

Mineral Industry Surveys

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LEAD IN AUGUST 2023

Domestic mine production (recoverable) of lead in August was 18,100 metric tons (t). Average daily mine production in August was 585 t, 24% less than the production in the previous month and 11% less than that in August 2022. Secondary refined lead production in August 2023 was 76,300 t, slightly less than the production in the previous month and 4% less than that in August 2022 (fig. 1; tables 1, 2).

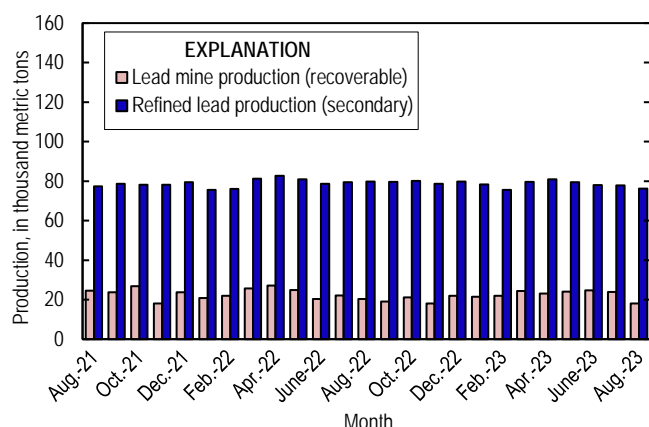


Figure 1. U.S. production of lead from August 2021 through August 2023.

The United States is a significant exporter of lead concentrates. U.S. exports of lead in ores and concentrates through August 2023 were 176,000 t, 7% more than that for the same period in 2022. The main destinations in August were China (42%), the Republic of Korea (17%), and the Netherlands (17%) (table 8). U.S. imports of unwrought lead through August were 365,000 t, 22% less than those for the same period in 2022. Leading import sources in August 2023 were the Republic of Korea (39%), Canada (33%), and Mexico (15%) (table 10).

Prices and Stocks

The average London Metal Exchange, Ltd. (LME) cash price for lead in August was 97.6 cents per pound, slightly more than that in the previous month and 4% more than that in August 2022 (table 3). The S&P Global Platts Metals Week (Platts) average North American Market price for lead in August 2023

was \$1.14 per pound, unchanged from that in the previous month and essentially unchanged from that in August 2022.

The North American premium to the LME cash price in August 2023 averaged 16 cents per pound, 9% less than that in July 2023 and 13% less than that in August 2022 (fig. 2, table 3).

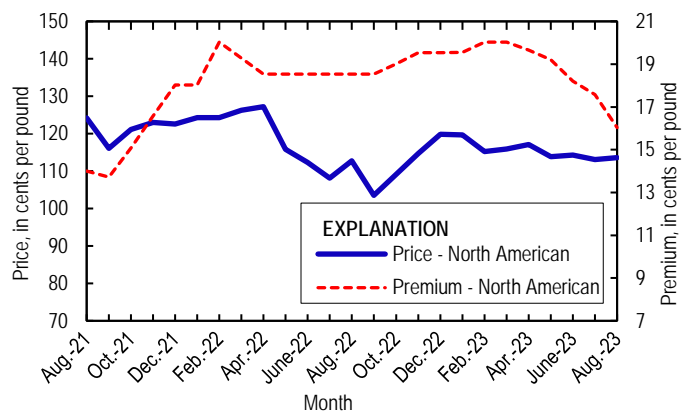


Figure 2. Average monthly North American price and premium for refined lead metal from August 2021 through August 2023. Source: S&P Global Platts Metals Week.

The Platts average U.S. used lead-acid batteries (Midwest) price in August 2023 was 21 cents per pound, essentially unchanged from that in July 2023 and 6% less than that in August 2022 (table 3). Most secondary lead is recovered from used lead-acid batteries.

Global LME lead stocks at the end of August 2023 were 54,850 t, unchanged from those at the end of July 2023 and 46% more than those at the end of August 2022 (table 11).

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TABLE 1
SALIENT LEAD STATISTICS IN THE UNITED STATES¹

(Metric tons, lead content, unless otherwise specified)

	2022 ²		2023		
	January– December	January– August	July	August	January– August
Production:					
Mine (recoverable)	264,000	183,000	23,900	18,100	182,000
Secondary refinery, reported by smelters/refineries	960,000	642,000	77,900	76,300	626,000
Consumption of refined lead, apparent ^{e, 3}	1,590,000	1,090,000	135,000	116,000	973,000
Imports for consumption:					
Ore and concentrate	38	38	15	17	48
Bullion	--	--	--	--	--
Unwrought	651,000	465,000	59,300	41,900	365,000
Exports:					
Ore and concentrate	255,000	165,000	41,100	41,400	176,000
Bullion (gross weight)	1,550	1,370	20	--	222
Unwrought (gross weight)	25,800	17,400	1,830	2,700	17,600
S&P Global Platts Metals Week North American Market price (cents per pound)	116.53	118.88	113.11	113.60	115.34

^eEstimated. -- 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.

³Secondary refinery production plus imports for consumption of unwrought lead minus domestic exports of unwrought lead.

