

# Mineral Industry Surveys

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## SULFUR IN SEPTEMBER 2019

During September 2019, production of recovered elemental sulfur was 643,000 metric tons (t), which was 9% lower than that of August 2019 and 12% lower than that of September 2018. Shipments were 641,000 t, which was 8% lower than those of August 2019. Producers' ending stocks for September 2019 were 113,000 t (table 1).

Imports of recovered sulfur for September 2019 were estimated to be 121,000 t; exports were 152,000 t. Imports of sulfuric acid for September 2019 were 198,000 t; exports were 18,000 t (tables 2–4).

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 610,000 t in September 2019. This was 8% higher than that of August 2019 and 8% lower than that of September 2018 (table 5).

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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		
2018:					
January–December	8,380	626	9,010	9,020	122
January–September	6,250	465	6,720	6,740	113
September	690	38	728	722	113
October	663	53	717	713	117
November	696	54	750	762	105
December	766	54	820	803	122
2019:					
January	699	47	746	767	101
February	592	26	618	613	109
March	650	28	678	664	120
April	625	28	652	666	108
May	621	25	647	646	107
June	623	22	645	639	112
July	689	28	717	723	106
August	676 <sup>r</sup>	27	704 <sup>r</sup>	699 <sup>r</sup>	111
September <sup>p</sup>	617	27	643	641	113
January–September	5,790	258	6,050	6,060	113

<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		Total, all countries <sup>2</sup>	
	Quantity	Value <sup>3</sup>	Quantity	Value <sup>3</sup>
2018:				
January–December	1,510	90,600	2,230	205,000
January–September	1,110	62,600 <sup>r</sup>	1,680	150,000 <sup>r</sup>
September	120	8,200	155	13,700
October	139	9,310	190	17,700
November	135	9,250	185	26,600
December	125	9,390	173	10,500
2019:				
January	131	10,100	180	19,800
February	107	6,400	157	16,000
March	146	8,240	193	15,400
April	138	7,370	183	14,200
May	118	6,180	119	7,060
June	109	4,980	209	16,200
July	120 <sup>e</sup>	6,730	127 <sup>e</sup>	13,000
August	120 <sup>e</sup>	4,000	163 <sup>e</sup>	9,380
September	120 <sup>e</sup>	3,490	121 <sup>e</sup>	4,480
January–September	1,110	57,500	1,450	116,000

<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>May include other countries not listed.

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

Sources: U.S. Census Bureau as adjusted by U.S. Geological Survey and Acuity Commodities.

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>
2018:									
January–December	1,900	622	88,100	470	154	18,400	3,050	997	170,000
January–September	1,420	463	63,800	346	113 <sup>r</sup>	13,500	2,290	749	125,000
September	153	50	6,420	33	11	1,260	252	82	13,300
October	164	54	7,990	21	7	780	266	87	16,300
November	136	44	6,810	46	15	1,870	220	72	14,000
December	187	61	9,480	57	19	2,200	272	89	15,000
2019:									
January	139	45	7,280	36	12	1,470	237	77	14,200
February	118	39	6,380	43	14	1,890	185	60	12,000
March	183	60	9,220	63	21	4,490	350	114	24,200
April	157	51	16,300	65	21	4,320	250	82	24,700
May	175	57	19,100	23	8	2,310	233	76	25,700
June	151	49	15,600	24	8	1,810	237	77	23,300
July	178	58	14,200	34	11	2,140	251	82	21,700
August	190	62	13,300	29	9	1,800	262	86	20,500
September	156	51	11,000	38	12	2,290	198	65	15,200
January–September	1,450	473	112,000	355	116	22,500	2,200	720	181,000

<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>
2018:					
January–December	2,390	299,000	342	112	40,400
January–September	1,710	221,000 <sup>f</sup>	283 <sup>f</sup>	93 <sup>f</sup>	31,400 <sup>f</sup>
September	217	31,100	32	10	4,110
October	172	24,300	15	5	2,210
November	193	27,100	16	5	2,680
December	318	26,400	28	9	4,050
2019:					
January	349	29,800	16	5	2,980
February	119	15,800	18	6	2,990
March	144	14,700	13	4	2,610
April	116	14,000	21	7	4,240
May	210	21,900	21	7	2,910
June	150	13,600	18	6	1,920
July	120	12,400	15	5	2,890
August	296	13,100	17	6	2,630
September	152	11,100	18	6	2,520
January–September	1,660	146,000	157	51	25,700

