

Mineral Industry Surveys

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SULFUR IN SEPTEMBER 2003

During the month, production of recovered elemental sulfur was 697,000 metric tons, according to the U.S. Geological Survey (USGS). September production was 3% lower than August 2003, and 3% higher than that of September 2002. Shipments were 3% lower than those of August 2003. Producers' ending stocks for September 2003 were 197,000 tons.

Import and export data for September 2003 were not available at the time of publication and will be published in the Sulfur in October 2003 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for August 2003 were

estimated to be 267,000 tons; exports were 57,000 tons. Imports of sulfuric acid for August 2003 were 103,000 tons; exports were 27,000 tons.

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, data from other published sources, and personal communications with industry experts. Better strategies for estimating import data from Canada are being explored.

TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources
	Petroleum ²	Natural gas	Total	
2002:				
January-December	6,750	1,760	8,500	8,490
January-September	5,010	1,270 ^r	6,280 ^r	6,290 ^r
September	543	132	675	659
October	545	164	708	699
November	579	155	733	747
December	611	168	779	755
2003:				
January	602	169	772	766
February	526	148	674	658
March	597	160	758	739
April	625	166	791	807
May	626	141	766	762
June	561	124	685	676
July ^r	598	152	750	756
August	577 ^r	141	718 ^r	718 ^r
September ^p	554	143	697	699
Total	5,270	1,340	6,610	6,580

^pPreliminary. ^rRevised.

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

²Includes a small quantity from coking operations.

TABLE 2
U.S. IMPORTS OF SULFUR¹

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Total, all countries ²	
	Quantity ^e	Value ³	Quantity	Value ³	Quantity ^e	Value ³
2002:						
January-December	1,950	9,450	430	11,300	2,560	26,800
January-August	1,230 ^r	5,220	282	6,310	1,590 ^r	14,600
August	180	1,860	30	944	223	3,240
September	180	1,050	45	1,420	242	3,010
October	180	1,240	29	944	247	3,290
November	180	843	29	942	232	2,230
December	180	1,100	45	1,640	252	3,720
2003:						
January	180	1,280	44	2,460	224	3,740
February	170	2,330	45	1,850	215	4,250
March	200	2,870	45	2,130	245	5,660
April	190	2,950	44 ^r	2,380	234	5,230
May	200	4,160	45	2,530	266	7,760
June	180	2,940	44	2,410	241	6,270
July	160 ^r	2,440	45	2,180	241 ^r	6,390
August	160	2,040	45	1,940	267	4,820
Total	1,440	21,000	357	17,900	1,930	44,100

^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 PentalSul North America Sulphur Service.

TABLE 3
U.S. IMPORTS OF SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Canada			Europe			Total, all countries ²		
	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³
2002:									
January-December	615	201	17,900	217	71	3,750	1,060	344	36,400
January-August	449 ^r	146	12,900	131	43	1,620	718	232	26,500
August	22	7	878	22	7	224	51	17	5,430
September	37	12	1,130	19	6	319	59	19	2,120
October	33	11	1,170	9	3	255	47	15	2,110
November	51	17	1,390	28	9	1,010	93	31	3,080
December	45	15	1,310	30	10	548	142	47	2,590
2003:									
January	38	13	1,330	29	9	511	67	22	1,900
February	30	10	1,080	25	8	836	57	19	2,360
March	42	14	1,740	19	6	279	63	21	2,480
April	44	14	1,680	--	--	--	54	18	2,200
May	34	11	1,320	29	10	638	75	25	2,710
June	26	8	963	40	13	1,350	84	27	2,770
July	23	8	1,020	19	6	318	82	27	1,950
August	19	6	980	74	24	751	103	34	2,410
Total	256	84	10,100	235	76	4,680	585	193	18,800

^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.

