

# Mineral Industry Surveys

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## SULFUR IN OCTOBER 2011

During the month, production of recovered elemental sulfur was 688,000 metric tons (t), according to the U.S. Geological Survey. Production was slightly higher than that of September 2011 and 5% higher than that of October 2010. Shipments were 687,000 t, slightly higher than that of September 2011. Producers' ending stocks for October 2011 were 160,000 t.

Imports of recovered sulfur for October 2011 were estimated to be 255,000 t; exports were 79,000 t. Imports of sulfuric acid for October 2011 were 230,000 t; exports were 11,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 863,000 t in October 2011. This was 10% higher than that of September 2011 and about 21% higher than that of October 2010.

Significant adjustments have been made to the sulfur import data. The U.S. Census Bureau appears 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	Stocks, end of period <sup>3</sup>
	Petroleum <sup>2</sup>	Natural gas	Total		
2010:					
January–December	7,120	1,160	8,280	8,340	165
January–October <sup>f</sup>	5,930	981	6,920	6,930	219
October	575	79	654	654	219
November	575	81	656	667	208
December	607	96	703	746	165
2011:					
January	624	104	728	732	148
February	474	93	568	577	137
March	564	96 <sup>r</sup>	659 <sup>r</sup>	647 <sup>r</sup>	150
April	545	98 <sup>r</sup>	644	650	144
May	585	96 <sup>r</sup>	681 <sup>r</sup>	682 <sup>r</sup>	143
June	620	76 <sup>r</sup>	697 <sup>r</sup>	698 <sup>r</sup>	140
July	614	92 <sup>r</sup>	705 <sup>r</sup>	681 <sup>r</sup>	164 <sup>r</sup>
August	623	98 <sup>r</sup>	720 <sup>r</sup>	731 <sup>r</sup>	159 <sup>r</sup>
September	586 <sup>r</sup>	93 <sup>r</sup>	678 <sup>r</sup>	676 <sup>r</sup>	156
October <sup>p</sup>	602	86	688	687	160
January–October	5,840	931	6,770	6,760	160

<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>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>
2010:								
January–December	2,320	122,000	379	37,400	41	4,200	2,950	214,000
January–October	1,900	106,000	321	29,100	41	4,200	2,420	181,000
October	215	13,400	29	3,310	11	1,140	255	18,400
November	210	7,400	29	3,870	--	--	273	18,000
December	215	9,050	29	4,470	--	--	254	15,100
2011:								
January	220	10,000	29	3,620	13	1,600	272	17,600
February	200	10,700	14	2,750	--	--	252	21,400
March	220	25,100	44	5,940	--	--	275	33,500
April	220	13,800	29	4,940	18	3,430	268	22,700
May	230	14,700	29	6,190	--	--	260	21,600
June	220	14,400	14	2,760	15	2,750	315	37,300
July	240	18,100	29	5,910	--	--	270	24,500
August	240	17,800	14	3,330	15	2,720	308	33,500
September	230	15,600	29	5,400	8	1,510	267	22,900
October	240	16,300	14	3,240	--	--	255	19,800
January–October	2,260	157,000	245	44,100	69	12,000	2,740	255,000

<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 ICIS 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>
2010:									
January–December	1,150	378	79,100	196	65	11,100	2,110	690	139,000
January–October	865 <sup>r</sup>	285	58,500 <sup>r</sup>	136 <sup>r</sup>	45	7,760	1,500 <sup>r</sup>	490 <sup>r</sup>	95,300
October	164	54	12,500	17	6	1,840	205	67	17,400
November	139	45	10,500	37	12	2,480	275	90	21,800
December	147	48	10,200	25	8	830	335	110	21,800
2011:									
January	150	49	11,500	27	9	1,620	206	67	17,500
February	152	50	11,400	14	5	989	234	76	19,800
March	146	48	11,700	58	19	3,310	254	83	22,200
April	145	47	8,780	47	15	3,400	229	75	18,100
May	135	44	7,460	40	13	2,950	229	75	17,000
June	116	38	7,670	39	13	2,750	221	72	18,100
July	157	52	16,000	23	8	1,570	205	68	23,800
August	169	56	18,500	46	15	3,250	237	78	25,600
September	141	46	15,600	30	10	2,130	175	57	19,600
October	179	59	17,600	35	11	2,440	230	75	21,600
January–October	1,490	489	126,000	359	118	24,400	2,220	726	203,000

<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 other countries not listed.

