

Mineral Industry Surveys

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SULFUR IN JULY 2012

During July 2012, production of recovered elemental sulfur was 747,000 metric tons (t), which was 7% more than that of June 2012 and 6% more than that of July 2011. Shipments were 745,000 t, which was 9% more than those of June 2012. Producers' ending stocks for July 2012 were 161,000 t.

Imports of recovered sulfur for July 2012 were estimated to be 256,000 t; exports were 111,000 t. Imports of sulfuric acid for July 2012 were 241,000 t; exports were 24,000 t.

U.S. sulfur consumption, calculated as shipments minus exports plus imports, was $890,000 \, t$ in July 2012. This was about 21% more than that of June 2012 and the same as that of July 2011.

Significant adjustments have been made to the sulfur import data. The U.S. Census Bureau appears to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

$\begin{tabular}{ll} TABLE 1 \\ SALIENT SULFUR STATISTICS & \end{tabular}$

(Thousand metric tons)

| | | Production | | | Stocks, | |
|---------------------------|------------------------|-------------|------------------|-------------|----------------------------|--|
| Period | Petroleum ² | Natural gas | Total | all sources | end of period ³ | |
| 2011: | | | | | | |
| January-December | 7,080 | 1,130 | 8,210 | 8,190 | 176 | |
| January–July ^r | 4,030 | 655 | 4,680 | 4,670 | 164 | |
| July | 614 | 92 | 705 | 681 | 164 | |
| August | 623 | 98 | 720 | 731 | 159 | |
| September | 586 | 93 | 678 | 676 | 156 | |
| October | 602 | 86 | 688 | 687 | 161 | |
| November | 590 | 94 | 684 | 689 | 157 | |
| December | 656 | 101 | 756 | 738 | 176 | |
| 2012: | | | | | | |
| January | 584 | 98 | 682 | 696 | 161 | |
| February | 564 | 97 | 661 | 661 | 162 | |
| March | 584 | 96 | 680 | 692 | 151 | |
| April | 573 | 96 | 669 | 685 | 136 | |
| May | 640 | 87 | 727 | 723 | 142 | |
| June | 622 | 77 | 698 ^r | 681 | 161 | |
| July ^p | 667 | 80 | 747 | 745 | 161 | |
| January–July | 4,230 | 632 | 4,870 | 4,880 | 161 | |

^pPreliminary. ^rRevised.

 $\label{eq:table 2} \textbf{U.S. IMPORTS OF SULFUR}^1$

(Thousand metric tons and thousand dollars)

| | Cana | ada | Mex | ico | Venezuela | | Total, all countries ² | |
|------------------|-----------------------|--------------------|----------|--------------------|-----------------------|--------------------|-----------------------------------|--------------------|
| Period | Quantity ^e | Value ³ | Quantity | Value ³ | Quantity ^e | Value ³ | Quantity ^e | Value ³ |
| 2011: | | | | | | | | |
| January-December | 2,700 | 188,000 | 303 | 54,500 | 99 | 16,400 | 3,270 | 301,000 |
| January–July | 1,550 ^r | 107,000 | 188 | 32,100 | 46 | 7,780 | 1,910 ^r | 179,000 |
| July | 240 | 18,100 | 29 | 5,910 | | | 270 | 24,500 |
| August | 240 | 17,800 | 14 | 3,330 | 15 | 2,720 | 308 | 33,500 |
| September | 230 | 15,600 | 29 | 5,400 | 8 | 1,510 | 267 | 22,900 |
| October | 230 | 16,300 | 14 | 3,240 | | | 245 | 19,800 |
| November | 220 | 13,700 | 29 | 5,420 | 10 | 1,370 | 259 | 20,800 |
| December | 230 | 17,600 | 29 | 5,010 | 20 | 2,970 | 279 | 25,800 |
| 2012: | | | | | | | | |
| January | 240 | 13,700 | 29 | 5,230 | | | 269 | 19,200 |
| February | 220 | 12,800 | 29 | 3,930 | 13 | 1,820 | 263 | 18,900 |
| March | 240 | 15,400 | 29 | 3,410 | 12 | 1,610 | 281 | 20,700 |
| April | 210 ^r | 12,300 | 49 | 7,990 | 13 | 1,790 | 272 ^r | 22,300 |
| May | 220 ^r | 13,100 | 43 | 6,260 | 10 | 1,360 | 273 ^r | 21,000 |
| June | 210 ^r | 15,800 | 35 | 5,980 | | | 246 ^r | 22,200 |
| July | 220 | 13,400 | 16 | 4,350 | 20 | 839 | 256 | 18,800 |
| January–July | 1,560 | 96,400 | 230 | 37,200 | 68 | 7,420 | 1,860 | 143,000 |

^eEstimated. ^rRevised. -- Zero.

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

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.

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.

