

Mineral Industry Surveys

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SULFUR IN MARCH 2022

During March 2022, production of recovered elemental sulfur was 668,000 metric tons (t), which was 11% higher than February 2022 and 13% higher than that of March 2021. Total production for January through March was 1.92 million metric tons (Mt), which was 19% higher than that in the same period of 2021. Shipments in March 2022 were 669,000 t, which was 8% higher than that of February 2022 and 16% higher than that of March 2021. Total shipments for January through March were 1.91 Mt, which were 20% higher than those in the same period of 2021. Producers' ending stocks for March 2022 were 117,000 t (table 1).

Imports of recovered sulfur for March 2022 were estimated to be 193,000 t; exports were 68,000 t. Total imports of recovered sulfur for January through March were estimated to be 563,000 t, which were 15% lower than those in the same period of 2021. Total exports of recovered sulfur for January through March were 313,000 t, which were 51% lower than those in the same period of 2021 (tables 2, 4).

Imports of sulfuric acid for March 2022 were 328,000 t; exports were 22,000 t. Total imports for January through March

were 794,000 t, which were 5% lower than those in the same period of 2021. Total exports of sulfuric acid for January through March were 44,000 t, which were 73% lower than those in the same period of 2021 (tables 3, 4).

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was estimated to be 794,000 t in March 2022. This was 47% higher than that of February 2022 and 59% higher than that of March 2021. Total consumption for January through March was estimated to be 2.16 Mt, which was 34% higher than that in the same period of 2021 (table 5).

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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 | | |
| 2021: | | | | | |
| January–December | 6,920 | 550 | 7,470 | 7,460 | 113 |
| January–March | 1,480 | 127 ^r | 1,610 | 1,590 | 129 ^r |
| March | 540 | 51 | 591 | 576 | 129 |
| April | 563 | 44 | 607 | 613 | 123 |
| May | 604 | 46 | 650 | 645 | 128 |
| June | 609 | 45 | 653 | 654 | 127 |
| July | 623 | 52 | 675 | 681 | 121 |
| August | 620 | 47 | 667 | 654 | 134 |
| September | 566 | 48 | 614 | 632 | 117 |
| October | 578 | 48 | 626 | 620 | 123 |
| November | 603 | 46 | 650 | 647 | 125 |
| December | 666 | 47 | 712 | 724 | 113 |
| 2022: | | | | | |
| January | 602 | 42 | 644 | 627 ^r | 129 ^r |
| February | 566 | 39 | 605 | 617 | 118 ^r |
| March ^p | 624 | 45 | 668 | 669 | 117 |
| January–March | 1,790 | 126 | 1,920 | 1,910 | 117 |

^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 |
| 2021: | | | | |
| January–December | 1,680 ^r | 167,000 | 2,370 ^r | 272,000 |
| January–March | 444 ^r | 25,600 | 660 ^r | 47,300 |
| March | 174 | 11,400 | 231 | 17,600 |
| April | 155 | 14,400 | 236 | 22,800 |
| May | 146 | 18,100 | 201 ^r | 28,100 |
| June | 137 | 16,300 | 191 | 25,700 |
| July | 128 | 14,800 | 217 | 30,600 |
| August | 136 | 13,500 | 169 | 18,900 |
| September | 133 | 11,900 | 134 | 12,800 |
| October | 133 ^r | 16,300 | 188 ^r | 30,200 |
| November | 158 ^r | 18,100 | 265 ^r | 37,500 |
| December | 111 ^r | 17,600 | 112 ^r | 18,600 |
| 2022: | | | | |
| January | 140 ^{r,e} | 22,400 | 248 ^{r,e} | 51,000 |
| February | 120 ^e | 17,600 | 123 ^e | 18,700 |
| March | 140 ^e | 26,900 | 193 ^e | 43,700 |
| January–March | 400 ^e | 66,800 | 563 ^e | 113,000 |

