

Mineral Industry Surveys

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LEAD IN JANUARY 2018

Domestic mine production (recoverable) of lead in January was 21,700 metric tons (t). Average daily mine production in January was 699 t, slightly less than that in the previous month and 15% less than that in January 2017. Total secondary refined lead production in January was 84,400 t, essentially unchanged from that in the previous month and slightly more than that in January 2017 (fig. 1; tables 1, 2).

(Midwest) price in January 2018 was \$0.43 per pound, essentially unchanged from that in December and 24% more than that in January 2017 (table 3). The majority of secondary lead is recovered from used lead-acid batteries.

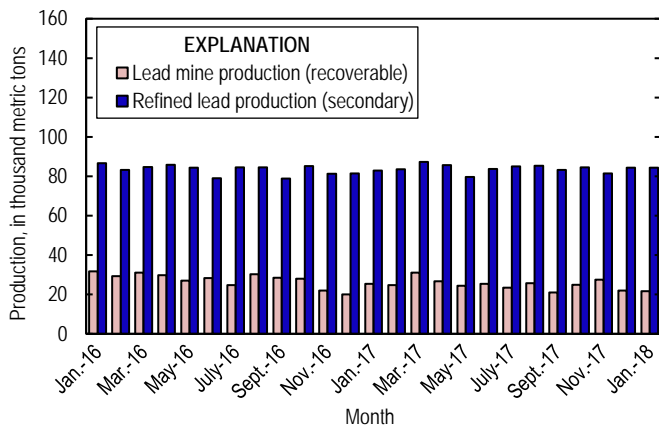


Figure 1. U.S. production of lead from January 2016 through January 2018. Source: U.S. Geological Survey.

The Platts Metals Week average North American Market price for lead in January 2018 was \$1.27 per pound, and the London Metal Exchange, Ltd. (LME) cash price was \$1.17 per pound, which were 3% more than those in the previous month, and 15% and 16% more, respectively, than those in January 2017. The North American Market price and LME cash price were 49% and 57% more than that in January 2016, respectively (fig. 2, table 3). The Platts average U.S. used lead-acid batteries

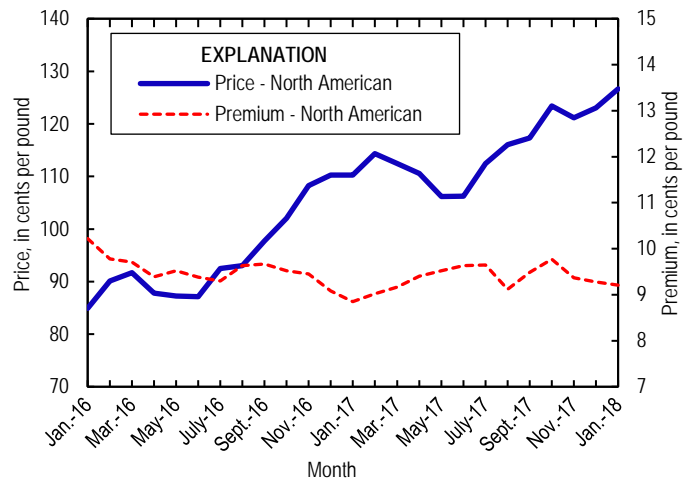


Figure 2. Average monthly North American price and premium for refined lead metal from January 2016 through January 2018. Source: Platts Metals Week.

Global LME lead stocks in January 2018 were 133,250 t, which were 6% less than those at the end of December 2017 and 30% less than those at the end of January 2017 (table 11).

