

# Mineral Industry Surveys

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## SULFUR IN MAY 2023

During May 2023, production of recovered elemental sulfur was 694,000 metric tons (t), which was 7% higher than that in April 2023 and 4% higher than that in May 2022. Total production for January through May was 3.31 million metric tons (Mt), which was slightly higher than that in the same period of 2022. Shipments in May 2023 were 703,000 t, which was 10% higher than that in April 2023 and 6% higher than that in May 2022. Total shipments for January through May were 3.34 Mt, which were 3% higher than those in the same period of 2022. Producers' ending stocks for May 2023 were 102,000 t (table 1).

Imports of recovered sulfur in May 2023 were estimated to be 101,000 t; exports were 55,000 t. Total imports of recovered sulfur for January through May were estimated to be 538,000 t, which were 36% lower than those in the same period of 2022. Total exports of recovered sulfur for January through May were 746,000 t, which were 25% higher than those in the same period of 2022 (tables 2, 4).

Imports of sulfuric acid in May 2023 were 265,000 t; exports were 17,000 t. Total imports for January through May were 1.28

Mt, which were 9% lower than those in the same period of 2022. Total exports of sulfuric acid for January through May were 90,000 t, which were 17% lower than the revised amount in the same period of 2022 (tables 3, 4).

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was estimated to be 749,000 t in May 2023. This was 30% higher than that in April 2023 and 8% higher than that in May 2022. Total consumption for January through May was estimated to be 3.13 Mt, which was 10% lower than that in the same period of 2022 (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>2</sup>
	Petroleum <sup>3</sup>	Natural gas	Total		
2022:					
January–December	7,500	504	8,000	7,990	125
January–May	3,040 <sup>r</sup>	199 <sup>r</sup>	3,240 <sup>r</sup>	3,230 <sup>r</sup>	121 <sup>r</sup>
May	636	33	670	665	121
June	640	34	674	682	112
July	651	47	697	688	122
August	651	48	699	707	114
September	623	43	666	661	119
October	629	45	673	671	121
November	649	45	695	690	125
December	614	43	657	657	125
2023:					
January	620	45	664	673	116
February	586	42	628	630	114
March	636	45	681	691	103
April	616	33	648	640	111 <sup>r</sup>
May <sup>p</sup>	655	39	694	703	102
January–May	3,110	202	3,310	3,340	102

<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>Subject to inventory adjustments.

<sup>3</sup>Includes a small quantity from coking operations.

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>
2022:				
January–December	1,490	283,000	1,670	338,000
January–May	681 <sup>r</sup>	123,000	846 <sup>r</sup>	172,000
May	141	32,800	141	33,800
June	144	37,300	146	38,500
July	145	43,900	146	44,800
August	151	35,800	152	36,500
September	85	11,200	86	12,100
October	85	12,100	87	13,000
November	98	9,360	98	10,000
December	106	10,400	106	11,300
2023:				
January	100 <sup>e</sup>	9,850	101 <sup>e</sup>	10,600
February	90 <sup>e</sup>	10,900	144 <sup>e</sup>	20,800
March	100 <sup>e</sup>	10,300	101 <sup>e</sup>	11,300
April	90 <sup>e</sup>	16,400	92 <sup>e</sup>	18,000
May	100 <sup>e</sup>	9,660	101 <sup>e</sup>	11,200
January–May	480 <sup>e</sup>	57,000	538 <sup>e</sup>	72,000

<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>
2022:									
January–December	1,820	594	173,000	720	235	140,000	3,230	1,060	469,000
January–May	764	250	53,900	332	109	66,600	1,400	459	191,000
April	153	50	13,300	67	22	13,600	360	118	54,700
May	163	53	14,500	55	18	11,800	249	81	36,400
June	153	50	14,500	69	23	14,200	254	83	39,600
July	154	50	17,400	66	22	14,400	266	87	45,700
August	167	55	19,400	53	17	10,100	300	98	45,600
September	149	49	17,200	44	14	7,770	269	88	41,500
October	149	49	18,100	45	15	7,580	223	73	33,400
November	146	48	17,000	37	12	7,050	217	71	30,400
December	136	44	15,800	74	24	12,600	298	97	41,700
2023:									
January	147	48	23,200	59	19	9,950	273	89	45,100
February	157	51	26,800	47	15	7,310	237	77	36,700
March	144	47	24,800	70	23	8,340	236	77	36,100
April	146	48	18,000	51	17	6,380	269	88	33,700
May	154	50	21,400	24	8	3,240	265	87	29,100
January–May	748	244	114,000	251	82	35,200	1,280	418	181,000

<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.