 $\label{eq:table 3} \textbf{U.S. IMPORTS OF SULFURIC ACID}^1$

(Thousand metric tons and thousand dollars)

| | | Canada | | | Mexico | | To | otal, all countr | ies ² |
|------------------|----------|------------------|--------------------|----------|---------|--------------------|----------|------------------|--------------------|
| | | Sulfur | | | Sulfur | | | Sulfur | |
| Period | Quantity | content | Value ³ | Quantity | content | Value ³ | Quantity | content | Value ³ |
| 2011: | | | | | | | | | |
| January-December | 1,820 | 596 | 158,000 | 433 | 142 | 29,400 | 2,670 | 871 | 244,000 |
| January–July | 1,000 | 327 ^r | 74,500 | 248 | 82 | 16,600 | 1,580 | 516 | 137,000 |
| July | 157 | 51 | 16,000 | 23 | 8 | 1,570 | 205 | 68 | 23,800 |
| August | 169 | 55 | 18,500 | 46 | 15 | 3,250 | 237 | 78 | 25,600 |
| September | 141 | 46 | 15,600 | 30 | 10 | 2,130 | 175 | 57 | 19,600 |
| October | 179 | 59 | 17,600 | 35 | 11 | 2,440 | 230 | 75 | 21,600 |
| November | 155 | 51 | 14,600 | 31 | 10 | 2,180 | 188 | 61 | 17,100 |
| December | 178 | 58 | 16,900 | 43 | 14 | 2,860 | 257 | 84 | 23,200 |
| 2012: | | | | | | | | | |
| January | 192 | 63 | 16,600 | 32 | 10 | 2,320 | 291 | 95 | 26,500 |
| February | 146 | 48 | 12,300 | 39 | 13 | 2,870 | 203 | 66 | 17,800 |
| March | 167 | 55 | 14,000 | 47 | 15 | 3,540 | 272 | 89 | 22,400 |
| April | 169 | 55 | 13,400 | 37 | 12 | 2,670 | 225 | 74 | 19,600 |
| May | 156 | 51 | 11,500 | 37 | 12 | 2,740 | 203 | 66 | 16,800 |
| June | 162 | 53 | 11,800 | 37 | 12 | 2,660 | 239 | 78 | 19,500 |
| July | 179 | 59 | 13,300 | 45 | 15 | 3,090 | 241 | 79 | 19,900 |
| January–July | 1,170 | 383 | 92,800 | 274 | 90 | 19,900 | 1,670 | 547 | 142,000 |

Revised.

Source: U.S. Census Bureau.

 $\label{eq:table 4} \textbf{U.S. EXPORTS OF SULFUR AND SULFURIC ACID}^1$

(Thousand metric tons and thousand dollars)

| | | | | Sulfuric acid | |
|------------------|----------|--------------------|----------|---------------|--------------------|
| | Su | lfur | Sulfur | | |
| Period | Quantity | Value ² | Quantity | content | Value ² |
| 2011: | | | | | |
| January-December | 1,310 | 266,000 | 332 | 109 | 41,500 |
| January–July | 747 | 143,000 | 193 | 63 | 23,200 |
| July | 61 | 15,600 | 30 | 10 | 3,790 |
| August | 116 | 24,900 | 68 | 22 | 5,100 |
| September | 160 | 30,100 | 24 | 8 | 3,740 |
| October | 79 | 17,900 | 11 | 4 | 1,830 |
| November | 117 | 26,500 | 23 | 8 | 5,510 |
| December | 90 | 23,400 | 13 | 4 | 2,080 |
| 2012: | | | | | |
| January | 155 | 32,900 | 15 | 5 | 2,760 |
| February | 66 | 11,000 | 10 | 3 | 2,030 |
| March | 216 | 60,200 | 10 | 3 | 1,950 |
| April | 89 | 17,800 | 11 | 4 | 2,410 |
| May | 178 | 33,800 | 15 | 5 | 2,850 |
| June | 190 | 33,700 | 11 | 4 | 2,530 |
| July | 111 | 20,900 | 24 | 8 | 4,810 |
| January–July | 1,010 | 210,000 | 96 | 31 | 19,300 |

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

Source: U.S. Census Bureau.

 $^{^{1}\}mathrm{Data}$ are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

²Declared f.a.s. (free alongside ship) valuation.

 $\label{eq:table 5} \text{U.S. CONSUMPTION OF SULFUR}^1$

(Thousand metric tons)

| | Domestic | | |
|------------------|----------------------|----------------------|--------------------|
| Period | sources ² | Imports ^e | Consumption |
| 2011: | | • | |
| January-December | 6,880 | 3,270 | 10,100 |
| January–July | 3,920 | 1,910 ^r | 5,830 ^r |
| July | 620 | 270 | 890 |
| August | 615 | 308 | 923 |
| September | 516 | 267 | 783 |
| October | 608 | 245 | 853 |
| November | 572 | 259 | 831 |
| December | 648 | 279 | 927 |
| 2012: | | | |
| January | 541 | 269 | 810 |
| February | 595 | 263 | 858 |
| March | 476 | 281 | 757 |
| April | 596 | 272 ^r | 868 ^r |
| May | 545 | 273 ^r | 818 ^r |
| June | 491 | 246 ^r | 737 ^r |
| July | 634 ^p | 256 | 890 |
| January–July | 3,880 | 1,860 | 5,740 |

^eEstimated. ^pPreliminary. ^rRevised.

