

# Mineral Industry Surveys

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## SULFUR IN DECEMBER 2011

During December 2011, production of recovered elemental sulfur was 750,000 metric tons (t), which was 10% higher than that of November 2011 and 6% higher than that of December 2010. Shipments were 726,000 t, which was 5% higher than those of November 2011. Producers' ending stocks for December 2011 were 181,000 t.

Imports of recovered sulfur for December 2011 were estimated to be 279,000 t; exports were 90,000 t. Imports of sulfuric acid for December 2011 were 257,000 t; exports were 13,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 916,000 t in December 2011. This

was 10% higher than that of November 2011 and about the same as that of December 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.

The following yearend totals are compared with those of 2010. In 2011, production decreased slightly to 8,200 t. However, apparent consumption increased by 3% to 10,100 t. Imports increased by 11% to 3,270 t, and exports decreased by about 10% to 1,310 t.

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 <sup>f</sup>	7,120	1,170	8,290	8,350	167
December <sup>f</sup>	611	98	709	749	167
2011:					
January	624	104	728	732	148
February	474	93	568	577	137
March	564	96	659	647	150
April	545	98	644	650	144
May	585	96	681	682	143
June	620	76	697	698	140
July	614	92	705	681	164
August	623	98	720	731	159
September	586	93	678	676	156
October	602	86	688	687	160
November <sup>r</sup>	590	94	684	689	157
December <sup>p</sup>	650	100	750	726	181
January–December	7,080	1,130	8,200	8,180	181

<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
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	230 <sup>r</sup>	16,300	14	3,240	--	--	245 <sup>r</sup>	19,800
November	220 <sup>r</sup>	13,700	29	5,420	10	1,370	259 <sup>r</sup>	20,800
December	230	17,600	29	5,010	20	2,970	279	25,800
January–December	2,700	188,000	303	54,500	99	16,400	3,270	301,000

<sup>e</sup>Estimated. <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.

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	198 <sup>r</sup>	65	11,100	2,110	690	139,000
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	51	16,000	23	8	1,570	205	68	23,800
August	169	55	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
November	155	51	14,600	31	10	2,180	188	61	17,100
December	178	58	16,900	43	14	2,860	257	84	23,200
January–December	1,820	596	158,000	433	142	29,400	2,670	871	244,000

<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	216 <sup>r</sup>	71 <sup>r</sup>	26,400
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
November	117	26,500	23	8	5,510
December	90	23,400	13	4	2,080
January–December	1,310	266,000	332	109	41,500

<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 sources <sup>2</sup>	Imports <sup>c</sup>	Consumption
2010:			
January–December	6,900	2,950	9,850
December	655 <sup>r</sup>	254	909 <sup>r</sup>
2011:			
January	646	272	918
February	455	252	707
March	533	275	808
April	527	268	795
May	630	260	890
June	509	315	824
July	620	270	890
August	615	308	923
September	516	267	783
October	608	245 <sup>r</sup>	853 <sup>r</sup>
November <sup>f</sup>	572	259	831
December	637 <sup>p</sup>	279	916
January–December	6,870	3,270	10,100

<sup>c</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–December 2010 <sup>2</sup>		November 2011		December 2011 <sup>p</sup>		January–December 2011 <sup>p, 2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	136	136	2	7	7	2	66	61
Natural gas	13	13	1	1	1	1	13	13
Total	150	149	3	8	8	3	79	74
PAD 2:								
Petroleum and coke	1,010	1,020	79 <sup>r</sup>	80 <sup>r</sup>	84	84	990	1,000
Natural gas	23	23	2	2	2	1	21	21
Total	1,040	1,040	81 <sup>r</sup>	81 <sup>r</sup>	86	85	1,010	1,020
PAD 3: <sup>3</sup>								
Petroleum and coke	4,680	4,660	413	411	448	437	4,760	4,730
Natural gas	486	509	38	38	40	40	461	462
Total	5,160	5,170	451	450 <sup>r</sup>	489	477	5,220	5,190
PAD 4 and 5: <sup>4</sup>								
Petroleum and coke	1,290	1,350	95	96	110	102	1,260	1,260
Natural gas	647	648	55	54	58	58	630	632
California	1,050	1,100	72	71	84	82	995	994
Total	1,940	2,000	148 <sup>r</sup>	150	167	159	1,890	1,890
Grand total	8,290	8,350	684 <sup>r</sup>	689 <sup>r</sup>	750	726	8,200	8,180

<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	November	December	Total
Production	8.29 <sup>r</sup>	8.32 <sup>r</sup>	8.83 <sup>p</sup>	8.20
Shipments	8.35 <sup>r</sup>	8.38 <sup>r</sup>	8.55 <sup>p</sup>	8.18
Exports of sulfur	1.45	1.42	1.06	1.31
Imports of sulfur:				
Canada <sup>e</sup>	2.32	2.68 <sup>r</sup>	2.71	2.70
Mexico	0.38	0.35	0.34	0.30
Venezuela <sup>e</sup>	0.04	0.12	0.24	0.10
Total <sup>e, 2</sup>	2.95	3.15 <sup>r</sup>	3.29	3.27
Exports of H <sub>2</sub> SO <sub>4</sub>	0.22	0.28	0.15	0.33
Imports of H <sub>2</sub> SO <sub>4</sub> :				
Canada	1.15	1.89	2.10	1.82
Mexico	0.20	0.38	0.51	0.43
Total <sup>2</sup>	2.11	2.29	3.03	2.67
Consumption:				
Domestic sources	6.90 <sup>r</sup>	6.96 <sup>r</sup>	7.50	6.87
Imports <sup>e</sup>	2.95	3.15 <sup>r</sup>	3.29	3.27
Total	9.85 <sup>r</sup>	10.10 <sup>r</sup>	10.80	10.10
Sulfur export values <sup>3</sup>	119	227	260	203
Sulfur import values: <sup>3</sup>				
Canada	53	62 <sup>r</sup>	76	70
Mexico	99	187	173	180
Venezuela	103	137	149	165
Average <sup>2</sup>	73	80 <sup>r</sup>	92	92
H <sub>2</sub> SO <sub>4</sub> export values <sup>3</sup>	122 <sup>r</sup>	240	160	125
H <sub>2</sub> SO <sub>4</sub> import values: <sup>3</sup>				
Canada	69	94	95	86
Mexico	56	70	67	68
Average <sup>2</sup>	66	91	90	91

<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>Includes other countries not listed.

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