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>
2022:					
January–December	1,740	479,000	377 <sup>r</sup>	123 <sup>r</sup>	36,800
January–May	597 <sup>r</sup>	192,000 <sup>r</sup>	109	36	14,100
May	113	43,500	29	9	3,840
June	132	63,800	16	5	2,200
July	193	87,500	21	7	2,930
August	169	42,000	18	6	2,790
September	134	20,700	68	22	2,800
October	219	37,000	54	18	4,130
November	156	18,400	51	17	3,550
December	139	17,600	39 <sup>r</sup>	13 <sup>r</sup>	4,300
2023:					
January	176	23,100	32 <sup>r</sup>	10 <sup>r</sup>	3,650
February	185	27,300	13	4	3,620
March	177	30,900	19	6	2,920
April	155	21,500	10	3	2,210
May	55	7,120	17	5	4,350
January–May	746	110,000	90	30	16,700

<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.

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

TABLE 5  
U.S. CONSUMPTION OF SULFUR<sup>1</sup>

(Thousand metric tons)

Period	Domestic sources <sup>2</sup>	Imports	Consumption
2022:			
January–December	6,250	1,670	7,920
January–May	2,630 <sup>r</sup>	846 <sup>r</sup>	3,480 <sup>r</sup>
May	552	141	694
June	550	146	695
July	495	146	640
August	538	152	689
September	527	86	613
October	453	87	540
November	534	98	632
December	518	106	624
2023:			
January	498	101 <sup>e</sup>	599 <sup>e</sup>
February	445	144 <sup>e</sup>	589 <sup>e</sup>
March	515	101 <sup>e</sup>	616 <sup>e</sup>
April	485	92	577
May <sup>p</sup>	648	101 <sup>e</sup>	749 <sup>e</sup>
January–May	2,590	538 <sup>e</sup>	3,130 <sup>e</sup>

<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–May 2022 <sup>2</sup>		April 2023		May 2023 <sup>P</sup>		January–May 2023 <sup>P, 2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
<b>PAD 1:</b>								
Petroleum and coke	73	74	6	8	10	10	56	59
Natural gas	5	5	1	1	1	1	5	5
<b>Total</b>	<b>78</b>	<b>79</b>	<b>7</b>	<b>9</b>	<b>11</b>	<b>11</b>	<b>62</b>	<b>64</b>
<b>PAD 2:</b>								
Petroleum and coke	579	581	115	111	118	121	581	583
Natural gas	--	--	--	--	--	--	--	--
<b>Total</b>	<b>579</b>	<b>581</b>	<b>115</b>	<b>111</b>	<b>118</b>	<b>121</b>	<b>581</b>	<b>583</b>
<b>PAD 3:</b>								
Petroleum and coke	1,810	1,800	385	382	417	418	1,920	1,940
Natural gas	25 <sup>r</sup>	25 <sup>r</sup>	6	7	6	6	35	35
<b>Total</b>	<b>1,830<sup>r</sup></b>	<b>1,820<sup>r</sup></b>	<b>392</b>	<b>389</b>	<b>423</b>	<b>424</b>	<b>1,960</b>	<b>1,970</b>
<b>PAD 4 and 5:</b>								
Petroleum and coke	580 <sup>r</sup>	583 <sup>r</sup>	109	107	110	110	553	555
Natural gas	168	167	25	23	31	36	162	164
<b>Total</b>	<b>749<sup>r</sup></b>	<b>750<sup>r</sup></b>	<b>134</b>	<b>131</b>	<b>141</b>	<b>146</b>	<b>714</b>	<b>719</b>
<b>Grand total</b>	<b>3,240<sup>r</sup></b>	<b>3,230<sup>r</sup></b>	<b>648</b>	<b>640</b>	<b>694</b>	<b>703</b>	<b>3,310</b>	<b>3,340</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)

	2022	2023		
		April	May	January– May
Production	8.00	7.89	8.17 <sup>P</sup>	8.01
Shipments	7.99	7.79	8.28 <sup>P</sup>	8.07
Exports of sulfur	1.74	1.88	0.65	1.80
Imports of sulfur:				
Canada	1.49	1.10	1.18	1.16
Total <sup>2</sup>	1.67	1.12	1.19	1.30
Exports of H <sub>2</sub> SO <sub>4</sub>	0.38 <sup>r</sup>	0.12	0.20	0.22
Imports of H <sub>2</sub> SO <sub>4</sub> :				
Canada	1.82	1.78	1.81	1.81
Mexico	0.72	0.62	0.28	0.61
Total <sup>2</sup>	3.23	3.27	3.12	3.09
Consumption:				
Domestic sources	6.25	5.90	7.63	6.26
Imports	1.67	1.12	1.19	1.30
Total	7.91	7.02	8.82	7.56
Sulfur export values <sup>3</sup>	275	139	130	147
Sulfur import values: <sup>3</sup>				
Canada	190	182	97	119
Average <sup>3</sup>	203	196	111	134
H <sub>2</sub> SO <sub>4</sub> export values <sup>3</sup>	98 <sup>r</sup>	218	260	185
H <sub>2</sub> SO <sub>4</sub> import values: <sup>3</sup>				
Canada	95	124	139	153
Mexico	195	126	138	141
Average <sup>2</sup>	145	125	110	141

<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.