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

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>
2010:					
January–December	1,450	171,000	215	70	26,400
January–October	1,190	137,000	188	61	22,300
October	194	18,600	18	6	1,810
November	159	19,000	12	4	2,030
December	94	15,000	16	5	2,090
2011:					
January	86	13,900	20	7	2,320
February	122	20,900	28	9	3,470
March	114	20,500	22	7	3,220
April	123	26,100	40	13	3,840
May	52	11,400	27	9	3,180
June	189	34,500	26	8	3,410
July	61	15,600	30	10	3,790
August	116	24,900	68	22	5,100
September	160	30,100	24	8	3,740
October	79	17,900	11	4	1,830
January–October	1,100	216,000	296	97	33,900

<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 sources <sup>2</sup>	Imports <sup>e</sup>	Consumption
2010:			
January–December	6,900	2,950	9,850
January–October	5,730 <sup>r</sup>	2,420	8,160 <sup>r</sup>
October	460	255	715
November	508	273	781
December	652	254	906
2011:			
January	646	272	918
February	455	252	707
March	533 <sup>r</sup>	275	808 <sup>r</sup>
April	527	268	795
May	630 <sup>r</sup>	260	890 <sup>r</sup>
June	509 <sup>r</sup>	315	824 <sup>r</sup>
July	620 <sup>r</sup>	270	890 <sup>r</sup>
August	615 <sup>r</sup>	308	923 <sup>r</sup>
September	516 <sup>r</sup>	267	783 <sup>r</sup>
October	608 <sup>p</sup>	255	863
January–October	5,660	2,740	8,400

<sup>e</sup>Estimated. <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>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–October 2010 <sup>2</sup>		September 2011		October 2011 <sup>p</sup>		January–October 2011 <sup>p, 2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	117	116	2	7	7	2	56	52
Natural gas	11	11	1	1	1	1	11	11
Total	128	127	3	8	8	3	67	63
PAD 2:								
Petroleum and coke	838	840	86	84	80	80	826	839
Natural gas	19	19	2	2 <sup>r</sup>	2	2	18	18
Total	858	859	88	86 <sup>r</sup>	82	82	844	857
PAD 3: <sup>3</sup>								
Petroleum and coke	3,890	3,860	390 <sup>r</sup>	378 <sup>r</sup>	410	411	3,900	3,880
Natural gas	408	430	35 <sup>r</sup>	36 <sup>r</sup>	37	37	383	384
Total	4,300	4,290	425	414	447	449	4,280	4,260
PAD 4 and 5: <sup>4</sup>								
Petroleum and coke	1,090	1,100	107	111	105	108	1,050	1,060
Natural gas	551	554	55	56 <sup>r</sup>	46	45	519	521
California	880	892	88 <sup>r</sup>	89	83	85	839	841
Total	1,640	1,660	162 <sup>r</sup>	168 <sup>r</sup>	151	153	1,570	1,580
Grand total	6,920	6,930	678 <sup>r</sup>	676 <sup>r</sup>	688	687	6,770	6,760

<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 to previously published data.

<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)

	2010	2011		
	total	September	October	Total
Production	8.28	8.25 <sup>r</sup>	8.10 <sup>p</sup>	8.13
Shipments	8.34	8.22 <sup>r</sup>	8.09 <sup>p</sup>	8.12
Exports of sulfur	1.45	1.95	0.93	1.32
Imports of sulfur:				
Canada <sup>e</sup>	2.32	2.80	2.83	2.70
Mexico	0.38	0.35	0.16	0.29
Venezuela <sup>e</sup>	0.04	0.10	--	0.08
Total <sup>e,2</sup>	2.95	3.25	3.00	3.28
Exports of H <sub>2</sub> SO <sub>4</sub>	0.22	0.29	0.13	0.36
Imports of H <sub>2</sub> SO <sub>4</sub> :				
Canada	1.15	1.72	2.11	1.79
Mexico	0.20	0.37	0.41	0.43
Total <sup>2</sup>	2.11	2.13	2.71	2.67
Consumption:				
Domestic sources	6.89	6.28 <sup>r</sup>	7.16	6.79
Imports <sup>e</sup>	2.95	3.25	3.00	3.29
Total	9.84	9.53 <sup>r</sup>	10.20	10.10
Sulfur export values <sup>3</sup>	119	188	226	196
Sulfur import values: <sup>3</sup>				
Canada	53	68	68	70
Mexico	99	186	231	180
Venezuela	103	189	--	174
Average <sup>2</sup>	73	86	78	93
H <sub>2</sub> SO <sub>4</sub> export values <sup>3</sup>	123	156	166	115
H <sub>2</sub> SO <sub>4</sub> import values: <sup>3</sup>				
Canada	69	110	98	85
Mexico	56	71	70	68
Average <sup>2</sup>	66	112	94	92

<sup>e</sup>Estimated. <sup>p</sup>Preliminary. <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>Includes other countries not listed.

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