

# Mineral Industry Surveys

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**For information, contact:**

Lori E. Apodaca, Sulfur Commodity Specialist  
National Minerals Information Center  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-7724, Fax: (703) 648-7757  
Email: lapodaca@usgs.gov

Mana Saedi (Data)  
Telephone: (703) 648-7971  
Fax: (703) 648-7975  
Email: msaedi@usgs.gov

**Internet:** <https://www.usgs.gov/centers/nmic>

## SULFUR IN JUNE 2020

During June 2020, production of recovered elemental sulfur was 584,000 metric tons (t), which was slightly lower than that of May 2020 and 10% lower than that of June 2019. Total production for January through June was 3.83 million metric tons (Mt), which was 3% lower than that in the same period of 2019. Shipments were 577,000 t, which was 3% lower than those of May 2020. Total shipments for January through June were 3.84 Mt, which was 3% lower than those in the same period of 2019. Producers' ending stocks for June 2020 were estimated to be 120,000 t (table 1).

Imports of recovered sulfur for June 2020 were estimated to be 156,000 t; exports were 67,000 t. Total imports of recovered sulfur for January through June were 942,000 t, which was 9% lower than those in the same period of 2019. Total exports for January through June of recovered sulfur were 788,000 t, which was 28% lower than those in the same period of 2019 (tables 2, 4).

Imports of sulfuric acid for June 2020 were 217,000 t; exports were 11,000 t. Total imports for January through June were 1.76

Mt, which was 18% higher than those in the same period of 2019. Total exports for January through June of sulfuric acid were 102,000 t, which was 6% lower than those in the same period of 2019 (tables 3, 4).

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 666,000 t in June 2020. This was 15% higher than that of May 2020 and 5% lower than that of June 2019. Total consumption for January through June was 3.99 Mt, which was slightly higher than that in the same period of 2019 (table 5).

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TABLE 1  
SALIENT SULFUR STATISTICS<sup>1</sup>

(Thousand metric tons)

| Period            | Production             |                  |                    | Shipments,<br>all sources | Stocks,<br>end of period <sup>3</sup> |
|-------------------|------------------------|------------------|--------------------|---------------------------|---------------------------------------|
|                   | Petroleum <sup>2</sup> | Natural gas      | Total              |                           |                                       |
| 2019:             |                        |                  |                    |                           |                                       |
| January–December  | 7,790                  | 322              | 8,110              | 8,100                     | 124                                   |
| January–June      | 3,810                  | 159 <sup>r</sup> | 3,970 <sup>r</sup> | 3,970 <sup>r</sup>        | 113                                   |
| June              | 624                    | 28               | 652                | 647                       | 113                                   |
| July              | 690                    | 30               | 720                | 725                       | 107                                   |
| August            | 677                    | 25               | 703                | 699                       | 111                                   |
| September         | 620                    | 25               | 644                | 641                       | 114                                   |
| October           | 611                    | 28               | 639                | 643                       | 109                                   |
| November          | 658                    | 27               | 685                | 676                       | 119                                   |
| December          | 723 <sup>r</sup>       | 29               | 751 <sup>r</sup>   | 746 <sup>r</sup>          | 124                                   |
| 2020:             |                        |                  |                    |                           |                                       |
| January           | 701                    | 28               | 729                | 742                       | 111                                   |
| February          | 628                    | 25               | 653                | 645                       | 120                                   |
| March             | 642                    | 27               | 669                | 688                       | 120                                   |
| April             | 578                    | 24               | 602                | 593                       | 120                                   |
| May               | 574                    | 22               | 595                | 592                       | 120 <sup>e</sup>                      |
| June <sup>p</sup> | 564                    | 20               | 584                | 577                       | 120 <sup>e</sup>                      |
| January–June      | 3,690                  | 146              | 3,830              | 3,840                     | 120 <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>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> |
| 2019:            |                  |                    |                                   |                    |
| January–December | 1,450            | 65,900             | 1,850                             | 137,000            |
| January–June     | 743 <sup>f</sup> | 43,300             | 1,040                             | 88,700             |
| June             | 108              | 4,970              | 207                               | 16,200             |
| July             | 126              | 6,730              | 132                               | 13,000             |
| August           | 109              | 4,000              | 152                               | 9,380              |
| September        | 97               | 3,470              | 99                                | 4,460              |
| October          | 124              | 3,360              | 178                               | 14,500             |
| November         | 119              | 2,790              | 121                               | 3,860              |
| December         | 127              | 2,230              | 129                               | 3,270              |
| 2020:            |                  |                    |                                   |                    |
| January          | 127              | 2,970              | 129                               | 4,190              |
| February         | 104              | 3,200              | 143                               | 7,580              |
| March            | 131              | 4,710              | 183                               | 9,320              |
| April            | 120 <sup>e</sup> | 5,150              | 210 <sup>e</sup>                  | 13,700             |
| May              | 120 <sup>e</sup> | 8,230              | 121 <sup>e</sup>                  | 8,700              |
| June             | 120 <sup>e</sup> | 4,960              | 156 <sup>e</sup>                  | 8,610              |
| January–June     | 722 <sup>e</sup> | 29,200             | 942 <sup>e</sup>                  | 52,100             |

