

Mineral Industry Surveys

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SULFUR IN MARCH 2016

During March 2016, production of recovered elemental sulfur was 759,000 metric tons (t), which was 10% higher than that of February 2016 and 4% higher than that of March 2015. Shipments were 779,000 t, which was 13% higher than those of February 2016. Producers' ending stocks for March 2016 were 127,000 t.

Imports of recovered sulfur for March 2016 were estimated to be 166,000 t; exports were 174,000 t. Imports of sulfuric acid for March 2016 were 291,000 t; exports were 8,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was 771,000 t in March 2016. This was 5% higher than that of February 2016 and 3% lower than that of March 2015.

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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 | | |
| 2015: | | | | | |
| January–December | 7,890 | 984 | 8,870 | 8,890 | 138 |
| January–March | 1,890 ^r | 247 | 2,140 ^r | 2,150 ^r | 137 |
| March | 646 | 82 | 728 | 732 | 137 |
| April | 634 | 81 | 716 | 728 | 127 |
| May | 651 | 81 | 732 | 714 | 148 |
| June | 671 | 78 | 749 | 755 | 143 |
| July | 691 | 83 | 774 | 783 ^r | 134 |
| August | 653 | 81 | 734 | 729 | 142 |
| September | 639 | 85 | 723 | 735 | 131 |
| October | 642 | 81 ^r | 723 | 706 | 148 |
| November | 680 | 81 | 761 | 752 | 158 ^r |
| December | 737 | 86 ^r | 824 | 844 | 138 ^r |
| 2016: | | | | | |
| January | 676 | 82 | 758 | 756 | 141 ^r |
| February | 614 ^r | 79 | 693 ^r | 690 ^r | 145 ^r |
| March ^p | 678 | 81 | 759 | 779 | 127 |
| January–March | 1,970 | 242 | 2,210 | 2,230 | 127 |

^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 | | Mexico | | Venezuela | | Total, all countries ² | |
|------------------|-----------------------|---------------------|----------|--------------------|-----------------------|--------------------|-----------------------------------|--------------------|
| | Quantity ^e | Value ³ | Quantity | Value ³ | Quantity ^e | Value ³ | Quantity ^e | Value ³ |
| 2015: | | | | | | | | |
| January–December | 1,860 ^r | 87,400 | 191 | 16,500 | 20 | 426 | 2,240 ^r | 136,000 |
| January–March | 470 ^r | 18,600 ^r | 59 | 4,200 | -- | -- | 533 ^r | 27,700 |
| March | 160 | 7,960 | 29 | 1,750 | -- | -- | 190 | 9,980 |
| April | 140 | 6,790 | 15 | 1,940 | 11 | 279 | 194 | 14,800 |
| May | 140 | 5,730 | 29 | 719 | 9 | 147 | 232 | 16,100 |
| June | 140 | 6,760 | 15 | 358 | -- | -- | 155 | 7,310 |
| July | 170 ^r | 6,900 | 15 | 2,270 | -- | -- | 185 ^r | 9,780 |
| August | 170 ^r | 7,630 | 15 | 3,030 | -- | -- | 218 ^r | 16,400 |
| September | 160 ^r | 7,520 | -- | -- | -- | -- | 161 ^r | 7,870 |
| October | 160 ^r | 7,860 | 29 | 1,640 | -- | -- | 236 ^r | 16,000 |
| November | 150 ^r | 8,840 | -- | -- | -- | -- | 151 ^r | 9,420 |
| December | 160 ^r | 7,800 | 14 | 2,310 | -- | -- | 174 ^r | 10,500 |
| 2016: | | | | | | | | |
| January | 150 ^r | 8,050 | 15 | 471 | (⁴) | 33 | 167 ^r | 9,530 |
| February | 140 ^r | 4,780 | 29 | 795 | -- | -- | 171 ^r | 6,230 ^r |
| March | 150 | 4,430 | 15 | 278 | (⁴) | 19 | 166 | 5,450 |
| January–March | 440 | 17,300 | 59 | 1,540 | (⁴) | 52 | 504 | 21,200 |

^eEstimated. ^rRevised. -- Zero.

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.

⁴Less than ½ unit.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and ICIS PentaSul North America Sulphur Service.