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TABLE 1
SALIENT LEAD STATISTICS IN THE UNITED STATES¹

(Metric tons, lead content, unless otherwise specified)

| | 2016 ^p | 2017 | | | 2018 January |
|---|-------------------|----------------------|---------------------|-----------------------------------|-----------------|
| | | January | December | January– December ² | |
| Production: | | | | | |
| Mine (recoverable) | 336,000 | 25,400 ^r | 21,900 ^r | 302,000 | 21,700 |
| Secondary refinery, reported by smelters/refineries | 1,000,000 | 82,900 ^r | 84,300 | 1,010,000 | 84,400 |
| Consumption of refined lead, apparent ^{e, 3} | 1,490,000 | 146,000 ^r | 120,000 | 1,640,000 | 120,000 |
| Imports for consumption: | | | | | |
| Ore and concentrate | 3 | -- | -- | -- | -- |
| Bullion | 237 | -- | -- | -- | -- |
| Unwrought | 533,000 | 65,700 | 37,700 | 657,000 | 36,200 |
| Exports: | | | | | |
| Ore and concentrate | 341,000 | 4,450 | 2,610 | 269,000 | 17,300 |
| Bullion (gross weight) | 1,310 | 39 | -- | 1,550 | 323 |
| Unwrought (gross weight) | 42,700 | 2,650 ^r | 1,700 | 23,900 | 758 |
| Platts Metals Week North American Market | | | | | |
| price (cents per pound) | 94.39 | 110.28 | 123.05 | 114.45 | 126.65 |

^eEstimated. ^pPreliminary. ^rRevised. -- Zero.

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

²May include revisions to previously published data.

³Smelter production plus imports for consumption minus domestic exports.

TABLE 2
MINE AND SECONDARY REFINERY PRODUCTION OF LEAD
IN THE UNITED STATES¹

(Metric tons)

| Period | Mine | | Secondary refinery ^e |
|------------------|------------------------|-------------|------------------------------------|
| | Lead in concentrate | Recoverable | |
| 2017: | | | |
| January | 26,100 | 25,400 | 82,900 |
| February | 25,500 | 24,700 | 83,600 |
| March | 32,000 | 31,100 | 87,300 |
| April | 27,400 | 26,600 | 85,700 |
| May | 25,100 | 24,400 | 79,700 |
| June | 26,000 | 25,300 | 83,700 |
| July | 24,100 | 23,400 | 85,000 |
| August | 26,500 | 25,700 | 85,300 |
| September | 21,600 | 21,000 | 83,300 |
| October | 25,300 | 24,600 | 84,600 |
| November | 28,100 | 27,300 | 81,400 |
| December | 22,600 | 21,900 | 84,300 |
| January–December | 310,000 | 302,000 | 1,010,000 |
| 2018, January | 22,700 | 21,700 | 84,400 |

^eEstimated.

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

TABLE 3
MONTHLY AVERAGE LEAD PRICES

| | North | London Metal Exchange | | Used lead-acid |
|---------------|------------------------------|-----------------------|----------|------------------------|
| | American Market ¹ | cash | | batteries ² |
| | ¢/lb | ¢/lb | \$/t | ¢/lb |
| 2017: | | | | |
| January | 110.28 | 101.43 | 2,236.25 | 34.75 |
| February | 114.31 | 105.29 | 2,321.24 | 36.94 |
| March | 112.44 | 103.27 | 2,276.75 | 38.31 |
| April | 110.59 | 101.19 | 2,230.78 | 39.94 |
| May | 106.19 | 96.67 | 2,131.16 | 41.00 |
| June | 106.27 | 96.64 | 2,130.64 | 41.88 |
| July | 112.43 | 102.78 | 2,265.85 | 42.44 |
| August | 116.02 | 106.90 | 2,356.76 | 43.13 |
| September | 117.30 | 107.81 | 2,376.81 | 43.31 |
| October | 123.43 | 113.66 | 2,505.76 | 43.08 |
| November | 121.13 | 111.76 | 2,463.80 | 43.28 |
| December | 123.05 | 113.77 | 2,508.20 | 43.00 |
| Year | 114.45 | 105.10 | 2,317.00 | 40.92 |
| 2018, January | 126.65 | 117.44 | 2,589.08 | 43.23 |

¹Platts Metals Week North American Market price. Reflects the LME lead cash price plus the Platts premium for 99.97% lead.