^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 |
| 2021: | | | | | | | | | |
| January–December | 1,880 | 614 | 95,200 | 748 | 245 | 53,300 | 3,280 | 1,070 | 225,000 |
| January–March | 497 | 162 | 27,800 | 175 | 57 | 12,400 | 836 | 273 | 53,100 |
| March | 166 | 54 | 9,500 | 63 | 20 | 4,030 | 291 | 95 | 17,800 |
| April | 180 | 59 | 9,620 | 61 | 20 | 5,530 | 324 | 106 | 22,000 |
| May | 192 | 63 | 10,000 | 78 | 25 | 4,280 | 286 | 94 | 18,800 |
| June | 151 | 49 | 7,810 | 23 | 7 | 1,520 | 215 | 70 | 14,700 |
| July | 146 | 48 | 8,110 | 71 | 23 | 5,210 | 299 | 98 | 21,000 |
| August | 140 | 46 | 8,470 | 59 | 19 | 4,650 | 270 | 88 | 23,000 |
| September | 131 | 43 | 7,770 | 87 | 28 | 5,010 | 247 | 81 | 16,500 |
| October | 144 | 47 | 4,710 | 63 | 21 | 5,480 | 268 | 88 | 16,900 |
| November | 147 | 48 | 4,290 | 55 | 18 | 4,700 | 294 | 96 | 22,900 |
| December | 147 | 48 | 6,590 | 76 | 25 | 4,470 | 245 | 80 | 16,300 |
| 2022: | | | | | | | | | |
| January | 153 | 50 | 8,410 | 49 | 16 | 8,390 | 267 | 87 | 30,600 |
| February | 127 | 42 | 7,740 | 56 | 18 | 10,800 | 199 | 65 | 23,800 |
| March | 168 | 55 | 10,100 | 104 | 34 | 22,100 | 328 | 107 | 45,200 |
| January–March | 448 | 146 | 26,200 | 210 | 69 | 41,300 | 794 | 260 | 99,600 |

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 |
| 2021: | | | | | |
| January–December | 1,860 | 211,000 | 393 | 129 | 26,600 |
| January–March | 642 | 26,100 | 160 | 52 | 5,270 |
| March | 307 | 8,530 | 137 | 45 | 2,920 |
| April | 71 | 10,600 | 25 | 8 | 2,190 |
| May | 112 | 16,900 | 30 | 10 | 3,060 |
| June | 102 | 17,000 | 11 | 3 | 1,510 |
| July | 256 | 10,900 | 26 | 9 | 2,490 |
| August | 63 | 13,300 | 68 | 22 | 4,340 |
| September | 162 | 41,300 | 19 | 6 | 1,790 |
| October | 133 | 22,100 | 27 | 9 | 2,490 |
| November | 168 | 23,000 | 12 | 4 | 1,690 |
| December | 153 | 29,300 | 16 | 5 | 1,820 |
| 2022: | | | | | |
| January | 46 | 7,030 | 11 | 3 | 997 |
| February | 199 | 45,700 | 12 | 4 | 1,360 |
| March | 68 | 22,000 | 22 | 7 | 2,660 |
| January–March | 313 | 74,700 | 44 | 14 | 5,030 |

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 |
|--------------------|-------------------------------|--------------------|--------------------|
| 2021: | | | |
| January–December | 5,600 | 2,370 ^r | 7,970 ^r |
| January–March | 950 ^r | 660 ^r | 1,610 ^r |
| March | 269 | 231 | 500 |
| April | 542 | 236 | 778 |
| May | 534 | 201 ^r | 735 ^r |
| June | 553 | 191 | 744 |
| July | 425 | 217 | 642 |
| August | 592 | 169 | 760 ^r |
| September | 470 | 134 | 603 ^r |
| October | 488 | 188 ^r | 676 ^r |
| November | 479 | 265 ^r | 745 ^r |
| December | 571 | 112 ^r | 683 ^r |
| 2022: | | | |
| January | 581 ^r | 248 ^{r,e} | 829 ^{r,e} |
| February | 418 | 123 ^e | 540 ^{r,e} |
| March ^p | 601 | 193 ^e | 794 ^e |
| January–March | 1,600 | 563 ^e | 2,160 ^e |