<sup>e</sup>Estimated. <sup>f</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> |
| 2019:            |          |                  |                    |          |                |                    |                                   |                |                    |
| January–December | 1,920    | 628              | 149,000            | 485      | 159            | 29,700             | 2,970                             | 971            | 240,000            |
| January–June     | 922      | 301 <sup>†</sup> | 73,900             | 254      | 83             | 16,300             | 1,490                             | 488            | 124,000            |
| 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               | 13,700             | 59       | 19             | 3,320              | 281                               | 92             | 21,200             |
| 2020:            |          |                  |                    |          |                |                    |                                   |                |                    |
| January          | 150      | 49               | 11,200             | 58       | 19             | 4,670              | 306                               | 100            | 23,400             |
| February         | 147      | 48               | 10,500             | 51       | 17             | 4,350              | 311                               | 102            | 21,600             |
| March            | 178      | 58               | 12,700             | 51       | 17             | 4,390              | 310                               | 101            | 22,500             |
| April            | 154      | 50               | 11,300             | 50       | 16             | 4,980              | 284                               | 93             | 22,100             |
| May              | 193      | 63               | 13,900             | 43       | 14             | 3,700              | 332                               | 109            | 22,100             |
| June             | 158      | 52               | 12,100             | 38       | 12             | 1,710              | 217                               | 71             | 16,800             |
| January–June     | 979      | 320              | 71,600             | 291      | 95             | 23,800             | 1,760                             | 576            | 128,000            |

<sup>†</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> |
| 2019:            |                    |                     |               |                |                    |
| January–December | 2,200              | 172,000             | 220           | 72             | 31,200             |
| January–June     | 1,100 <sup>r</sup> | 11,200 <sup>r</sup> | 108           | 35             | 17,600             |
| June             | 156                | 13,900              | 18            | 6              | 1,920              |
| July             | 121                | 12,500              | 15            | 5              | 2,890              |
| August           | 296                | 13,100              | 17            | 6              | 2,630              |
| September        | 148                | 10,800              | 18            | 6              | 2,520              |
| October          | 321                | 8,860               | 28            | 9              | 2,310              |
| November         | 53                 | 4,750               | 11            | 4              | 1,530              |
| December         | 157                | 11,200              | 25            | 8              | 1,650              |
| 2020:            |                    |                     |               |                |                    |
| January          | 97                 | 4,720               | 16            | 5              | 2,650              |
| February         | 190                | 10,100              | 10            | 3              | 2,240              |
| March            | 210                | 14,100              | 18            | 6              | 3,420              |
| April            | 87                 | 7,520               | 31            | 10             | 2,350              |
| May              | 136                | 9,040               | 17            | 6              | 2,780              |
| June             | 67                 | 6,020               | 11            | 4              | 1,400              |
| January–June     | 788                | 51,400              | 102           | 34             | 14,800             |

<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.

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        |
|-------------------|-------------------------------|---------|--------------------|
| 2019:             |                               |         |                    |
| January–December  | 5,900                         | 1,850   | 7,750              |
| January–June      | 2,870 <sup>r</sup>            | 1,040   | 3,910 <sup>r</sup> |
| June              | 491                           | 207     | 698                |
| July              | 604                           | 132     | 736                |
| August            | 403                           | 152     | 555                |
| September         | 493                           | 99      | 592                |
| October           | 322                           | 178     | 500                |
| November          | 623                           | 121     | 744                |
| December          | 589                           | 129     | 718                |
| 2020:             |                               |         |                    |
| January           | 645                           | 129     | 774                |
| February          | 455                           | 143     | 598                |
| March             | 478                           | 183     | 661                |
| April             | 506                           | 210     | 716                |
| May               | 456                           | 121     | 577                |
| June <sup>p</sup> | 510                           | 156     | 666                |
| January–June      | 3,050                         | 942     | 3,990              |