<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	Consumption
2018:			
January–December	6,620	2,230	8,850
January–September	5,030	1,680	6,710
September	505	155	660
October	541	190	731
November	569	185	754
December	485	173	658
2019:			
January	418	180	598
February	494	157	651
March	520	193	713
April	550	183	733
May	436	119	555
June	489	209	698
July	603	127 <sup>e</sup>	730
August	403 <sup>r</sup>	163 <sup>e</sup>	566 <sup>r</sup>
September <sup>p</sup>	489	121	610
January–September	4,400	1,450	5,850

<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–September 2018 <sup>2</sup>		August 2019		September 2019 <sup>p</sup>		January–September 2019 <sup>p,2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
<b>PAD 1:</b>								
Petroleum and coke	184	183	16	16	16	15	129	129
Natural gas	10	10	1	1	1	1	10	10
<b>Total</b>	<b>193</b>	<b>192</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>16</b>	<b>139</b>	<b>139</b>
<b>PAD 2:</b>								
Petroleum and coke	1,020	1,030	124	121	112	112	987	986
Natural gas	5	5	--	--	--	--	2	2
<b>Total</b>	<b>1,020</b>	<b>1,030</b>	<b>124</b>	<b>121</b>	<b>112</b>	<b>112</b>	<b>989</b>	<b>988</b>
<b>PAD 3:</b>								
Petroleum and coke	3,920	3,920	408 <sup>r</sup>	407 <sup>r</sup>	367	364	3,570	3,570
Natural gas	95	96	9	9	10	9	89	87
<b>Total</b>	<b>4,010</b>	<b>4,020</b>	<b>416 <sup>r</sup></b>	<b>416 <sup>r</sup></b>	<b>376</b>	<b>373</b>	<b>3,660</b>	<b>3,660</b>
<b>PAD 4 and 5:</b>								
Petroleum and coke	1,130	1,140	129	128	122	122	1,100	1,110
Natural gas	355	354	17	16	16	17	158	163
<b>Total</b>	<b>1,490</b>	<b>1,500</b>	<b>146</b>	<b>144</b>	<b>138</b>	<b>139</b>	<b>1,260</b>	<b>1,270</b>
<b>Grand total</b>	<b>6,720</b>	<b>6,740</b>	<b>704 <sup>r</sup></b>	<b>699 <sup>r</sup></b>	<b>643</b>	<b>641</b>	<b>6,050</b>	<b>6,060</b>

<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>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)

	2019			
	2018	August	September	January– September
Production	9.01	8.29 <sup>r</sup>	7.82 <sup>p</sup>	8.09
Shipments	9.02	8.23 <sup>r</sup>	7.80 <sup>p</sup>	8.10
Exports of sulfur	2.39	3.49	1.85	2.21
Imports of sulfur:				
Canada	1.51	1.41	1.46	1.48
Total <sup>2</sup>	2.23	1.92	1.47	1.94
Exports of H <sub>2</sub> SO <sub>4</sub>	0.34	0.20	0.22	0.21
Imports of H <sub>2</sub> SO <sub>4</sub> :				
Canada	1.90	2.24	1.90	1.93
Mexico	0.47	0.34	0.46	0.47
Total <sup>2</sup>	3.05	3.08	2.41	2.95
Consumption:				
Domestic sources	6.62	4.75 <sup>r</sup>	5.95	5.89
Imports	2.23	1.92	1.47	1.94
Total	8.85	6.66 <sup>r</sup>	7.42	7.83
Sulfur export values <sup>3</sup>	125	44	73	88
Sulfur import values: <sup>3</sup>				
Canada	60	33	29	52
Average <sup>3</sup>	92	58	37	80
H <sub>2</sub> SO <sub>4</sub> export values <sup>3</sup>	118	155 <sup>r</sup>	140	165
H <sub>2</sub> SO <sub>4</sub> import values: <sup>3</sup>				
Canada	46	70	71	78
Mexico	39	62 <sup>r</sup>	60	63
Average <sup>2</sup>	56	78	77	82

<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.