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 |
| 2015: | | | | | | | | | |
| January–December | 2,070 | 677 | 124,000 | 767 | 252 | 41,000 | 3,540 | 1,160 | 208,000 |
| January–March | 483 | 158 ^r | 27,700 | 174 | 56 | 9,300 | 831 | 272 | 48,900 |
| March | 182 | 59 | 10,100 | 62 | 20 | 3,320 | 293 | 96 | 18,000 |
| April | 160 | 52 | 10,100 | 58 | 19 | 3,100 | 293 | 96 | 17,300 |
| May | 177 | 58 | 11,800 | 51 | 17 | 2,720 | 293 | 96 | 19,900 |
| June | 183 | 60 | 11,500 | 60 | 20 | 3,160 | 272 | 89 | 17,000 |
| July | 186 | 61 | 10,700 | 64 | 21 | 3,410 | 284 | 93 | 16,900 |
| August | 165 | 54 | 10,100 | 75 | 25 | 3,980 | 378 | 124 | 22,000 |
| September | 167 | 55 | 9,600 | 70 | 23 | 3,700 | 275 | 90 | 14,600 |
| October | 186 | 61 | 11,000 | 73 | 24 | 3,920 | 310 | 101 | 17,400 |
| November | 187 | 61 | 11,100 | 73 | 24 | 3,940 | 328 | 107 | 18,100 |
| December | 175 | 57 | 9,970 | 69 | 23 | 3,810 | 273 | 89 | 15,700 |
| 2016: | | | | | | | | | |
| January | 157 | 51 | 7,640 | 60 | 20 | 2,540 | 277 | 91 | 12,900 |
| February | 164 | 54 | 7,600 | 55 | 18 | 2,190 | 247 | 81 | 11,400 |
| March | 175 | 57 | 7,640 | 62 | 20 | 2,720 | 291 | 95 | 13,000 |
| January–March | 496 | 162 | 22,900 | 177 | 58 | 7,450 | 815 | 267 | 37,300 |

^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.

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 |
| 2015: | | | | | |
| January–December | 1,820 | 279,000 | 159 | 54 | 30,400 |
| January–March | 359 | 64,300 | 37 | 13 | 5,900 |
| March | 131 | 23,800 | 17 | 6 | 2,840 |
| April | 142 | 24,900 | 12 | 4 | 1,910 |
| May | 201 | 32,800 | 16 | 5 | 2,110 |
| June | 144 | 21,200 | 21 | 7 | 3,000 |
| July | 93 | 14,700 | 13 | 4 | 5,540 |
| August | 131 | 21,700 | 17 | 6 | 2,770 |
| September | 209 | 32,200 | 11 | 4 | 2,070 |
| October | 166 | 15,700 | 15 | 5 | 2,100 |
| November | 128 | 16,500 | 9 | 3 | 2,440 |
| December | 244 | 34,500 | 8 | 3 | 2,560 |
| 2016: | | | | | |
| January | 225 | 28,900 | 9 | 3 | 2,480 |
| February | 130 | 16,200 | 12 | 4 | 2,710 |
| March | 174 | 18,700 | 8 | 3 | 1,740 |
| January–March | 529 | 63,700 | 29 | 10 | 6,930 |

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 ^e | Consumption |
|----------------------------|-------------------------------|----------------------|--------------------|
| 2015: | | | |
| January–December | 7,080 | 2,240 ^r | 9,320 ^r |
| January–March ^r | 1,790 | 533 | 2,320 |
| March | 601 | 190 | 791 |
| April | 586 | 194 | 780 |
| May | 513 | 232 | 745 |
| June | 611 | 155 | 766 |
| July | 691 | 185 ^r | 876 ^r |
| August | 598 | 218 ^r | 816 ^r |
| September | 526 | 161 ^r | 687 ^r |
| October | 540 | 236 ^r | 776 ^r |
| November | 624 | 151 ^r | 775 ^r |
| December | 600 | 174 ^r | 774 ^r |
| 2016: | | | |
| January | 531 | 167 ^r | 698 ^r |
| February | 560 ^r | 171 ^r | 731 ^r |
| March ^p | 605 | 166 | 771 |
| January–March | 1,700 | 504 | 2,200 |

