

# Mineral Industry Surveys

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## SULFUR IN AUGUST 2016

During August 2016, production of recovered elemental sulfur was 803,000 metric tons (t), which was slightly lower than that of July 2016 and 9% higher than that of August 2015. Shipments were 826,000 t, which were slightly higher than those of July 2016. Producers' ending stocks for August 2016 were 127,000 t.

Imports of recovered sulfur for August 2016 were estimated to be 152,000 t; exports were 153,000 t. Imports of sulfuric acid for August 2016 were 289,000 t; exports were 14,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 825,000 t in August 2016. This was 7% higher than that of July 2016 and slightly higher than that of August 2015.

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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		
2015:					
January–December	7,910	984	8,890	8,920	138
January–August <sup>r</sup>	5,200	651	5,850	5,870	142
August	654	81	735	731	142
September	641	84	725	737	131
October	644	80	724	707	148
November	682	80	762	753	158
December	739	86	826	846	138
2016:					
January	680	81	761	760	141
February	616	79	695	692	145
March	679	81	760	781	127
April	660	71	731	730	128
May	710	67	777	764	142
June	694	58	752	748	145
July	740	71	811	812	145
August <sup>p</sup>	735	67	803	826	127
January–August	5,520	574	6,090	6,110	127

<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>
2015:								
January–December	1,860	87,100	190	16,500	20	425 <sup>r</sup>	2,240	136,000 <sup>r</sup>
January–August	1,230 <sup>r</sup>	55,100 <sup>r</sup>	146 <sup>r</sup>	12,500	20	425 <sup>r</sup>	1,520 <sup>r</sup>	91,400 <sup>r</sup>
August	170	7,630	15	3,030	--	--	218	16,400 <sup>r</sup>
September	160	7,520	--	--	--	--	161	7,870 <sup>r</sup>
October	160	7,850	29	1,640	--	--	236	16,100 <sup>r</sup>
November	150	8,840	--	--	--	--	151	9,310 <sup>r</sup>
December	160	7,800	14	2,310	--	--	176	10,800 <sup>r</sup>
2016:								
January	150	8,050	15	471	(4)	33	167	9,530
February	140	4,780	29	795	--	--	171	6,650
March	150	4,430	15	278	(4)	19	166	5,450
April	140	2,400	--	--	--	--	142	4,040
May	150	2,050	15	282	--	--	166	3,650
June	140	2,250	--	--	3	242	143	2,960
July	150	2,720	--	--	--	--	165	7,160
August	150	3,680	--	--	--	--	152	4,770
January–August	1,170	30,400	74	1,830	3	294	1,270	44,200

<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.

<sup>4</sup>Less than ½ unit.

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>
2015:									
January–December	2,070	677	124,000	768	252	41,000	3,540	1,160	208,000
January–August	1,350	443 <sup>r</sup>	81,900	481 <sup>r</sup>	158	25,700	2,350	770	142,000
August	164	54	10,000	75	25	3,980	377	124	22,000
September	167	55	9,610	70	23	3,700	276	90	14,600
October	186	61	11,000	73	24	3,920	310	101	17,400
November	187	61	11,000	73	24	3,940	328	107	18,100
December	175	57	9,970	69	23	3,810	273	89	15,700
2016:									
January	157	51	7,640	60	20	2,540	277	91	12,900
February	164	54	7,600	55	18	2,190	247	81	11,400
March	175	57	7,640	62	20	2,720	291	95	13,000
April	186	61	6,900	54	18	2,140	274	90	10,600
May	170	56	5,810	60	20	2,360	258	84	9,560
June	165	54	5,640	58	19	2,240	254	83	9,440
July	199	65	8,360	77	25	2,670	300	98	12,300
August	171	56	7,540	60	20	2,420	289	94	12,200
January–August	1,390	454	57,100	486	160	19,300	2,190	716	91,500