^cEstimated. ^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–March 2021 ² | | February 2022 ^p | | March 2022 | | January–March 2022 ^{p, 2} | |
|---------------------|---------------------------------|--------------|----------------------------|------------|------------|------------|------------------------------------|--------------|
| | Production | Shipments | Production | Shipments | Production | Shipments | Production | Shipments |
| PAD 1: | | | | | | | | |
| Petroleum and coke | 40 | 41 | 14 | 14 | 16 | 16 | 44 | 45 |
| Natural gas | 3 | 3 | 1 | 1 | 1 | 1 | 3 | 3 |
| Total | 44 | 45 | 15 | 16 | 17 | 17 | 47 | 49 |
| PAD 2: | | | | | | | | |
| Petroleum and coke | 306 | 305 | 128 | 130 | 117 | 118 | 367 | 366 |
| Natural gas | -- | -- | -- | -- | -- | -- | -- | -- |
| Total | 306 | 305 | 128 | 130 | 117 | 118 | 367 | 366 |
| PAD 3: | | | | | | | | |
| Petroleum and coke | 852 | 842 | 312 | 327 | 378 | 370 | 1,040 | 1,040 |
| Natural gas | 25 | 26 | 6 | 7 | 4 | 5 | 16 | 16 |
| Total | 877 | 868 | 319 | 334 | 382 | 374 | 1,060 | 1,050 |
| PAD 4 and 5: | | | | | | | | |
| Petroleum and coke | 286 | 284 | 112 | 104 | 113 | 119 | 339 | 338 |
| Natural gas | 99 | 91 | 31 | 33 | 40 | 41 | 107 | 108 |
| Total | 385 | 375 | 143 | 137 | 153 | 159 | 446 | 446 |
| Grand total | 1,610 | 1,590 | 605 | 617 | 668 | 669 | 1,920 | 1,910 |

^pPreliminary. -- 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 | | | |
|------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
| | 2021 | February | March | January– March |
| Production | 7.47 | 7.88 | 7.87 ^P | 7.78 |
| Shipments | 7.46 | 8.04 | 7.87 ^P | 7.76 |
| Exports of sulfur | 1.86 | 2.59 | 0.80 | 1.27 |
| Imports of sulfur: | | | | |
| Canada | 1.68 ^r | 1.56 | 1.65 | 1.62 |
| Total ² | 2.37 ^r | 1.60 | 2.27 | 2.29 |
| Exports of H ₂ SO ₄ | 0.39 | 0.15 | 0.26 | 0.18 |
| Imports of H ₂ SO ₄ : | | | | |
| Canada | 1.88 | 1.66 | 1.98 | 1.82 |
| Mexico | 0.75 | 0.73 | 1.23 | 0.85 |
| Total ² | 3.28 | 2.60 | 3.86 | 3.22 |
| Consumption: | | | | |
| Domestic sources | 5.60 | 5.44 | 7.07 | 6.49 |
| Imports | 2.37 ^r | 1.60 | 2.27 | 2.29 |
| Total | 7.97 ^r | 7.04 ^r | 9.35 | 8.77 |
| Sulfur export values ³ | 113 | 230 | 323 | 239 |
| Sulfur import values: ³ | | | | |
| Canada | 100 | 147 | 192 | 167 |
| Average ³ | 115 | 153 ^r | 226 | 201 |
| H ₂ SO ₄ export values ³ | 68 | 118 | 123 | 115 |
| H ₂ SO ₄ import values: ³ | | | | |
| Canada | 51 | 61 | 60 | 59 |
| Mexico | 71 | 191 | 212 | 197 |
| Average ² | 69 | 119 | 138 | 125 |

^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.