^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–March 2015 ² | | February 2016 | | March 2016 ^p | | January–March 2016 ^{p,2} | |
|---------------------|---------------------------------|-----------|------------------|------------------|-------------------------|-----------|-----------------------------------|-----------|
| | Production | Shipments | Production | Shipments | Production | Shipments | Production | Shipments |
| PAD 1: | | | | | | | | |
| Petroleum and coke | 49 | 49 | 11 | 11 | 9 | 10 | 35 | 36 |
| Natural gas | 3 | 3 | 1 | 1 | 1 | 1 | 3 | 3 |
| Total | 52 | 53 | 12 | 12 | 10 | 11 | 39 | 40 |
| PAD 2: | | | | | | | | |
| Petroleum and coke | 314 | 318 | 121 | 121 | 116 | 121 | 367 | 364 |
| Natural gas | 4 | 4 | 1 | 1 | 1 | 1 | 3 | 3 |
| Total | 318 | 321 | 122 | 122 | 116 | 122 | 369 | 367 |
| PAD 3: | | | | | | | | |
| Petroleum and coke | 1,180 | 1,180 | 386 ^r | 381 ^r | 446 | 451 | 1,250 | 1,250 |
| Natural gas | 98 | 98 | 30 | 29 | 34 | 34 | 94 | 95 |
| Total | 1,280 | 1,280 | 415 ^r | 410 ^r | 480 | 485 | 1,350 | 1,350 |
| PAD 4 and 5: | | | | | | | | |
| Petroleum and coke | 345 | 351 | 96 | 98 | 107 | 114 | 314 | 325 |
| Natural gas | 142 | 145 | 48 | 48 | 46 | 48 | 142 | 146 |
| Total | 486 | 496 | 144 | 146 | 152 | 162 | 456 | 471 |
| Grand total | 2,140 | 2,150 | 693 ^r | 690 ^r | 759 | 779 | 2,210 | 2,230 |

^pPreliminary. ^rRevised.

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)

| | 2015 | 2016 | | |
|------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
| | | February | March | January– March |
| Production | 8.87 | 8.75 ^r | 8.96 ^p | 8.89 |
| Shipments | 8.89 | 8.71 ^r | 9.20 ^p | 8.95 |
| Exports of sulfur | 1.82 | 1.64 | 2.05 | 2.13 |
| Imports of sulfur: | | | | |
| Canada ^c | 1.86 ^r | 1.77 ^r | 1.77 | 1.79 |
| Mexico | 0.19 | 0.37 | 0.18 | 0.24 |
| Venezuela ^c | 0.02 | -- | (3) | (3) |
| Total ^{e,2} | 2.24 ^r | 2.16 ^r | 1.96 | 2.05 |
| Exports of H ₂ SO ₄ | 0.16 | 0.15 | 0.09 | 0.12 |
| Imports of H ₂ SO ₄ : | | | | |
| Canada | 2.07 | 2.07 | 2.07 | 2.02 |
| Mexico | 0.77 | 0.69 | 0.73 | 0.72 |
| Total ² | 3.54 | 3.12 ^r | 3.44 | 3.31 |
| Consumption: | | | | |
| Domestic sources | 7.08 | 7.07 ^r | 7.14 | 6.90 |
| Imports ^c | 2.24 ^r | 2.16 ^r | 1.96 | 2.05 |
| Total | 9.32 ^r | 9.23 ^r | 9.10 | 8.95 |
| Sulfur export values ⁴ | 153 | 124 | 107 | 120 |
| Sulfur import values: ⁴ | | | | |
| Canada | 47 ^r | 34 ^r | 30 | 39 |
| Mexico | 86 | 27 | 19 | 26 |
| Venezuela | 21 | XX | XX | XX |
| Average ² | 61 ^r | 36 ^r | 33 | 42 |
| H ₂ SO ₄ export values ⁴ | 191 | 226 | 218 | 239 |
| H ₂ SO ₄ import values: ⁴ | | | | |
| Canada | 60 | 46 | 44 | 46 |
| Mexico | 54 | 40 | 44 | 42 |
| Average ² | 59 | 46 | 45 | 46 |

^eEstimated. ^pPreliminary. ^rRevised. XX Not applicable. -- Zero.

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

²Includes other countries not listed.

³Less than ½ unit.

⁴Average value per ton.