

# Mineral Industry Surveys

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## SULFUR IN NOVEMBER 2009

During the month, production of recovered elemental sulfur was 701,000 metric tons (t), according to the U.S. Geological Survey. Production was 5% higher than that of October 2009 and 9% lower than that of November 2008. Shipments were 679,000 t, slightly higher than those of October 2009. Producers' ending stocks for November 2009 were 259,000 t.

Imports of recovered sulfur for November 2009 were estimated to be 150,000 t; exports were 53,000 t. Imports of sulfuric acid for November 2009 were 66,000 t; exports were 22,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 776,000 t in November 2009. This

was slightly higher than that of October 2009 and 5% lower than that of November 2008. Monthly sulfur consumption in 2009 has averaged about 15% lower than that of 2008, mostly as a result of declining demand from the phosphate fertilizer industry.

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 STATISTICS<sup>1</sup>

(Thousand metric tons)

Period	Production			Shipments, all sources	Ending stocks <sup>3</sup>
	Petroleum <sup>2</sup>	Natural gas	Total		
2008:					
January-December	7,380	1,320	8,690	8,670	XX
January-November	6,660 <sup>r</sup>	1,180 <sup>r</sup>	7,830 <sup>r</sup>	7,810 <sup>r</sup>	XX
November	641	129	770	756	216
December	722	137	860	866	211
2009:					
January	687	89	778	770	210
February	586	106	692	663	245
March	686	112	798	773	258
April	699	93	790	810	239
May	660	88	747	703	289
June	667	86	753	745	285
July	676	90	765	729	306
August	640	83	723	760	247
September	614	90	705	682	261
October	578	92	670	664 <sup>r</sup>	257 <sup>r</sup>
November <sup>p</sup>	611	90	701	679	259
Total	7,110	1,020	8,120	7,980	XX

<sup>p</sup>Preliminary. <sup>r</sup>Revised. XX Not applicable.

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

<sup>2</sup>Includes a small quantity from coking operations.

<sup>3</sup>Subject to inventory adjustments.

TABLE 2  
U.S. IMPORTS OF SULFUR<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Venezuela		Total, all countries <sup>2</sup>	
	Quantity <sup>e</sup>	Value <sup>3</sup>	Quantity	Value <sup>3</sup>	Quantity <sup>e</sup>	Value <sup>3</sup>	Quantity <sup>e</sup>	Value <sup>3</sup>
2008:								
January-December	2,180	415,000	365	140,000	360	134,000	3,000	753,000
January-November	2,050	410,000	338	130,000	345	129,000	2,830	734,000
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	3,360	--	--	10	200	75	3,900
February	59	1,650	14	805	--	--	73	2,750
March	65	2,020	7	157	10	164	82	2,670
April	120	3,260	--	--	8	142	128	3,690
May	125	3,810	20	98	14	294	161	4,400
June	120	5,080	--	--	5	100	125	5,490
July	150	4,400	36	194	20	412	207	5,290
August	150	4,340	1	142	21	506	172	5,260
September	145	4,180	6	119	35	414	187	4,980
October	150	5,350	20	513	--	--	171	6,190
November	145	4,640	--	--	5	102	150	4,780
Total	1,290	42,100	104	2,030	128	2,330	1,530	49,400

<sup>e</sup>Estimated. -- Zero.

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

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared 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 ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Canada			Mexico			Total, all countries <sup>2</sup>		
	Quantity	Sulfur content	Value <sup>3</sup>	Quantity	Sulfur content	Value <sup>3</sup>	Quantity	Sulfur content	Value <sup>3</sup>
2008:									
January-December	2,350	765	233,000	296	97	55,700	3,440	1,130	459,000
January-November	2,210	717	215,000	263	86	48,000	3,180	1,040	414,000
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	92	40,700
April	70	23	9,290 <sup>r</sup>	2	1	97	106	34	10,400 <sup>r</sup>
May	32	10	3,440	1	(4)	12	44	14	3,830
June	18	6	1,860	8	3	41	64	21	3,780
July	34	11	2,770	10	3	49	46	15	3,300
August	35	11	2,770	11	4	57	70	23	3,710
September	22	7	1,780	10	3	51	51	17	2,880
October	32	10	2,200	10	3	50	46	15	2,420
November	40	13	1,730	--	--	--	66	22	2,120
Total	789	256	117,000	107	36	4,740	1,180	384	142,000

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF SULFUR AND SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value <sup>2</sup>	Quantity	Sulfur content	Value <sup>2</sup>
2008:					
January-December	954	272,000	261	85	42,700
January-November	781	251,000 <sup>r</sup>	239	78	38,400
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
April	119	5,820	17	6	1,740
May	99	5,490	19	6	1,980
June	199	10,400	25	8	2,420
July	123	8,170	27	9	2,720
August	67	5,960	24	8	2,530
September	49	3,720	28	9	2,480
October	68	4,330	24	8	2,100
November	53	3,990	22	7	1,580
Total	1,250	73,200	230	76	22,300

<sup>r</sup>Revised.

