

Mineral Industry Surveys

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SULFUR IN MARCH 2009

During the month, production of recovered elemental sulfur was 775,000 metric tons (t), according to the U.S. Geological Survey. Production was 15% higher than that of February 2009 and 12% higher than that of March 2008. Shipments were 770,000 t, 15% higher than those of February 2009. Producers' ending stocks for March 2009 were 205,000 t.

Imports of recovered sulfur for March 2009 were estimated to be 80,000 t; exports were 247,000 t, which was unusually high because international prices were higher than domestic. Imports of sulfuric acid for March 2009 were 281,000 t; exports were 11,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 603,000 t in March 2009. This was 4% lower than that of February 2009 and 35% lower than that of March 2008. Consumption remained low compared with levels

reached during most of 2008 because phosphate fertilizer producers curtailed production at most operations as a result of decreased demand for fertilizer products. Sulfur consumption may not increase significantly until the beginning of the spring planting season. The decline in consumption was mostly reflected in reduced imports of elemental sulfur, which fell sharply in the fourth quarter of 2008 and declined further through March 2009. Exports were higher than normal during that period.

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.

TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources	Ending stocks ³
	Petroleum ²	Natural gas	Total		
2008:					
January-December	7,370	1,170	8,540	8,510	XX
January-March	1,750	266	2,020	2,040	XX
March	607	89	695	708	174
April	593	94	688	678	179
May	637	95	733	735	176
June	601	96	697	678	182
July	652	101	753	771	174
August	634	105	739	724	182
September	500	94	596	574	209
October	656	106	760	767	198
November	636	100	736	720	209
December	713	110	823	828	205
2009:					
January	687	89	776	776	205
February	583	92	675	671	215
March ^p	678	97	775	770	205
Total	1,950	278	2,230	2,220	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
2008:								
January-December	2,180	415,000	365	140,000	360	134,000	3,000	753,000
January-March	620	63,800	94	17,900	117	16,900	857	111,000
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	55,200	49	25,400	40	15,100	232	99,500
November	125	17,600	29	16,300	9	5,250	164	39,500
December	130	4,900	27	9,210	15	5,260	172	19,500
2009:								
January	65 ^r	3,360	--	--	10	200	75 ^r	3,900
February	60 ^r	1,650	14	805	--	--	74 ^r	2,750
March	65	2,020	6	157	9	164	80	2,670
Total	190	7,040	20	962	19	364	229	9,330

^eEstimated. ^rRevised. -- Zero.

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
2008:									
January-December	2,350	765	233,000	296	97	55,700	3,440	1,130	459,000
January-March	630	202	42,500	73	24	8,430	773	253	59,900
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
December	146	48	18,000	33	11	7,690	265	87	44,400
2009:									
January	142	46	24,500	23	8	3,590	196	64	35,800
February	172	56	31,700	14	5	458	206	67	32,600
March	192	63	34,700	18	6	334	281	101	40,700
Total	506	165	90,900	55	19	4,380	683	232	109,000

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
2008:					
January-December	954	272,000	261	85	42,700
January-March	176	54,800	73	24	10,400
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
December	173	20,400	22	7	4,240
2009:					
January	116	10,500	16	5	1,550
February	114	4,790	17	6	1,720
March	247	9,960	11	4	1,500
Total	477	25,300	44	15	4,770

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 ³	Consumption
2008:			
January-December	7,560	3,000	10,600
January-March	1,860	857	2,720
March	655	272	927
April	622	223	845
May	696	254	950
June	604	253	857
July	702	261	963
August	620	309	929
September	537	273	810
October	642	232	874
November	619	164	783
December	655	172	827
2009:			
January	660	75 ^r	735 ^r
February	557	74 ^r	631 ^r
March	523	80	603
Total	1,740	229	1,970

³Estimated. ^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-March 2008 ²		February 2009		March 2009		January-March 2009 ³	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	76	71	16	17	15	14	47	47
Natural gas	3	3	1	1	1	1	2	2
Total	80	74	17	18	15	14	49	49
PAD 2:								
Petroleum and coke	245	248	68	64	68	68	213	202
Natural gas	6	6	3	--	3	--	8	3
Total	251	254	71	64	71	68	221	205
PAD 3: ⁴								
Petroleum and coke	1,117	1,140	397	398	489	487	1,380	1,380
Natural gas	138	140	39	41	39	39	123	122
Total	1,255	1,280	437	439	529	526	1,500	1,510
PAD 4 and 5: ⁴								
Petroleum and coke	314	308	102	103	106	105	309	307
Natural gas	119	122	48	47	55	57	145	150
California	261	249	80	81	85	86	248	249
Total	433	430	151	150	161	162	453	457
Grand total	2,020	2,040	675	671	775	770	2,230	2,220

³Preliminary.

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)

	2008 total	2009		
		February	March	Total
Production	8.54	8.80	9.12 ^P	9.03
Shipments	8.51	8.75	9.07 ^P	8.99
Exports of sulfur	0.95	1.49	2.91	1.93
Imports of sulfur:				
Canada ^e	2.18	0.78 ^r	0.77	0.77
Mexico	0.37	0.18	0.01	0.01
Venezuela ^e	0.36	--	0.11	0.77
Total ^{e,2}	3.00	0.96 ^r	0.94	0.93
Exports of H ₂ SO ₄	0.26	0.22	0.13	0.18
Imports of H ₂ SO ₄ :				
Canada	2.35	2.24 ^r	2.26	2.05
Mexico	0.30	0.18	0.21	0.22
Total ²	3.44	2.69	3.30	2.77
Consumption:				
Domestic sources	7.56	7.26	6.16	7.06
Imports ^e	3.00	0.96 ^r	0.94	0.93
Total	10.60	8.23 ^r	7.10	7.99
Sulfur export values ³	285	42	40	53
Sulfur import values: ³				
Canada	191	28 ^r	31	37
Mexico	383	58	26	48
Venezuela	372	XX	18	19
Average ²	251	37 ^r	33	41
H ₂ SO ₄ export values ³	164	101	136	108
H ₂ SO ₄ import values: ³				
Canada	99	184	181	180
Mexico	188	33	19	80
Average ²	133	158	145	160

^eEstimated. ^PPreliminary. ^rRevised. . XX Not applicable. -- Zero.

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.