²Platts Metals Week assessment for used lead-acid automotive batteries (50% lead) picked up in U.S. Midwest, suitable for delivery to secondary smelters within 30 days.

Source: Platts Metals Week.

TABLE 4
CONSUMPTION OF PURCHASED LEAD-BASE SCRAP IN JANUARY 2018¹

(Metric tons, gross weight)

| Item | Stocks | Net receipts | Consumption | Stocks |
|--|-------------------|--------------|-------------|------------------|
| | December 31, 2017 | | | January 31, 2018 |
| Battery-lead | 53,600 | 83,100 | 82,900 | 53,700 |
| Other ² | 4,210 | 1,750 | 1,850 | 4,110 |
| Total | 57,800 | 84,800 | 84,800 | 57,800 |
| Percent change from preceding month ³ | XX | -0.4 | 0.5 | 0.0 |

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

²Includes soft lead, solder, drosses and residues, common babbitt, antimonial lead, cable covering, type metals, and other lead-base scrap.

³Based on unrounded data; preceding monthly data may have been revised.

TABLE 5
LEAD, TIN, AND ANTIMONY RECOVERED FROM
LEAD-BASE SCRAP IN JANUARY 2018¹

(Metric tons)

| Product recovered | Secondary metal content | | |
|-----------------------|-------------------------|-----|----------|
| | Lead | Tin | Antimony |
| Soft and calcium lead | 78,800 | W | -- |
| Remelt lead | -- | -- | W |
| Antimonial lead | 5,580 | W | W |
| Other ² | -- | W | -- |
| Total lead-base | 84,400 | 24 | 266 |

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

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

²Includes cable lead, lead-base babbitt, solder, type metals, and other products.

TABLE 6
U.S. APPARENT CONSUMPTION OF LEAD¹

(Metric tons)

| Period | Production | Imports ^{2,3} | Exports ^{2,3} | Apparent consumption ⁴ |
|--------------------|------------|------------------------|------------------------|-----------------------------------|
| 2017: ^P | | | | |
| January | 82,900 | 65,700 | 2,660 | 146,000 |
| February | 83,600 | 55,500 | 3,530 | 136,000 |
| March | 87,300 | 60,800 | 1,740 | 146,000 |
| April | 85,700 | 51,800 | 2,740 | 135,000 |
| May | 79,700 | 72,700 | 2,090 | 150,000 |
| June | 83,700 | 42,900 | 1,490 | 125,000 |
| July | 85,000 | 64,000 | 1,950 | 147,000 |
| August | 85,300 | 45,900 | 2,890 | 128,000 |
| September | 83,300 | 65,200 | 959 | 147,000 |
| October | 84,600 | 46,600 | 834 | 130,000 |
| November | 81,400 | 48,600 | 1,350 | 129,000 |
| December | 84,300 | 37,700 | 1,700 | 120,000 |
| Year | 1,010,000 | 657,000 | 23,900 | 1,640,000 |
| 2018, January | 84,400 | 36,200 | 758 | 120,000 |

^PPreliminary.

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

²Import and export data are for Harmonized Tariff Schedule of the United States (HTS) codes 7801.10.0000, 7801.91.0000, 7801.99.9030, 7801.99.9050.

³Source: U.S. Census Bureau.

⁴Smelter production plus imports for consumption minus domestic exports.