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

<sup>2</sup>Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5  
U.S. CONSUMPTION OF SULFUR<sup>1</sup>

(Thousand metric tons)

Period	Domestic		Consumption
	sources <sup>2</sup>	Imports <sup>e</sup>	
<b>2008:</b>			
January-December	7,720	3,000	10,700
January-November	7,030 <sup>r</sup>	2,830	9,850 <sup>r</sup>
November	655	164	819
December	693	172	865
<b>2009:</b>			
January	654	75	729
February	549	73	622
March	526	82	608
April	691	128	819
May	604	161	765
June	546	125	671
July	606	207	813
August	693	172	865
September	633	187	820
October	595	171	766
November	626	150	776
Total	6,720	1,530	8,250

<sup>e</sup>Estimated. <sup>r</sup>Revised.

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

<sup>2</sup>Calculated as shipments minus exports.

TABLE 6  
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,  
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT<sup>1</sup>

(Thousand metric tons)

District and source	January-November 2008 <sup>2</sup>		October 2009		November 2009 <sup>p</sup>		January-November 2009 <sup>p, 2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
<b>PAD 1:</b>								
Petroleum and coke	227	222	9	14	14	10	160	153
Natural gas	12	12	1	1	1	1	11	11
Total	239	234	10	15	15	11	171	164
<b>PAD 2:</b>								
Petroleum and coke	871	871	66	65	71	72	799	786
Natural gas	30	30	2	2	2	2	26	27
Total	901	901	68	67	73	74	825	813
<b>PAD 3:<sup>3</sup></b>								
Petroleum and coke	4,270	4,280	432	418	429	419	5,090	5,020
Natural gas	500	501	27	27	25	25	383	322
Total	4,770	4,790	459	445	453	444	5,470	5,340
<b>PAD 4 and 5:<sup>4</sup></b>								
Petroleum and coke	1,280	1,260	71	71	96	95	1,060	1,050
Natural gas	635	625	62	66	63	55	598	612
California	1,050	1,020	81 <sup>r</sup>	81	80	78	881	869
Total	1,920	1,890	133 <sup>r</sup>	136	159	150	1,660	1,660
Grand total	7,830	7,810	670	664 <sup>r</sup>	701	679	8,120	7,980

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

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

<sup>2</sup>May include revisions.

<sup>3</sup>Includes the U.S. Virgin Islands.

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

TABLE 7  
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS<sup>1</sup>

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

	2008 total	2009		Total
		October	November	
Production	8.69	7.89	8.53 <sup>P</sup>	8.88
Shipments	8.67	7.82 <sup>r</sup>	8.26 <sup>P</sup>	8.72
Exports of sulfur	0.95	0.80	0.64	1.37
Imports of sulfur:				
Canada <sup>e</sup>	2.18	1.77 <sup>r</sup>	1.76	1.41
Mexico	0.37	0.23	--	0.11
Venezuela <sup>e</sup>	0.36	--	0.01	0.14
Total <sup>e, 2</sup>	3.00	2.01	1.82	1.67
Exports of H <sub>2</sub> SO <sub>4</sub>	0.26	0.28	0.27	0.25
Imports of H <sub>2</sub> SO <sub>4</sub> :				
Canada	2.35	0.38	0.49	0.86
Mexico	0.30	0.12	--	0.12
Total <sup>2</sup>	3.44	0.54	0.80	1.28
Consumption:				
Domestic sources	7.72	7.01	7.62	7.35
Imports <sup>e</sup>	3.00	2.01	1.82	1.67
Total	10.70	9.02 <sup>r</sup>	9.44	9.02
Sulfur export values <sup>3</sup>	285	64	75	58
Sulfur import values: <sup>3</sup>				
Canada	191	36	32	33
Mexico	383	26 <sup>r</sup>	XX	20
Venezuela	372	XX	20	18
Average <sup>2</sup>	251	36 <sup>r</sup>	32	32
H <sub>2</sub> SO <sub>4</sub> export values <sup>3</sup>	164	88	72	97
H <sub>2</sub> SO <sub>4</sub> import values: <sup>3</sup>				
Canada	99	69	43	148
Mexico	188	5	XX	44
Average <sup>2</sup>	133	53	32	120

<sup>e</sup>Estimated. <sup>P</sup>Preliminary. XX Not applicable. -- Zero.

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

<sup>2</sup>Includes other countries not listed.

<sup>3</sup>Average value per ton.