>r</sup>	4,480	302 <sup>r</sup>	31,700 <sup>r</sup>
February	170	29,400	45	8,150	46	8,260	289	48,700
Total	350	52,600	100	11,900	112	12,700	591	80,300

<sup>e</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>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 PentaSul North America Sulphur Service.

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

(Thousand metric tons and thousand dollars)

Period	Canada			Mexico			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>
2007:									
January-December	2,310	688	101,000	239	79	6,760	2,600	833	112,000
January-February	376	123	15,500	45	15	1,060	420	138	16,700
February	160	52	6,600	23	8	548	182	60	7,200
March	208	68	8,320	33	11	874	240	79	9,200
April	203	66	8,580	25	8	678	228	74	9,310
May	193	45	8,740	30	10	1,090	223	55	9,950
June	208	68	9,050	7	2	204	216	71	9,360
July	190	62	9,260	33	11	879	240	78	11,500
August	194	14	8,350	22	7	581	237	77	9,360
September	176	58	8,310	10	3	293	187	61	8,630
October	190	62	8,300	11	4	295	201	66	8,710
November	183	60	7,810	12	4	318	208	68	9,380
December	192	62	9,060	11	4	493	202	66	9,610
2008:									
January	193	63	11,500	12	4	711	205	67	12,300
February	198	65	13,400	16	5	1,330	242	79	17,300
Total	391	128	24,800	28	9	2,040	447	146	29,600

<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.

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>
2007:					
January-December	922	84,800	334	88	34,300
January-February	119	8,940	59	9	4,570
February	37	3,420	17	4	1,610
March	80	4,750	28	3	2,980
April	83	4,570	33	8	3,290
May	71	5,730	26	8	3,340
June	13	1,720	21	7	2,610
July	116	7,440	34	11	3,660
August	83	8,190	50	16	4,660
September	61	7,890	27	8	2,700
October	118	14,100	26	8	2,510
November	95	10,900	16	5	1,590
December	84	10,600	14	5	2,370 <sup>r</sup>
2008:					
January	31	4,910	22	7	3,250 <sup>r</sup>
February	92	32,900	18	6	1,780
Total	123	37,900	40	13	5,030

<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>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
2007:			
January-December	7,390	2,900	10,300
January-February	1,210	431	1,640
February	545	195	740
March	625	216	841
April	591	266	857
May	596	278	874
June	659	245	904
July	565	257	822
August	661	251	912
September	620	247	867
October	605	238	843
November	615	253	868
December	643	215	858
2008:			
January <sup>f</sup>	663	302	965
February	532	289	821
Total	1,200	591	1,790

<sup>c</sup>Estimated. <sup>f</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	February 2008 <sup>p</sup>		January 2008		January-February 2008 <sup>2</sup>		January-February 2007 <sup>2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	23	23	39	33	61	56	45	45
Natural gas	1	1	1	1	2	2	2	2
Total	24	24	40	34	63	59	46	47
PAD 2:								
Petroleum and coke	82	82	85	85 <sup>r</sup>	166	168	168 <sup>r</sup>	169 <sup>r</sup>
Natural gas	--	--	3	3	3	3	7	6
Total	82	82	88	89 <sup>r</sup>	169	171	175 <sup>r</sup>	175 <sup>r</sup>
PAD 3: <sup>3</sup>								
Petroleum and coke	326	326	378	383	704	709	702 <sup>r</sup>	707 <sup>r</sup>
Natural gas	52	54	42	42 <sup>r</sup>	94	96	78 <sup>r</sup>	81 <sup>r</sup>
Total	378	380	420 <sup>r</sup>	425 <sup>r</sup>	798	805	780 <sup>r</sup>	788 <sup>r</sup>
PAD 4 and 5: <sup>4</sup>								
Petroleum and coke	96	96	108	106	204	202	189 <sup>r</sup>	185 <sup>r</sup>
Natural gas	40	42	39	40	79	81	142	137
California	78	75	90	86	168	161	153	145
Total	136	137	147	146	283	283	333	322 <sup>r</sup>
Grand total	620	624	694 <sup>r</sup>	694 <sup>r</sup>	1,310	1,320	1,330	1,330

<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.

<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 purpose 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)

	2008			2007
	February	January	Total	total
Production	7.82 <sup>p</sup>	8.19	8.02	8.28
Shipments	7.88 <sup>p</sup>	8.19 <sup>r</sup>	8.04	8.31
Exports of sulfur	1.16	0.36 <sup>r</sup>	0.75	0.92
Imports of sulfur:				
Canada <sup>e</sup>	2.15	2.13	2.14	2.08
Mexico	0.57	0.65 <sup>r</sup>	0.61	0.42
Venezuela <sup>e</sup>	0.58	0.78 <sup>r</sup>	0.68	0.37
Total <sup>2, e</sup>	3.65	3.57 <sup>r</sup>	3.61	2.93
Exports of H <sub>2</sub> SO <sub>4</sub>	0.23	0.26	0.24	0.33
Imports of H <sub>2</sub> SO <sub>4</sub> :				
Canada	2.50	2.28	2.39	2.31
Mexico	0.20	0.14	0.17	0.24
Total <sup>2</sup>	3.05	2.42	2.73	2.60
Consumption: <sup>3</sup>				
Domestic sources	6.71	7.83 <sup>r</sup>	7.29	7.39
Imports <sup>e</sup>	3.65	3.57 <sup>r</sup>	3.61	2.90 <sup>e</sup>
Total	10.36	11.39 <sup>r</sup>	10.89	10.30
Sulfur export values <sup>3</sup>	158	358 <sup>r</sup>	308	92
Sulfur import values: <sup>3</sup>				
Canada	173	128 <sup>r</sup>	147	21
Mexico	181	69 <sup>r</sup>	119	38
Venezuela	180	68 <sup>r</sup>	114	42
Average <sup>2</sup>	168	105 <sup>r</sup>	136	27
H <sub>2</sub> SO <sub>4</sub> export values <sup>3</sup>	99	147	126	103
H <sub>2</sub> SO <sub>4</sub> import values: <sup>3</sup>				
Canada	67	60	64	44
Mexico	83	59	73	28
Average <sup>2</sup>	72	60	66	43

<sup>e</sup>Estimated. <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 other countries not listed.

<sup>3</sup>Average value per ton for most recent data available.