

Mineral Industry Surveys

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

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

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

SULFUR IN NOVEMBER 2008

During the month, production of recovered elemental sulfur was 747,000 metric tons (t), according to the U.S. Geological Survey. Production was 3% lower than that of October 2008 and 6% higher than that of November 2007. Shipments were 730,000 t, 6% lower than those of October 2008. Producers' ending stocks for November 2008 were 212,000 t.

Imports of recovered sulfur for November 2008 were estimated to be 164,000 t; exports were 101,000 t. Imports of sulfuric acid for November 2008 were 257,000 t; exports were 14,000 t. Imports of elemental sulfur were lower than they had been for more than 2 years.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 793,000 t in November 2008. This was 10% lower than that of October 2008 and 9% lower than that of November 2007. Consumption declined because phosphate fertilizer producers curtailed production at most operations as a result of decreased demand for fertilizer

products, which may not increase until the beginning of the spring planting season. The decline in consumption was mostly reflected in reduced imports of elemental sulfur, which have fallen sharply in the past 2 months.

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 sulfur prices declined significantly. The average unit value of imported sulfur was \$241 per metric ton in November, down from \$429 per ton in October 2008. Although the average value remained six times what it was in November 2007, industry analysts expected the downward trend to continue, perhaps to historically low prices after experiencing record highs just a few months ago.

TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources	Ending stocks ³
	Petroleum ²	Natural gas	Total		
2007:					
January-December	7,000	1,280	8,280	8,320	XX
January-November	6,370	1,170	7,540	7,590	XX
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	739	726	182
September	502	94	600	579	200
October	665	106	771	777	198
November ^p	646	100	747	730	212
Total	6,710	1,060	7,770	7,740	XX

^pPreliminary. XX Not applicable.

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

²Includes a small quantity from coking operations.

³Subject to inventory adjustments.

TABLE 2
U.S. IMPORTS OF SULFUR¹

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Venezuela		Total, all countries ²	
	Quantity ^e	Value ³	Quantity	Value ³	Quantity ^e	Value ³	Quantity ^e	Value ³
2007:								
January-December	2,090	43,200	424	16,100	406	17,200	2,930	79,400
January-November	1,910 ^r	35,600	409	14,900	353	13,200	2,680	66,600
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	210 ^r	16,100	29	6,820	35	8,260	274 ^r	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	130 ^r	55,200	49	25,400	40	15,100	232 ^r	99,500
November	125	17,600	29	16,300	9	5,250	164	39,500
Total	2,050	410,000	338	130,000	345	129,000	2,830	734,000

^eEstimated. ^rRevised.

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

²May include other countries not listed.

³Declared 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 ACID¹

(Thousand metric tons and thousand dollars)

Period	Canada			Mexico			Total, all countries ²		
	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³
2007:									
January-December	2,310	688	101,000	239	79	6,760	2,600	833	112,000
January-November	2,120	626	92,200	228	75	6,270	2,400	767	102,000
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
November	151	49	18,600	25	8	5,320	257	84	45,200
Total	2,210	717	215,000	263	86	48,000	3,180	1,040	414,000

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

²May include other countries not listed.

³Declared customs valuation.

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value ²	Quantity	Sulfur content	Value ²
2007:					
January-December	922	84,800	334	106	34,300
January-November [†]	839	74,200	320	101	31,900
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
November	101	14,800	14	5	1,350
Total	781	251,000	239	78	38,400

[†]Revised.

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

²Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5
U.S. CONSUMPTION OF SULFUR¹

(Thousand metric tons)

Period	Domestic sources ²	Imports ^e	Consumption
2007:			
January-December	7,390	2,930	10,300
January-November ^f	6,700	2,680	9,380
November	615	253	868
December	643	248	858
2008:			
January	681	311	992
February	532	274 ^r	806 ^r
March	658	272	930
April	631	223	854
May	704	254	958
June	608	253	861
July	704	261	965
August	622	309	931
September	541	273	814
October	652	232 ^r	884 ^r
November	629	164	793
Total	6,960	2,830	9,790

^eEstimated. ^rRevised.

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

²Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT¹

(Thousand metric tons)

District and source	January-November 2007 ²		October 2008		November 2008 ^p		January-November 2008 ²	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	247	250	23	24	24	23	271	267
Natural gas	12	11	1	1	1	1	12	12
Total	259	261	25	25	25	24	283	279
PAD 2:								
Petroleum and coke	862	868	77 ^r	76 ^r	73	71	884	884
Natural gas	37	37	3	3	3	2	27	27
Total	900	905	80	79	75	73	911	911
PAD 3: ³								
Petroleum and coke	4,160	4,200	440	451	438	436	4,280	4,290
Natural gas	462	467	46	47	41	36	478	473
Total	4,620	4,670	486	498	479	472	4,760	4,760
PAD 4 and 5: ⁴								
Petroleum and coke	1,060	1,050	125	129	111	111	1,280	1,260
Natural gas	698	706	56	45	56	50	543	533
California	858	833	100	103	94	94	1,040	1,020
Total	1,760	1,760	180	175	167	161	1,820	1,790
Grand total	7,540	7,590	771	777	747	730	7,770	7,740

^pPreliminary. ^rRevised.

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

²May include revisions.

³Includes the U.S. Virgin Islands.

⁴Quantities produced and shipped in California included in petroleum and coke. California total shown for information purpose only.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS¹

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

	2007	2008		
	total	October	November	Total
Production	8.28	9.10	9.11 ^P	8.49
Shipments	8.32 ^r	9.17	8.91 ^P	8.46
Exports of sulfur	0.92	1.48	1.23	0.85
Imports of sulfur:				
Canada ^e	2.09 ^r	1.53 ^r	1.52	2.23
Mexico	0.42	0.58	0.35	0.37
Venezuela ^e	0.41 ^r	0.47	0.11	0.38
Total ^{e,2}	2.93	2.74 ^r	2.00	3.09
Exports of H ₂ SO ₄	0.33	0.44	0.17	0.26
Imports of H ₂ SO ₄ :				
Canada	2.31	1.94	1.84	2.41
Mexico	0.24	0.40	0.31	0.29
Total ²	2.60	3.28	3.14	3.47
Consumption:				
Domestic sources	7.39	7.70	7.67	7.61
Imports ^e	2.90	2.74 ^r	2.00	3.09
Total	10.30	10.40 ^r	9.67	10.69
Sulfur export values ³	92	295	147	321
Sulfur import values: ³				
Canada	21	424 ^r	141	201
Mexico	38	518	563	386
Venezuela	42	376	583	373
Average ²	27	429 ^r	241	260
H ₂ SO ₄ export values ³	103	229 ^r	96	161
H ₂ SO ₄ import values: ³				
Canada	44	134	123	97
Mexico	28	220	213	182
Average ²	43	198	176	130

^eEstimated. ^PPreliminary. ^rRevised.

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

²Includes other countries not listed.

³Average value per ton.