TABLE 7
U.S. EXPORTS OF LEAD, BY CLASS¹

(Metric tons, gross weight, unless otherwise specified)

| | 2017 | | | | 2018 January |
|---|---------|---------|----------|----------------------|-----------------|
| | 2016 | January | December | January– December | |
| Ores and concentrate (lead content): | 341,000 | 4,450 | 2,610 | 269,000 | 17,300 |
| Bullion | 1,310 | 39 | -- | 1,550 | 323 |
| Unwrought: | | | | | |
| Refined lead | 617 | 77 | 113 | 2,020 | 108 |
| Refined lead containing antimony as the principal alloying element | 6,020 | 684 | 81 | 2,330 | 10 |
| Lead alloys | 35,800 | 1,840 | 1,510 | 19,300 | 496 |
| Other | 239 | 54 | -- | 283 | 144 |
| Total | 42,700 | 2,650 | 1,700 | 23,900 | 758 |
| Wrought: | | | | | |
| Bars, rods, profiles, and wire | 1,560 | 50 | 86 | 1,040 | 36 |
| Pipes and tubes, including fittings | 387 | 21 | 53 | 251 | 8 |
| Plates, sheets, strip, foil | 2,440 | 119 | 452 | 4,700 | 411 |
| Other | 1,510 | 53 | 164 | 2,000 | 68 |
| Total | 5,900 | 243 | 755 | 7,990 | 523 |
| Powders and flakes | 146 | 14 | 10 | 186 | 28 |
| Tetraethyl lead and tetramethyl lead | 302 | 17 | 35 | 260 | 29 |
| Waste and scrap: | | | | | |
| Spent lead-acid storage batteries for starting engines | 24,200 | 2,280 | 1,910 | 19,700 | 2,320 |
| Lead waste and scrap obtained from lead-acid storage batteries | 16,700 | 1,070 | 1,850 | 20,000 | 1,200 |
| Other lead waste and scrap | 29,200 | 2,310 | 4,020 | 36,000 | 2,980 |

-- Zero.

¹Data are rounded to more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 8
U.S. EXPORTS OF LEAD ORES AND CONCENTRATES, BY COUNTRY¹

(Metric tons, lead content)

| | 2017 | | | | 2018 January |
|--------------------|---------|---------|----------|----------------------|-----------------|
| | 2016 | January | December | January– December | |
| Australia | -- | 86 | -- | 7,370 | -- |
| Belgium | 8,940 | -- | -- | -- | -- |
| Canada | 48,100 | 3,100 | 1,350 | 37,000 | 1,680 |
| China | 161,000 | 1,260 | 1,100 | 134,000 | 7,140 |
| Germany | 32,700 | -- | -- | 14,800 | -- |
| Italy | 17,700 | -- | -- | 7,470 | 7,170 |
| Japan | 20,200 | -- | 111 | 24,400 | -- |
| Korea, Republic of | 51,700 | -- | -- | 43,300 | 1,290 |
| Mexico | 535 | -- | 30 | 868 | 69 |
| Peru | -- | -- | 29 | 29 | -- |
| Saudi Arabia | -- | -- | -- | 15 | -- |
| Total | 341,000 | 4,450 | 2,610 | 269,000 | 17,300 |

-- Zero.

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

TABLE 9
U.S. IMPORTS FOR CONSUMPTION OF LEAD, BY CLASS¹

(Metric tons, gross weight, unless otherwise specified)

