



# Mineral Industry Surveys

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**For information, contact:**

Joyce A. Ober, Sulfur Commodity Specialist  
U.S. Geological Survey  
989 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 OCTOBER 2008

During the month, production of recovered elemental sulfur was 771,000 metric tons (t), according to the U.S. Geological Survey. Production was 29% higher than that of September 2008 and 9% higher than that of October 2007. Shipments were 777,000 t, 34% higher than those of September 2008. Production and shipments increased significantly because petroleum refineries in the Gulf Coast region recovered from shutdowns forced by hurricanes in September. Producers' ending stocks for October 2008 were 198,000 t.

Imports of recovered sulfur for October 2008 were estimated to be 302,000 t; exports were 125,000 t. Imports of sulfuric acid for October 2008 were 278,000 t; exports were 37,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 954,000 t in October 2008. This was

17% higher than that of September 2008 and 13% higher than that of October 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.

Global and domestic sulfur prices have begun to decline although the average unit value of imported sulfur in October was \$329 per ton, slightly higher than that of September 2008. This was still seven times what it was in October 2007.

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-October	5,770	1,060	6,830 <sup>r</sup>	6,880 <sup>r</sup>	XX
October	602	106	708	719	167
November	602	105	707	710	168
December	629	114	744	727	187
2008:					
January	624	86	711	712	202
February	526	93	618	622	180
March	609	89	697	711	174
April	602	94	697	687	179
May	645	95	740	743	176
June	604	98	701	682	182
July	654	101	755	773	174
August	638	105	743 <sup>r</sup>	726 <sup>r</sup>	182
September	502 <sup>r</sup>	94	596 <sup>r</sup>	579 <sup>r</sup>	200
October <sup>p</sup>	665	106	771	777	198
Total	6,070	960	7,030	7,010	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-October	1,730 <sup>r</sup>	30,500 <sup>r</sup>	365	12,400	319 <sup>r</sup>	11,000 <sup>r</sup>	2,430 <sup>r</sup>	56,400 <sup>r</sup>
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	205	11,600	43	3,070	63	4,480	311	19,300
February	190	16,100	29	6,820	35	8,260	254	31,400
March	205	36,000	22	8,000	19	4,110	272	60,300
April	190	25,200	22	12,900	11	6,720	223	45,000
May	195	40,800	43	16,800	16	6,330	254	64,200
June	190	36,800	29	9,840	23	8,230	253	64,700
July	200	62,900	14	5,940	20	8,230	261	102,000
August	200	55,900	29	11,600	60	39,100	309	119,000
September	195	52,000	29	13,800	49	22,800	273	88,700
October	200	55,200	49	25,400	40	15,100	302	99,500
Total	1,970	393,000	309	114,000	336	123,000	2,710	694,000

<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-October	1,940	566 <sup>r</sup>	84,400	216	71	5,950 <sup>r</sup>	2,190	699	92,800 <sup>r</sup>
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
March	239	74	17,700	45	15	6,380	326	107	30,300
April	213	70	19,000	18	6	2,050	323	106	36,400
May	237	77	23,800	15	5	1,530	305	100	36,700
June	192	63	18,100	12	4	1,370	357	117	33,300
July	196	64	21,000	21	7	2,970	241	79	29,000
August	237	77	28,400	41	13	13,500	324	106	57,100
September	186	61	21,400	24	8	5,360	319	104	61,600
October	164	54	21,900	34	11	7,480	278	91	55,200
Total	2,060	668	196,000	238	78	42,700	2,920	956	369,000

<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.

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	106	34,300
January-October	744	63,300	304	96 <sup>r</sup>	30,300
October	118	14,100	26	8	2,510
November	95	10,900	16	5	1,590
December	84	10,600	14	5	2,370
2008:					
January	31	4,910	22	7	3,230
February	92	32,900	18	6	1,780
March	53	17,000	33	11	5,410
April	56	21,200	15	5	2,590
May	39	9,210	23	8	5,450
June	74	24,800	18	6	2,130
July	69	16,700	15	5	1,900
August	104	53,900	20	7	2,670
September	37	18,700	24	8	3,430
October	125	36,800	37	10	8,490
Total	680	236,000	225	73	37,100

<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	2,930	10,300
January-October <sup>f</sup>	6,130	2,430	8,560
October	605	238	843
November	615	253	868
December	643	248	858
2008:			
January	681	311	992
February	532	254	786
March	658	272	930
April	631	223	854
May	704	254	958
June	608	253	861
July	704	261	965
August	622 <sup>r</sup>	309	931 <sup>r</sup>
September	541	273	814
October	652	302	954
Total	6,330	2,710	9,050

<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	January-October 2007 <sup>2</sup>		September 2008		October 2008 <sup>p</sup>		January-October 2008 <sup>2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	224	227	24	23	23	24	247	244
Natural gas	11	10	1	1	1	1	11	11
Total	235	237	25	24	25	25	258	255
PAD 2:								
Petroleum and coke	786	791	77	78	78	77	812	814
Natural gas	34	34	3	3	3	3	25	25
Total	820	825	79	81	80	79	837	839
PAD 3: <sup>3</sup>								
Petroleum and coke	3,760	3,800	284	260 <sup>r</sup>	440	451	3,840	3,850
Natural gas	422	425	42	42 <sup>r</sup>	46	47	437	437
Total	4,180	4,220	326	302 <sup>r</sup>	486	498	4,280	4,290
PAD 4 and 5: <sup>4</sup>								
Petroleum and coke	971	960	120	119	125	129	1,170	1,150
Natural gas	629	635	49	52	56	45	487	483
California	783	761	97	96	100	103	950	922
Total	1,600	1,600	170	171	180	175	1,650	1,630
Grand total	6,830	6,880	596 <sup>r</sup>	579 <sup>r</sup>	771	777	7,030	7,010

<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 coke. 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)

	2007	2008		Total
	total	September	October	
Production	8.28	7.27	9.10 <sup>P</sup>	8.44
Shipments	8.31	7.06	9.17 <sup>P</sup>	8.41
Exports of sulfur	0.92	0.45	1.48	0.82
Imports of sulfur:				
Canada <sup>c</sup>	2.08	2.38	2.36	2.36
Mexico	0.42	0.35	0.58	0.37
Venezuela <sup>c</sup>	0.37	0.60	0.47	0.40
Total <sup>c, 2</sup>	2.93	3.33	3.57	3.25
Exports of H <sub>2</sub> SO <sub>4</sub>	0.33	0.29	0.44	0.27
Imports of H <sub>2</sub> SO <sub>4</sub> :				
Canada	2.31	2.27	1.94	2.47
Mexico	0.24	0.29	0.40	0.29
Total <sup>2</sup>	2.60	3.90	3.28	3.50
Consumption:				
Domestic sources	7.39	6.61	7.70	7.63
Imports <sup>c</sup>	2.90	3.33	3.57	3.25
Total	10.30	9.93	11.30	10.90
Sulfur export values <sup>3</sup>	92	505	295	347
Sulfur import values: <sup>3</sup>				
Canada	21	267	276	199
Mexico	38	476	518	369
Venezuela	42	464	376	367
Average <sup>2</sup>	27	325	329	256
H <sub>2</sub> SO <sub>4</sub> export values <sup>3</sup>	103	143	256	165
H <sub>2</sub> SO <sub>4</sub> import values: <sup>3</sup>				
Canada	44	115	134	95
Mexico	28	223	220	179
Average <sup>2</sup>	43	193	198	126

<sup>c</sup>Estimated. <sup>P</sup>Preliminary.

<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.