 ${\it TABLE~6}$ RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES, BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT 1

(Thousand metric tons)

| | January–J | uly 2011 ² | June 2 | 2012 | July 2012 ^p | | January–July 2012 ^{p, 2} | |
|---------------------|------------|-----------------------|------------------|-----------|------------------------|-----------|-----------------------------------|-----------|
| District and source | Production | Shipments | Production | Shipments | Production | Shipments | Production | Shipments |
| PAD 1: | | | | | | | | |
| Petroleum and coke | 40 | 39 | 10 | 8 | 10 | 9 | 57 | 59 |
| Natural gas | 8 | 8 | 1 | 1 | 1 | 1 | 8 | 8 |
| Total | 47 | 47 | 11 | 9 | 11 | 10 | 65 | 67 |
| PAD 2: | | | | | | | | |
| Petroleum and coke | 573 | 587 | 90 | 88 | 98 | 96 | 634 | 631 |
| Natural gas | 12 | 12 | 1 | 1 | 1 | 1 | 11 | 11 |
| Total | 586 | 599 | 92 | 89 | 99 | 98 | 645 | 642 |
| PAD 3: ³ | | | | | | | | |
| Petroleum and coke | 2,680 | 2,660 | 403 | 401 | 429 | 432 | 2,780 | 2,810 |
| Natural gas | 271 | 271 | 36 | 31 | 38 | 36 | 266 | 260 |
| Total | 2,950 | 2,930 | 439 | 433 | 467 | 468 | 3,040 | 3,070 |
| PAD 4 and 5: | | | | | | | | |
| Petroleum and coke | 731 | 726 | 118 | 115 | 131 | 132 | 766 | 770 |
| Natural gas | 364 | 365 | 38 | 35 | 40 | 37 | 347 | 339 |
| Total | 1,100 | 1,090 | 157 | 150 | 170 | 169 | 113 | 1,110 |
| Grand total | 4,680 | 4,670 | 698 ^r | 681 | 747 | 745 | 4,870 | 4,880 |

^pPreliminary. ^rRevised.

 $^{^{1}\}mathrm{Data}$ are rounded to no more than three significant digits; may not add to totals shown.

²Calculated as shipments minus exports.

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

²May include revisions to previously published data.

³Includes the U.S. Virgin Islands.

 ${\bf TABLE~7} \\ {\bf COMPARATIVE~SULFUR~AND~SULFURIC~ACID~STATISTICS}^1 \\$

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

| | | 2012 | | | |
|--|-------|-------------------|-------------------|-------|--|
| | 2011 | June | July | Total | |
| Production | 8.21 | 8.49 ^r | 8.80 ^p | 8.34 | |
| Shipments | 8.19 | 8.29 | 8.77 ^p | 8.37 | |
| Exports of sulfur | 1.31 | 2.31 | 1.31 | 1.72 | |
| Imports of sulfur: | | | | | |
| Canada ^e | 2.70 | 2.56 ^r | 2.59 | 2.67 | |
| Mexico | 0.30 | 0.43 | 0.19 | 0.39 | |
| Venezuela ^e | 0.10 | | 0.24 | 0.12 | |
| Total ^{e, 2} | 3.27 | 2.99 ^r | 3.01 | 3.19 | |
| Exports of H ₂ SO ₄ | 0.33 | 0.13 | 0.28 | 0.16 | |
| Imports of H ₂ SO ₄ : | | | | | |
| Canada | 1.82 | 1.97 | 2.11 | 2.01 | |
| Mexico | 0.43 | 0.45 | 0.53 | 0.47 | |
| Total ² | 2.67 | 2.91 | 2.84 | 2.87 | |
| Consumption: | | | | | |
| Domestic sources | 6.88 | 5.97 | 7.46 | 6.65 | |
| Imports ^e | 3.27 | 2.99 r | 3.01 | 3.19 | |
| Total | 10.20 | 8.97 ^r | 10.50 | 9.83 | |
| Sulfur export values ³ | 203 | 178 | 188 | 209 | |
| Sulfur import values: ³ | | | | | |
| Canada | 70 | 75 ^r | 61 | 62 | |
| Mexico | 180 | 171 | 272 | 162 | |
| Venezuela | 165 | XX | 42 | 109 | |
| Average ² | 92 | 90 ^r | 74 | 77 | |
| H ₂ SO ₄ export values ³ | 125 | 230 | 200 | 201 | |
| H ₂ SO ₄ import values: ³ | | | | | |
| Canada | 86 | 73 | 75 | 79 | |
| Mexico | 68 | 72 | 69 | 73 | |
| Average ² | 91 | 81 | 82 | 85 | |

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

 $^{^{1}\}mathrm{Data}$ are rounded to no more than three significant digits; may not add to totals shown.

²Includes other countries not listed.

³Average value per ton.