

Mineral Industry Surveys

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SULFUR IN JULY 2008

During the month, production of recovered elemental sulfur was 752,000 metric tons (t), according to the U.S. Geological Survey. July 2008 production was about 7% higher than that of June 2008 and 7% higher than that of July 2007. Shipments were 769,000 t, 13% higher than those of June 2008. Producers' ending stocks for July 2008 were 179,000 t.

Imports of recovered sulfur for July 2008 were estimated to be 240,000 t; exports were 69,000 t. Imports of sulfuric acid for July 2008 were 241,000 t; exports were 15,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 940,000 t in July 2008. This was 9% higher than that of June 2008 and 14% higher than that of July 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.

Reported prices continued to increase through July as supplies remained tight globally. The average customs value of elemental sulfur imported into the United States in July 2008 was \$322 per ton. This was 28% higher than that of June 2008 and nearly 13 times what it was in July 2007.

On September 1, 2008, Hurricane Gustav made landfall near Morgan City, LA. In advance of Gustav, 13 refineries along the Gulf of Mexico shut down to prepare for the hurricane, and another 10 refineries reduced operations. Recovery began almost immediately and by September 9, all the refineries had begun their startup, except for one in Louisiana. On September 12, some of the same refineries began to shut down in preparation for the arrival of Hurricane Ike, which made landfall near Houston, TX, on September 13. A total of 15 refineries in Louisiana and Texas shut down for Ike, and an additional 9 were operating at reduced rates. Once again, damage to refineries was relatively minor, but power problems slowed the recovery efforts. Even when refineries experience no significant damage, it can take more than 1 week for a refinery to return to normal operation. As a result of the storms, a significant percentage of domestic refinery capacity, and thus sulfur recovery capacity, was idle during much of the month of September. Recovery had started at most of the operations by the end of the month. The impact of the hurricanes on sulfur production will be analyzed in the Sulfur in September 2008 Mineral Industry Surveys.

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-July	3,980	745 ^r	4,720 ^r	4,730 ^r	XX
July	597	106	703	681	182 ^r
August	612	107	719	744	171
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 ^r	86	711 ^r	712 ^r	202 ^r
February	526	93	618 ^r	622 ^r	180
March	609 ^r	89	697 ^r	711	174
April	602 ^r	94	697 ^r	687 ^r	179
May	645 ^r	95	740 ^r	743 ^r	176 ^r
June	604 ^r	98	701 ^r	682 ^r	182 ^r
July ^p	651	101	752	769	179
Total	4,260	655	4,920	4,930	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-July	1,180	14,200 ^r	274	7,820	229 ^r	6,260 ^r	1,690 ^r	30,400 ^r
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	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	273	60,300
April	195	25,200	22 ^r	12,900	11	6,720	228	45,000
May	205	40,800	43	16,800	16	6,330	264	64,200
June	195	36,800	29	9,840	23	8,230	257	64,700
July	205	62,900	14	5,940	20	8,230	240	77,300
Total	1,400	230,000	203	63,300	187	46,400	1,830	362,000

^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-July	1,380	432	59,500	173	57	4,780	1,570	495	66,100 ^r
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
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
Total	1,470	476	125,000	139	46	16,300	2,000	655	195,000

^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-July	482 ^r	33,100	201 ^r	64 ^r	20,400
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
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
Total	414	127,000	144	48	22,500

^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 ^c	Consumption
2007:			
January-December	7,390	2,930	10,300
January-July ^r	4,250	1,690	5,940
July	565	257	822
August	661	251	912
September	620	247	867
October	605	238	843
November	615	253	868
December	643	248	858
2008:			
January	681 ^r	311	992 ^r
February	532	254	786
March	658	273	931
April	631 ^r	228	859 ^r
May	704 ^r	264	968 ^r
June	608 ^r	257	865 ^r
July	700	240	940
Total	4,520	1,830	6,340

^cEstimated. ^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-July 2007		June 2008		July 2008 ^p		January-July 2008 ²	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	158	160	23	23	23	24	176	172
Natural gas	7	7	1	1	1	1	8	8
Total	165	166	24	24	24	25	184	180
PAD 2:								
Petroleum and coke	535 ^r	533 ^r	87	87	82	83	583	587
Natural gas	25	24	3	3	2	2	17	17
Total	560 ^r	557 ^r	90	90	85	85	600	604
PAD 3: ³								
Petroleum and coke	2,600 ^r	2,610 ^r	373	361	422	439	2,710	2,730
Natural gas	273 ^r	276 ^r	47	47	40	40	302	305
Total	2,870 ^r	2,880 ^r	420	408	463	480	3,010	3,030
PAD 4 and 5: ⁴								
Petroleum and coke	674 ^r	663 ^r	120	116	123	122	796	777
Natural gas	453 ^r	465 ^r	46	45	57	58	328	331
California	538 ^r	523 ^r	96	90	100	100	649	624
Total	1,130	1,130	167	161	181	180	1,120	1,110
Grand total	4,720 ^r	4,730 ^r	701	682	752	769	4,920	4,930

^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	June	July	Total
Production	8.28	8.55	8.88 ^P	8.45
Shipments	8.31	8.32	9.08 ^P	8.47
Exports of sulfur	0.92	0.90	0.82	0.71
Imports of sulfur:				
Canada ^e	2.08	2.38	2.42	2.41
Mexico	0.42	0.35	0.17	0.35
Venezuela ^e	0.37	0.28	0.24	0.32
Total ^{e,2}	2.93	3.14	2.83	3.14
Exports of H ₂ SO ₄	0.33	0.22	0.18	0.25
Imports of H ₂ SO ₄ :				
Canada	2.31	2.34	2.31	2.52
Mexico	0.24	0.15	0.25	0.24
Total ²	2.60	4.35	2.85	3.43
Consumption:				
Domestic sources	7.39	7.42 ^r	8.26	7.76
Imports ^e	2.90	3.13 ^r	2.83	3.14
Total	10.30	10.60	11.10	10.90
Sulfur export values ³	92	335	243	306
Sulfur import values: ³				
Canada	21	189	307	164
Mexico	38	340	424	315
Venezuela	42	358	412	248
Average ²	27	252	322	198
H ₂ SO ₄ export values ³	103	118	127	156
H ₂ SO ₄ import values: ³				
Canada	44	94	107	85
Mexico	28	114	141	118
Average ²	43	93	120	98

^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.