| | 2017 | | | | 2018 January |
|--|----------------|---------------|---------------|----------------------|-----------------|
| | 2016 | January | December | January– December | |
| Ores and concentrate (lead content): | 3 | -- | -- | -- | -- |
| Bullion (lead content) | 237 | -- | -- | -- | -- |
| Unwrought: | | | | | |
| Refined lead | 416,000 | 52,600 | 29,000 | 538,000 | 28,400 |
| Refined lead containing antimony as the principal alloying element (lead content) | 40,400 | 5,410 | 2,710 | 40,800 | 3,010 |
| Lead alloys (lead content) | 28,900 | 1,860 | 1,650 | 22,300 | 1,130 |
| Other (lead content) | 48,100 | 5,780 | 4,360 | 56,500 | 3,670 |
| Total | 533,000 | 65,700 | 37,700 | 657,000 | 36,200 |
| Wrought: | | | | | |
| Bars, rods, profiles, and wire | 3,360 | 636 | 44 | 2,020 | 81 |
| Pipes and tubes, including fittings | 45 | 3 | (2) | 37 | (2) |
| Plates, sheets, strip, foil | 1,550 | 116 | 73 | 1,590 | 217 |
| Other | 3,270 | 213 | 363 | 3,840 | 421 |
| Total | 8,230 | 968 | 480 | 7,480 | 719 |
| Powders and flakes | 1,310 | 38 | 27 | 343 | 15 |
| Tetraethyl lead and tetramethyl lead | 576 | 41 | 80 | 1,030 | 57 |
| Waste and scrap: | | | | | |
| Spent lead-acid storage batteries for starting engines (units) | 1,070 | 73 | 92 | 1,460 | 27 |
| Lead waste and scrap obtained from lead-acid storage batteries (lead content) | 1,480 | 106 | 77 | 4,180 | 175 |
| Other lead waste and scrap (lead content) | 4,420 | 234 | 255 | 2,430 | 210 |

-- Zero.

¹Data are rounded to more than three significant digits; may not add to totals shown.

²Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 10
U.S. IMPORTS FOR CONSUMPTION OF UNWROUGHT LEAD BY
COUNTRY OR LOCALITY¹

(Metric tons, lead content)

| Material and country or locality of origin | 2017 | | | | 2018 January |
|---|-------------------|---------|----------|----------------------|-----------------|
| | 2016 ² | January | December | January– December | |
| Refined lead: | | | | | |
| Argentina | 281 | 110 | 753 | 2,880 | 1,070 |
| Australia | 3,820 | 770 | -- | 7,570 | -- |
| Azerbaijan | -- | -- | 72 | 955 | -- |
| Bolivia | 511 | -- | -- | 889 | -- |
| Brazil | 8,090 | 1,820 | 1,460 | 20,800 | 1,310 |
| Burma | -- | -- | -- | 1,150 | -- |
| Canada | 176,000 | 18,200 | 11,200 | 160,000 | 11,500 |
| China | 273 | -- | -- | 12 | -- |
| Colombia | 2,020 | -- | -- | 1,500 | 291 |
| Dominican Republic | 317 | 100 | -- | 693 | 25 |
| Ecuador | 4,280 | 1,050 | 1,300 | 14,400 | 812 |
| Germany | 1,230 | -- | -- | -- | -- |
| Ghana | -- | -- | -- | 97 | -- |
| Honduras | -- | -- | -- | -- | 199 |
| India | 20,200 | 4,120 | 2,010 | 55,400 | 1,680 |
| Israel | -- | -- | -- | 1,990 | -- |
| Kazakhstan | 10,600 | -- | 509 | 5,550 | -- |
| Korea, Republic of | 89,300 | 12,100 | -- | 127,000 | 1,250 |
| Mexico | 71,800 | 11,100 | 7,630 | 103,000 | 7,100 |
| Nigeria | 1,040 | 313 | -- | 1,480 | -- |
| Peru | 1,410 | 500 | 500 | 3,900 | 575 |
| Poland | -- | -- | -- | 51 | -- |
| Russia | 13,200 | 1,170 | 3,110 | 14,700 | -- |
| Saudi Arabia | 608 | 436 | -- | 999 | -- |
| Serbia | -- | -- | -- | 2,020 | -- |
| South Africa | 677 | 176 | -- | 654 | 24 |
| Sri Lanka | 1,720 | 250 | 250 | 2,500 | 100 |
| Sweden | 4,000 | -- | -- | -- | -- |
| Thailand | 200 | 388 | 195 | 3,450 | 1,580 |
| Ukraine | 79 | -- | -- | -- | -- |
| United Arab Emirates | 682 | -- | -- | 148 | -- |
| United Kingdom | 289 | -- | -- | 532 | 95 |
| Venezuela | 3,480 | -- | -- | 3,030 | 825 |
| Total | 416,000 | 52,600 | 29,000 | 538,000 | 28,400 |
| Other unwrought lead:² | | | | | |
| Argentina | 20 | 268 | -- | 882 | -- |
| Australia | 189 | -- | -- | -- | -- |
| Bolivia | 75 | -- | -- | 456 | -- |
| Brazil | 368 | 405 | -- | 1,550 | -- |
| Canada | 88,600 | 7,610 | 7,620 | 91,200 | 6,890 |
| Chile | 730 | -- | 335 | 2,220 | 234 |
| Costa Rica | -- | -- | -- | 171 | 172 |
| Ecuador | 3,710 | 114 | -- | 2,310 | -- |
| Egypt | 24 | 50 | -- | 402 | -- |
| Ghana | 246 | -- | -- | 98 | -- |
| Guatemala | 646 | -- | -- | 96 | -- |
| Honduras | -- | -- | 684 | 3,840 | 511 |
| India | 2,210 | 557 | -- | 1,780 | -- |

