

Mineral Industry Surveys

For information, contact:

Lori E. Apodaca, Sulfur Commodity Specialist
National Minerals Information Center
Telephone: (703) 648-7724
Email: lapodaca@usgs.gov

Mana Saedi (Data)
Telephone: (703) 648-7971
Email: msaedi@usgs.gov

Internet: <https://www.usgs.gov/centers/national-minerals-information-center/mineral-industry-surveys>

SULFUR IN JULY 2023

During July 2023, production of recovered elemental sulfur was 700,000 metric tons (t), which was 3% higher than the revised amount in June 2023 and 3% lower than the revised amount in July 2022. Total production for January through July was 4.69 million metric tons (Mt), which was unchanged from the revised amount in the same period of 2022. Shipments in July 2023 were 698,000 t, which was 3% higher than the revised amount in June 2023 and slightly lower than the revised amount in July 2022. Total shipments for January through July were 4.71 Mt, which were essentially unchanged from the revised amount in the same period of 2022. Producers' ending stocks for July 2023 were 105,000 t (table 1).

Imports of recovered sulfur in July 2023 were estimated to be 173,000 t; exports were 146,000 t. Total imports of recovered sulfur for January through July were estimated to be 909,000 t, which were 20% lower than those in the same period of 2022. Total exports of recovered sulfur for January through July were 975,000 t, which were 6% higher than those in the same period of 2022 (tables 2, 4).

Imports of sulfuric acid in July 2023 were 318,000 t; exports were 12,000 t. Total imports for January through July were 1.91

Mt, which were essentially unchanged from those in the same period of 2022. Total exports of sulfuric acid for January through July were 118,000 t, which were 20% lower than that in the same period of 2022 (tables 3, 4).

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was estimated to be 725,000 t in July 2023. This was slightly higher than the revised amount in June 2023 and 10% higher than the revised amount in July 2022. Total consumption for January through July was estimated to be 4.65 Mt, which was 5% lower than the revised amount in the same period of 2022 (table 5).

List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to <https://www.usgs.gov/centers/national-minerals-information-center/minerals-information-publication-list-services>.

TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources	Stocks, end of period ²
	Petroleum ³	Natural gas	Total		
2022:					
January–December	7,550	526 ^r	8,070 ^r	8,060 ^r	126 ^r
January–July	4,380 ^r	302 ^r	4,680 ^r	4,670 ^r	140 ^r
July	674 ^r	47	721 ^r	709 ^r	140 ^r
August	652 ^r	48	699	707	114
September	623	43	666	661	119
October	629	45	673	671	121
November	649	45	695	690	125
December	617 ^r	43	660 ^r	660 ^r	126 ^r
2023:					
January	620	45	664	673	116
February	586	42	628	630	114
March	636	45	680 ^r	691	103
April	616	33	648	640	111
May	655	39	694	703	102
June	644 ^r	35	678 ^r	678 ^r	102
July ^p	664	36	700	698	105
January–July	4,420	273	4,690	4,710	105

^pPreliminary. ^rRevised.

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

²Subject to inventory adjustments.

³Includes a small quantity from coking operations.

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
2022:				
January–December	1,490	283,000	1,670	338,000
January–July	970 ^r	204,000	1,140 ^r	255,000
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	101	9,850	103	10,600
February	117	10,900	171	20,800
March	117	10,300	119	11,300
April	110 ^e	16,400	112 ^e	18,000
May	120 ^e	9,660	121 ^e	11,200
June	110 ^e	7,800	111 ^e	8,830
July	120 ^e	8,900	173 ^e	14,900
January–July	796 ^e	73,700	909 ^e	95,700

^eEstimated. ^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
2022:									
January–December	1,820	594	173,000	720	235	140,000	3,230	1,060	469,000
January–July	1,070	350	85,800	468	153	95,300	1,920	629	276,000
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
June	176	58	22,100	57	19	7,380	308	101	35,200
July	157	51	20,300	62	20	8,030	318	104	37,100
January–July	1,080	353	157,000	370	121	50,600	1,910	623	253,000

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.

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
2022:					
January–December	1,740	479,000	377	123	36,800
January–July	923 [†]	343,000 [†]	147 [†]	48 [†]	19,200
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	13	4,300
2023:					
January	176	23,100	32	10	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
June	83	8,630	16	5	4,550
July	146	17,600	12	4	1,880
January–July	975	136,000	118	38	23,200

[†]Revised.

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

²Declared 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 SULFUR¹

(Thousand metric tons)

Period	Domestic sources ²	Imports	Consumption
2022:			
January–December	6,320 ^r	1,670	7,990 ^r
January–July	3,750 ^r	1,140 ^r	4,890 ^r
July	516 ^r	146	661 ^r
August	538	152	689
September	527	86	613
October	453	87	540
November	534	98	632
December	521 ^r	106	627 ^r
2023:			
January	498	103	600
February	445	171	616
March	515	119	633
April	485	112 ^e	597 ^e
May	648	121 ^e	769 ^e
June	596 ^r	111 ^e	707 ^{r, e}
July ^p	551	173 ^e	725 ^e
January–July	3,730	909 ^e	4,640 ^e

^eEstimated. ^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–July 2022 ²		June 2023		July 2023 ^p		January–July 2023 ^{p, 2}	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	108	108	14 ^r	14 ^r	15	15	86	88
Natural gas	8	8	1	1	1	1	8	8
Total	116	116	15 ^r	15 ^r	16	16	94	96
PAD 2:								
Petroleum and coke	810	806	105	106	114	114	800	803
Natural gas	--	--	--	--	--	--	--	--
Total	810	806	105	106	114	114	800	803
PAD 3:								
Petroleum and coke	2,660 ^r	2,650 ^r	406	405	418	417	2,750	2,760
Natural gas	57 ^r	53 ^r	5	5	5	5	45	46
Total	2,720 ^r	2,700 ^r	411	410	423	422	2,790	2,800
PAD 4 and 5:								
Petroleum and coke	795 ^r	798 ^r	119	119	117	115	788	789
Natural gas	238 ^r	244 ^r	28	27	29	30	220	222
Total	1,030	1,040 ^r	147	147	146	145	1,010	1,010
Grand total	4,680 ^r	4,670 ^r	678 ^r	678 ^r	700	698	4,690	4,710

^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)

	2022	2023		
		June	July	January– July
Production	8.07 ^r	8.25 ^r	8.24 ^p	8.07
Shipments	8.06 ^r	8.25 ^r	8.22 ^p	8.11
Exports of sulfur	1.74	1.00	1.72	1.68
Imports of sulfur:				
Canada	1.49	1.34	1.41	1.37
Total ²	1.67	1.35	2.04	1.57
Exports of H ₂ SO ₄	0.38	0.19	0.14	0.20
Imports of H ₂ SO ₄ :				
Canada	1.82	2.14	1.85	1.86
Mexico	0.72	0.70	0.73	0.64
Total ²	3.23	3.75	3.74	3.29
Consumption:				
Domestic sources	6.32 ^r	7.25 ^r	6.49	6.42
Imports	1.67	1.35	2.04	1.57
Total	7.99 ^r	8.60 ^r	8.53	7.99
Sulfur export values ³	275	105	120	139
Sulfur import values: ³				
Canada	190	71	74	93
Average ³	202 ^r	79	86	105
H ₂ SO ₄ export values ³	98	291	161	197
H ₂ SO ₄ import values: ³				
Canada	95	125	129	145
Mexico	194 ^r	128	130	137
Average ²	145	114	117	132

^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.