

Mineral Industry Surveys

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SULFUR IN DECEMBER 2019

During December 2019, production of recovered elemental sulfur was 749,000 metric tons (t), which was 9% higher than that of November 2019 and 8% lower than that of December 2018. Total production for the entire year was 8.11 million metric tons (Mt), which was 10% lower than that of 2018. Refineries processing low-sulfur crude petroleum resulted in lower total sulfur production in 2019. December shipments were 744,000 t, which was 10% higher than those of November 2019 and 7% lower than those of December 2018. Total shipments in 2019 were 8.10 Mt, which was 10% lower than those in 2018. Producers' ending stocks for December 2019 were 124,000 t (table 1).

Imports of recovered sulfur for December 2019 were 129,000 t; exports were 157,000 t. Total imports of recovered sulfur in 2019 were 1.85 Mt, which was 17% less than those in 2018. Total exports for 2019 of recovered sulfur were 2.19 Mt, which was 9% less than those of 2018 (tables 2, 4).

Imports of sulfuric acid for December 2019 were 281,000 t; exports were 25,000 t. Total sulfur imports for 2019 were 2.97

Mt, which was 3% lower than those in 2018. Total exports of sulfuric acid for 2019 were 220,000 t, which was 36% lower than those in 2018 (tables 3, 4).

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 716,000 t in December 2019. This was 4% lower than that of November 2019 and 9% higher than that of December 2018. Total consumption in 2019 was 7.76 Mt, which was 12% lower than that in 2018 (table 5). U.S. sulfur consumption decreased in 2019 as a result of reduced demand for phosphoric acid production.

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TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources	Stocks, end of period ³
	Petroleum ²	Natural gas	Total		
2018:					
January–December	8,380	620	9,000	9,020	118
December	766	47	812	804	118
2019:					
January	699	29	728	745	101
February	592	26	618	611	109
March	650	28	678	664	120
April	625	27	652	666	107
May	621	21	642	640	107
June	624	28	652	647	113
July	690	30	720	725	107
August	677	25	703	699	111
September	618	25	643	641	113
October	611	28	639	644	108
November	646	27	685 ^r	676 ^r	116
December ^p	721	29	749	744	124
January–December	7,770	322	8,110	8,100	124

^pPreliminary. ^rRevised.

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

²Includes a small quantity from coking operations.

³Subject to inventory adjustments.

TABLE 2
U.S. IMPORTS OF SULFUR¹

(Thousand metric tons and thousand dollars)

Period	Canada		Total, all countries ²	
	Quantity	Value ³	Quantity	Value ³
2018:				
January–December	1,510	90,600	2,230	205,000
December	125	9,390	173	10,500
2019:				
January	129 ^r	10,100	179 ^r	19,800
February	106 ^r	6,400	156 ^r	16,000
March	144 ^r	8,240	191 ^r	15,400
April	137 ^r	7,370	182 ^r	14,200
May	119 ^r	6,180	120 ^r	7,060
June	108 ^r	4,980	207 ^r	16,200
July	126 ^r	6,730	132 ^r	13,000
August	109 ^r	4,000	152 ^r	9,380
September	97 ^r	3,490	99 ^r	4,480
October	124 ^r	3,360	178 ^r	14,500
November	119 ^r	2,790	121 ^r	3,870
December ^p	127	2,230	129	3,270
January–December	1,450	65,900	1,850	137,000

^pPreliminary. ^rRevised.

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

²May include other countries not listed.

³Declared customs valuation.

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

TABLE 3
U.S. IMPORTS OF SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Canada			Mexico			Total, all countries ²		
	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³
2018:									
January–December	1,900	622	88,100	470	154	18,400	3,050	997	170,000
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
October	185	60	14,400	37	12	1,990	320	105	24,300
November	109	36	8,110	34	11	1,900	166	54	13,200
December	180	59	13,600	59	19	3,320	281	92	21,200
January–December	1,920	628	149,000	485	159	29,700	2,970	971	240,000

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

²May include other countries not listed.

³Declared customs valuation.

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value ²	Quantity	Sulfur content	Value ²
2018:					
January–December	2,390	299,000	342	112	40,400
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
October	320	8,690	28	9	2,310
November	53	4,750	11	4	1,530
December	157	11,200	25	8	1,650
January–December	2,190	171,000	220	72	31,200

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

²Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5
U.S. CONSUMPTION OF SULFUR¹

(Thousand metric tons)

Period	Domestic sources ²	Imports	Consumption
2018:			
January–December	6,630	2,230	8,860
December	486	173	659
2019:			
January	396	179 ^r	575 ^r
February	492	156 ^r	648 ^r
March	520	191 ^r	711 ^r
April	550	182 ^r	732 ^r
May	430	120 ^r	550 ^r
June	497	207 ^r	704 ^r
July	605	132 ^r	737 ^r
August	403	152 ^r	555 ^r
September	489	99 ^r	588 ^r
October	324	178 ^r	502 ^r
November	623	121 ^r	744 ^r
December ^p	587	129	716
January–December	5,920	1,850	7,760

^pPreliminary. ^rRevised.

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

²Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT¹

(Thousand metric tons)

District and source	January–December 2018 ²		November 2019 ^p		December 2019		January–December 2019 ^{p, 2}	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	241	240	17	17	19	19	184	185
Natural gas	13	13	1	1	1	1	13	13
Total	254	253	19	19	20	20	197	198
PAD 2:								
Petroleum and coke	1,340	1,340	119 ^r	116	128	129	1,350	1,350
Natural gas	6	6	--	--	--	--	2	2
Total	1,340	1,350	119 ^r	116	128	129	1,350	1,350
PAD 3:								
Petroleum and coke	5,280	5,280	403 ^r	400 ^r	429	432	4,770	4,760
Natural gas	127	126	9	10	10	10	118	116
Total	5,410	5,410	412 ^r	410 ^r	439	441	4,890	4,880
PAD 4 and 5:								
Petroleum and coke	1,520	1,530	119 ^r	116	144	136	1,490	1,490
Natural gas	473	476	17	15	17	18	188	191
Total	2,000	2,010	136 ^r	131	162	154	1,680	1,680
Grand total	9,000	9,020	685 ^r	676 ^r	749	744	8,110	8,100

^pPreliminary. ^rRevised. -- Zero.

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

²May include revisions to previously published data.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS¹

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

	2018	November	December	January– December
Production	9.00	8.33	8.82 ^p	8.11
Shipments	9.02	8.22	8.76 ^p	8.10
Exports of sulfur	2.39	0.64	1.85	2.19
Imports of sulfur:				
Canada	1.51	1.45	1.50	1.45
Total ²	2.23	1.47	1.52	1.85
Exports of H ₂ SO ₄	0.34	0.13 ^r	0.29	0.22
Imports of H ₂ SO ₄ :				
Canada	1.90	1.33	2.12	1.92
Mexico	0.47	0.41	0.69	0.49
Total ²	3.05	2.02	3.31	2.97
Consumption:				
Domestic sources	6.63	7.58	6.91	5.92
Imports	2.23	1.47	1.52	1.85
Total	8.86	9.05	8.43	7.76
Sulfur export values ³	125	90	71	78
Sulfur import values: ³				
Canada	60	23	18	46
Average ³	92	32	25	74
H ₂ SO ₄ export values ³	118	139	66	142
H ₂ SO ₄ import values: ³				
Canada	46	74	76	78
Mexico	39	56	56	61
Average ²	55	80	75	81

^pPreliminary. ^rRevised.

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

²Includes other countries not listed.

³Average value per ton.