See footnotes at end of table.

TABLE 10–Continued
U.S. IMPORTS FOR CONSUMPTION OF UNWROUGHT LEAD BY
COUNTRY OR LOCALITY¹

(Metric tons, lead content)

| Material and country or locality of origin | 2017 | | | | 2018 January |
|---|-------------------|---------|----------|----------------------|-----------------|
| | 2016 ² | January | December | January– December | |
| Korea, Republic of | 10,200 | -- | -- | -- | -- |
| Mexico | 5,350 | 2,030 | -- | 6,430 | -- |
| Mozambique | 590 | -- | -- | -- | -- |
| Netherlands | (3) | -- | -- | -- | -- |
| Panama | 495 | -- | -- | 997 | -- |
| Paraguay | -- | -- | -- | 411 | -- |
| Peru | -- | -- | -- | 223 | -- |
| Russia | 2,020 | 1,350 | -- | 2,960 | -- |
| Senegal | 438 | -- | -- | 1,470 | -- |
| Spain | 619 | -- | -- | -- | -- |
| Turkey | -- | -- | -- | 1 | -- |
| United Kingdom | -- | -- | 78 | 794 | -- |
| Venezuela | 752 | 82 | -- | 626 | -- |
| Vietnam | -- | 587 | -- | 683 | -- |
| Total | 117,000 | 13,100 | 8,720 | 120,000 | 7,810 |
| Grand total | 533,000 | 65,700 | 37,700 | 657,000 | 36,200 |

-- Zero.

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

²Includes the lead content (Quantity 2) of Harmonized Tariff Schedule of the United States (HTS) codes 7801.91.0000, 7801.99.9030, 7801.99.9050. Excludes bullion.

³Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 11
LONDON METAL EXCHANGE (LME) STOCKS OF LEAD, END OF PERIOD

(Metric tons)

| Period | United States | Asia | Europe | Total |
|---------------|---------------|--------|---------|---------|
| 2017: | | | | |
| January | -- | 78,500 | 111,000 | 189,000 |
| February | -- | 77,500 | 112,000 | 190,000 |
| March | -- | 76,700 | 108,000 | 184,000 |
| April | -- | 77,000 | 92,400 | 169,000 |
| May | -- | 71,900 | 108,000 | 180,000 |
| June | -- | 68,200 | 95,900 | 164,000 |
| July | -- | 65,400 | 87,400 | 153,000 |
| August | -- | 62,500 | 86,000 | 148,000 |
| September | -- | 54,500 | 103,000 | 157,000 |
| October | -- | 49,200 | 101,000 | 149,000 |
| November | -- | 48,400 | 96,600 | 145,000 |
| December | -- | 49,600 | 92,700 | 142,000 |
| 2018, January | -- | 47,300 | 86,000 | 133,000 |

-- Zero.

Source: London Metal Exchange, Ltd.