<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>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>
2015:					
January–December	1,850	281,000	172	56	30,700
January–August <sup>r</sup>	1,100	182,000	131	43	21,500
August	130	21,200	18	6	2,790
September	209	32,200	11	4	2,080
October	166	15,200	11	4	2,100
November	128	16,500	9	3	2,440
December	244	34,500	8	3	2,560
2016:					
January	225	28,900	9	3	2,480
February	130	16,200	12	4	2,710
March	174	18,700	8	2	1,740
April	165	16,700	14	5	2,200
May	187	17,500	16	5	2,250
June	168	14,900	13	4	2,730
July	204	20,000	14	4	3,420
August	153	15,300	14	5	2,580
January–August	1,410	148,000	100	32	20,100

<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>e</sup>	Consumption
2015:			
January–December	7,070	2,020 <sup>r</sup>	9,090 <sup>r</sup>
January–August	4,770	1,300 <sup>r</sup>	6,070 <sup>r</sup>
August	600	218	818
September	528	161	689
October	541	236	777
November	625	151	776
December	602	176	778
2016:			
January	535	167	702
February	562	171	733
March	607	166	773
April	565	142	707
May	577	166	743
June	580	143	723
July	608	165	773
August <sup>p</sup>	673	152	825
January–August	4,710	1,270	5,980

<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–August 2015 <sup>2</sup>		July 2016		August 2016 <sup>p</sup>		January–August 2016 <sup>p,2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	135	136	15	16	17	16	115	115
Natural gas	9	9	1	1	1	1	9	9
Total	144	145	16	17	18	18	124	124
PAD 2:								
Petroleum and coke	883	887	120	118	128	131	958	954
Natural gas	9	9	1	--	1	1	6	6
Total	892	896	120	118	129	132	964	961
PAD 3:								
Petroleum and coke	3,290	3,290	471	475	459	465	3,530	3,530
Natural gas	262	262	21	21	19	20	197	201
Total	3,560	3,550	492	496	478	485	3,720	3,730
PAD 4 and 5:								
Petroleum and coke	892	903	134	134	132	143	916	935
Natural gas	371	375	47	47	46	49	362	365
Total	1,260	1,280	182	181	177	192	1,280	1,300
Grand total	5,850	5,870	811	812	803	826	6,090	6,110

<sup>p</sup>Preliminary. -- 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 revisions to previously published data.

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)

	2015	2016		
		July	August	January– August
Production	8.89	9.58	9.48 <sup>P</sup>	9.14
Shipments	8.92	9.59	9.75 <sup>P</sup>	9.17
Exports of sulfur	1.85	2.41	1.81	2.11
Imports of sulfur:				
Canada <sup>e</sup>	1.86	1.77	1.77	1.76
Mexico	0.19	--	--	0.11
Venezuela <sup>e</sup>	0.02	--	--	(2)
Total <sup>e, 3</sup>	2.24	1.95	1.79	1.91
Exports of H <sub>2</sub> SO <sub>4</sub>	0.17	0.17	0.17	0.15
Imports of H <sub>2</sub> SO <sub>4</sub> :				
Canada	2.07	2.35	2.02	2.08
Mexico	0.77	0.91	0.71	0.73
Total <sup>3</sup>	3.54	3.54	3.41	3.29
Consumption:				
Domestic sources	7.07	7.18	7.95	7.06
Imports <sup>e</sup>	2.24	1.95	1.79	1.91
Total	9.31	9.13	9.74	8.97
Sulfur export values <sup>4</sup>	152	98	100	105
Sulfur import values: <sup>4</sup>				
Canada	47	18	25	26
Mexico	87	XX	XX	25
Venezuela	21	XX	XX	98
Average <sup>3</sup>	61 <sup>r</sup>	43	31	35
H <sub>2</sub> SO <sub>4</sub> export values <sup>4</sup>	178	245	184	201
H <sub>2</sub> SO <sub>4</sub> import values: <sup>4</sup>				
Canada	60	42	44	41
Mexico	53	35	40	40
Average <sup>3</sup>	59	41	42	42

<sup>e</sup>Estimated. <sup>P</sup>Preliminary. <sup>r</sup>Revised. 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>Less than ½ unit.

<sup>3</sup>Includes other countries not listed.

<sup>4</sup>Average value per ton.