

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 SEPTEMBER 2008

During the month, production of recovered elemental sulfur was 600,000 metric tons (t), according to the U.S. Geological Survey. Mostly as a result of refinery outages owing to hurricane activity in September, production was 19% lower than that of August 2008 and 12% lower than that of September 2007. Shipments were 582,000 t, 20% lower than those of August 2008, also a result of the storm. Producers' ending stocks for September 2008 were 200,000 t.

Imports of recovered sulfur for September 2008 were estimated to be 273,000 t; exports were 37,000 t. Imports of sulfuric acid for September 2008 were 319,000 t; exports were 24,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 818,000 t in September 2008. This

was 12% lower than that of August 2008 and 6% lower than that of September 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. The average unit value of imported sulfur was \$325 per ton in September 2008. This was 15% lower than that of August 2008, but still 17 times what it was in September 2007.

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-September	5,170 ^r	955	6,120 ^r	6,160 ^r	XX
September	581	104	685	681	190
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 ^r	101	755 ^r	773 ^r	174 ^r
August	638 ^r	105 ^r	742	729 ^r	182
September ^p	506	94	600	582	200
Total	5,410	855	6,260	6,240	XX

^pPreliminary. ^rRevised. 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-September	1,550 ^r	23,700 ^r	332	10,300	294 ^r	9,410 ^r	2,190 ^r	45,800 ^r
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	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 ^r	60,300
April	190 ^r	25,200	22	12,900	11	6,720	223 ^r	45,000
May	195 ^r	40,800	43	16,800	16	6,330	254 ^r	64,200
June	190 ^r	36,800	29	9,840	23	8,230	253 ^r	64,700
July	200 ^r	62,900	14	5,940	20	8,230	261 ^r	102,000 ^r
August	200 ^r	55,900	29 ^r	11,600	60	39,100	309 ^r	119,000
September	195	52,000	29	13,800	49	22,800	273	88,700
Total	1,770	337,000	260	88,700	296	108,000	2,410	595,000

^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-September	1,750	504	76,100	205	67	5,600	1,990	633	84,100 ^r
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
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
Total	1,890	614	174,000	204	67	35,200	2,640	865	314,000

^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.

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-September	626 ^r	49,200 ^r	278 ^r	88 ^r	27,800
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
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
Total	555	199,000	188	63	28,600

^rRevised.

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-September ^f	5,530	2,190	7,720
September	620	247	867
October	605	238	843
November	615	253	868
December	643	248	858
2008:			
January	681	311	992
February	532	254	786
March	658	272 ^r	930 ^r
April	631	223 ^r	854 ^r
May	704	254 ^r	958 ^r
June	608	253 ^r	861 ^r
July	704 ^r	261 ^r	965 ^r
August	625 ^r	309 ^r	934 ^r
September	545	273	818
Total	5,690	2,410	8,100

^eEstimated. ^fRevised.

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-September 2007		August 2008		September 2008 ^p		January-September 2008 ²	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	201	203	24	24	24	23	233	220
Natural gas	10	10	1	1	1	1	10	10
Total	211	213	25	25	25	24	243	229
PAD 2:								
Petroleum and coke	709 ^r	711 ^r	75	73	77	78	734	738
Natural gas	31	30	3	2	3	3	22	22
Total	740 ^r	742 ^r	77	75	79	81	756	760
PAD 3: ³								
Petroleum and coke	3,380	3,420	413 ^r	409 ^r	284	264	3,410	3,410
Natural gas	369 ^r	371 ^r	44 ^r	43 ^r	42	41	390	392
Total	3,750 ^r	3,790 ^r	456 ^r	452 ^r	326	305	3,800	3,800
PAD 4 and 5: ⁴								
Petroleum and coke	849 ^r	834 ^r	127	120	120	119	1,040	1,020
Natural gas	574 ^r	577 ^r	57	57	49	52	431	438
California	703 ^r	682 ^r	104	98	97	96	850	819
Total	1,420 ^r	1,410 ^r	185	177	170	171	1,480	1,450
Grand total	6,120 ^r	6,160 ^r	742	729	600	582	6,260	6,240

^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	August	September	Total
Production	8.28	8.76	7.32 ^P	8.36
Shipments	8.31	8.61 ^r	7.10 ^P	8.34
Exports of sulfur	0.92	1.23	0.45	0.74
Imports of sulfur:				
Canada ^e	2.08	2.36	2.38	2.36
Mexico	0.42	0.34	0.35	0.35
Venezuela ^e	0.37	0.71	0.60	0.40
Total ^{e,2}	2.93	3.65	3.33	3.22
Exports of H ₂ SO ₄	0.33	0.24	0.29	0.25
Imports of H ₂ SO ₄ :				
Canada	2.31	2.80	2.27	2.53
Mexico	0.24	0.48	0.29	0.27
Total ²	2.60	3.82	3.90	3.54
Consumption:				
Domestic sources	7.39	7.38	6.65	7.60
Imports ^e	2.90	3.65	3.33	3.22
Total	10.30	11.00	9.98	10.80
Sulfur export values ³	92	518	505	359
Sulfur import values: ³				
Canada	21	279	267	191
Mexico	38	400	476	341
Venezuela	42	652	464	366
Average ²	27	384	325	247
H ₂ SO ₄ export values ³	103	133	143	152
H ₂ SO ₄ import values: ³				
Canada	44	120	115	92
Mexico	28	329	223	173
Average ²	43	176	193	119

^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.