<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–June 2019 <sup>2</sup> |              | May 2020 <sup>p</sup> |            | June 2020 <sup>p</sup> |            | January–June 2020 <sup>p, 2</sup> |              |
|---------------------|--------------------------------|--------------|-----------------------|------------|------------------------|------------|-----------------------------------|--------------|
|                     | Production                     | Shipments    | Production            | Shipments  | Production             | Shipments  | Production                        | Shipments    |
| <b>PAD 1:</b>       |                                |              |                       |            |                        |            |                                   |              |
| Petroleum and coke  | 79                             | 78           | 13                    | 13         | 14                     | 13         | 98                                | 97           |
| Natural gas         | 7                              | 7            | 1                     | 1          | 1                      | 1          | 7                                 | 7            |
| <b>Total</b>        | <b>85</b>                      | <b>85</b>    | <b>14</b>             | <b>14</b>  | <b>15</b>              | <b>14</b>  | <b>104</b>                        | <b>103</b>   |
| <b>PAD 2:</b>       |                                |              |                       |            |                        |            |                                   |              |
| Petroleum and coke  | 631                            | 629          | 89                    | 86         | 95                     | 97         | 647                               | 648          |
| Natural gas         | 2                              | 2            | --                    | --         | --                     | --         | --                                | 1            |
| <b>Total</b>        | <b>633</b>                     | <b>631</b>   | <b>89</b>             | <b>86</b>  | <b>95</b>              | <b>97</b>  | <b>647</b>                        | <b>648</b>   |
| <b>PAD 3:</b>       |                                |              |                       |            |                        |            |                                   |              |
| Petroleum and coke  | 2,380                          | 2,380        | 374                   | 383        | 362                    | 357        | 2,280                             | 2,290        |
| Natural gas         | 60                             | 58           | 10                    | 9          | 9                      | 10         | 55                                | 56           |
| <b>Total</b>        | <b>2,440</b>                   | <b>2,440</b> | <b>383</b>            | <b>392</b> | <b>371</b>             | <b>367</b> | <b>2,340</b>                      | <b>2,350</b> |
| <b>PAD 4 and 5:</b> |                                |              |                       |            |                        |            |                                   |              |
| Petroleum and coke  | 724                            | 732          | 98                    | 92         | 93                     | 92         | 658                               | 662          |
| Natural gas         | 90                             | 91           | 11                    | 8          | 10                     | 7          | 84                                | 78           |
| <b>Total</b>        | <b>814</b>                     | <b>823</b>   | <b>109</b>            | <b>100</b> | <b>103</b>             | <b>99</b>  | <b>742</b>                        | <b>739</b>   |
| <b>Grand total</b>  | <b>3,970</b>                   | <b>3,970</b> | <b>595</b>            | <b>592</b> | <b>584</b>             | <b>577</b> | <b>3,830</b>                      | <b>3,840</b> |

<sup>p</sup>Preliminary. -- 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 | 2020 |                   |                  |
|--|------|------|-------------------|------------------|
|  |      | May  | June              | January–<br>June |
| Production   | 8.11 | 7.02 | 7.12 <sup>P</sup> | 7.71             |
| Shipments  | 8.10 | 6.99 | 7.04 <sup>P</sup> | 7.72             |
| Exports of sulfur  | 2.20 | 1.61 | 0.82              | 1.58             |
| Imports of sulfur:   |      |      |                   |                  |
| Canada   | 1.45 | 1.42 | 1.46              | 1.45             |
| Total <sup>2</sup>   | 1.85 | 1.43 | 1.90              | 1.89             |
| Exports of H <sub>2</sub> SO <sub>4</sub>                  | 0.22 | 0.20 | 0.13              | 0.21             |
| Imports of H <sub>2</sub> SO <sub>4</sub> :                |      |      |                   |                  |
| Canada   | 1.92 | 2.28 | 1.93              | 1.97             |
| Mexico   | 0.49 | 0.51 | 0.46              | 0.59             |
| Total <sup>2</sup>   | 2.97 | 3.92 | 2.65              | 3.54             |
| Consumption:   |      |      |                   |                  |
| Domestic sources   | 5.90 | 5.38 | 6.22              | 6.13             |
| Imports  | 1.85 | 1.43 | 1.90              | 1.89             |
| Total  | 7.75 | 6.81 | 8.13              | 8.03             |
| Sulfur export values <sup>3</sup>                          | 78   | 66   | 90                | 65               |
| Sulfur import values: <sup>3</sup>                         |      |      |                   |                  |
| Canada   | 46   | 69   | 41                | 40               |
| Average <sup>3</sup>                                       | 74   | 72   | 55                | 55               |
| H <sub>2</sub> SO <sub>4</sub> export values <sup>3</sup>  | 142  | 164  | 128               | 146              |
| H <sub>2</sub> SO <sub>4</sub> import values: <sup>3</sup> |      |      |                   |                  |
| Canada   | 77   | 72   | 76                | 73               |
| Mexico   | 61   | 86   | 45                | 82               |
| Average <sup>2</sup>                                       | 81   | 67   | 77                | 73               |

<sup>P</sup>Preliminary.

<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.