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
2002:					
January-December	555	40,000	148	49	12,800
January-August	335	21,900	98	32	7,860
August	49	1,340	15	5	1,230
September	70	6,920	16	5	1,840
October	76	3,450	11	4	1,040
November	60	2,400	9	3	839
December	14	5,300	14	5	1,190
2003:					
January	107	3,440	12	4	1,380
February	63	3,410	16	5	1,150
March	31	2,020	11	3	1,360
April	90	2,910	12	4	1,430
May	41	2,430	22	7	1,610
June	11	1,780	21	7	1,790
July	53	3,520	28	10	2,430
August	57	2,190	27	9	2,060
Total	453	21,700	149	49	13,200

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
2002:			
January-December	7,930	2,560	10,500
January-August ^f	5,290 ^r	1,590 ^r	6,880 ^r
August	676	223	899
September	589	242	831
October	623	247	870
November	687	232	919
December	741	252	993
2003:			
January	661	224	885
February ^f	595	215	810
March	708	245	953
April	717	234	951
May ^f	721	266	987
June	665	241	906
July	703	241 ^r	944 ^r
August	661	267	928
Total	5,430	1,930	7,360

^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	September 2003 ^p		August 2003		Total 2003 ²		Year to date 2002 ²	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	21	22	19	17	167	168	182 ^r	184 ^r
Natural gas	2	2	2	2	19	19	21 ^r	21 ^r
Total	23	24	21	20	186	187	202 ^r	204 ^r
PAD 2:								
Petroleum and coke	65	67	78 ^r	77 ^r	670	663	635 ^r	635 ^r
Natural gas	4	4	4	4	39	40	36 ^r	35
Total	69	71	82 ^r	81 ^r	709	703	671 ^r	671 ^r
PAD 3: ³								
Petroleum and coke	354	355	368	371	3,380	3,390	3,320 ^r	3,310 ^r
Natural gas	47	47	48	48	342	343	326 ^r	329 ^r
Total	401	402	416	420	3,720	3,740	3,640 ^r	3,640 ^r
PAD 4 and 5: ⁴								
Petroleum and coke	114	114	112	109	1,050	1,030	881 ^r	878 ^r
Natural gas	90	87	88	89	943	929	887 ^r	901 ^r
California	97	88	83	79	824	807	703	698
Total	204	201	200	198	1,990	1,960	1,770 ^r	1,780 ^r
Grand total	697	699	718 ^r	718 ^r	6,610	6,580	6,280 ^r	6,290 ^r

^pPreliminary. ^rRevised.

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

²May include revisions to prior months.

³Includes the U.S. Virgin Islands.

⁴Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS¹

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

	2003			2002
	September	August	Year to date	total
Production	8.48 ^p	8.45 ^r	8.84	8.50
Shipments	8.50 ^p	8.45 ^r	8.80	8.49
Exports of sulfur	NA	0.67	0.68	0.56
Imports of sulfur:				
Canada	NA	1.88 ^e	2.16 ^e	1.95
Mexico	NA	0.53	0.54	0.43
Total ²	NA	3.14 ^e	2.90 ^e	2.56
Export of H ₂ SO ₄	NA	0.32	0.22	0.15
Import of H ₂ SO ₄ :				
Canada	NA	0.22	0.38	0.62
Europe	NA	0.87	0.35	0.22
Total ²	NA	1.21	0.88	1.06
Consumption: ³				
Domestic sources	NA	7.78	8.16	7.93
Imports	NA	3.14 ^e	2.90 ^e	2.56
Total	NA	10.90	11.10	10.50
Sulfur export values ⁴	NA	\$38	\$48	\$72
Sulfur import values: ⁴				
Canada	NA	\$13	\$15	\$5
Mexico	NA	\$43	\$50	\$26
Average	NA	\$18	\$23	\$10
H ₂ SO ₄ export values ⁴	NA	\$76	\$89	\$86
H ₂ SO ₄ import values: ⁴				
Canada	NA	\$52	\$39	\$29
Europe	NA	\$10	\$20	\$17
Average	NA	\$23	\$32	\$34

^eEstimated. ^pPreliminary. ^rRevised. NA Not available.

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

²Includes other countries not listed.

³Because September trade data were not available, September consumption was not determined.

⁴Average value per ton for most recent data available.