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

(Metric tons)

Period	Mine		Secondary refinery ^c
	Lead in concentrate	Recoverable	
2022:			
August	22,100	20,300	79,800
September	19,600	19,100	79,600
October	21,700	21,200	80,100
November	18,700	18,100	78,600
December	22,600	22,000	79,800
January–December	272,000	264,000	960,000
2023:			
January	22,100	21,500	78,400
February	22,500	21,900	75,600
March	25,100	24,400	79,600
April	23,800 ^r	23,100 ^r	80,900
May	24,700 ^r	24,000 ^r	79,400
June	25,400 ^r	24,700 ^r	78,000
July	24,500 ^r	23,900	77,900
August	18,700	18,100	76,300
January–August	187,000	182,000	626,000

^cEstimated. ^rRevised.

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

TABLE 3
MONTHLY AVERAGE LEAD PRICES

	North American Market ¹	London Metal Exchange (LME) cash		Used lead-acid batteries ²
	¢/lb	¢/lb	\$/t	¢/lb
2022:				
August	112.75	94.22	2,077.24	22.70
September	103.52	84.99	1,873.66	21.56
October	109.16	90.14	1,987.32	20.00
November	114.73	95.19	2,098.65	19.30
December	119.86	100.33	2,211.80	18.50
January–December	116.53	97.64	2,152.62	22.77
2023:				
January	119.69	100.13	2,207.50	19.00
February	115.21	95.18	2,098.29	18.50
March	115.93	95.89	2,114.08	19.75
April	117.10	97.45	2,148.31	20.25
May	113.86	94.66	2,086.84	20.50
June	114.27	96.05	2,117.64	20.50
July	113.11	95.53	2,106.13	21.00
August	113.60	97.57	2,151.06	21.30
January–August	115.35	96.56	2,128.73	20.10

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

²S&P Global Platts 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: S&P Global Platts Metals Week.

TABLE 4
CONSUMPTION OF PURCHASED LEAD-BASE SCRAP IN AUGUST 2023¹

(Metric tons, gross weight)

Item	Stocks July 31, 2023	Net receipts	Consumption	Stocks August 31, 2023
Battery-lead	W	66,000	63,900	W
Other ²	W	5,690	5,900	W
Total	7,190 ¹	71,700	69,800	9,150
Percent change from preceding month ³	XX	7.3	4.2	27.4

¹Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

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 AUGUST 2023¹

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	64,000	W	--
Remelt lead	W	--	--
Antimonial lead	11,500	W	W
Other ²	W	--	--
Total lead-base	76,300	172	W

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 ^c	Imports ^{2, 3}	Exports ^{2, 3}	Apparent consumption ⁴
2022: ^p				
August	79,800	77,900	3,270	154,000
September	79,600	45,100	2,380	122,000
October	80,100	44,500	1,920	123,000
November	78,600	29,600	1,960	106,000
December	79,800	67,000	2,180	145,000
January–December	960,000	651,000	25,800	1,590,000
2023:				
January	78,400	57,200	1,570	134,000
February	75,600	30,600	1,630	105,000
March	79,600	35,600	2,220	113,000
April	80,900	75,500	1,740	155,000
May	79,400	37,000	2,580	114,000
June	78,000	27,600	3,300	102,000
July	77,900	59,300	1,830	135,000
August	76,300	41,900	2,700	116,000
January–August	626,000	365,000	17,600	973,000

^cEstimated. ^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)

Class	2022 ²		2023		
	January– December	January– August	July	August	January– August
Ores and concentrate (lead content)	255,000	165,000	41,100	41,400	176,000
Bullion	1,550	1,370	20	--	222
Unwrought:					
Refined lead	4,250	2,740	367	1,310	6,060
Refined lead containing antimony as the principal alloying element	1,640	600	54	34	625
Lead alloys	16,900	11,200	1,410	1,340	10,700
Other	2,980	2,850	--	12	207
Total	25,800	17,400	1,830	2,700	17,600
Wrought:					
Bars, rods, profiles, and wire	910	620	87	176	807
Pipes and tubes, including fittings	23	23	12	(3)	39
Plates, sheets, strip, foil	6,150	3,290	649	1,210	8,490
Other	3,400	2,420	336	231	2,150
Total	10,500	6,360	1,080	1,610	11,500
Powders and flakes	330	183	35	36	319
Tetraethyl lead and tetramethyl lead	409	239	5	3	103
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	30,900,000	22,500,000	1,980,000	1,710,000	17,200,000
Lead waste and scrap obtained from lead-acid storage batteries	6,360	2,450	3,420	3,570	20,000
Other lead waste and scrap	36,400	24,300	3,410	3,410	26,500

-- Zero.

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

²May include revisions to previously published data.

³Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8
U.S. EXPORTS OF LEAD ORES AND CONCENTRATES, BY COUNTRY OR LOCALITY¹

(Metric tons, lead content)

Country or locality	2022 ²		2023		
	January– December	January– August	July	August	January– August
Canada	35,800	25,700	2,750	3,200	28,600
China	103,000	51,800	22,600	17,300	61,100
Germany	7,980	7,980	7,660	--	21,900
Italy	7,640	7,640	--	--	--
Japan	27,400	15,300	8,010	2,750	14,400
Korea, Republic of	46,900	35,000	--	7,140	19,900
Malaysia	243	--	--	--	--
Mexico	16,800	12,000	--	3,760	19,000
Netherlands	7,960	7,960	--	7,240	7,240
Switzerland	--	--	--	--	3,560
Vietnam	1,180	1,180	--	13	13
Total	255,000	165,000	41,100	41,400	176,000

-- Zero.

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

²May include revisions to previously published data.

Source: U.S. Census Bureau.

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

(Metric tons, gross weight, unless otherwise specified)

Class	2022 ²		2023		
	January– December	January– August	July	August	January– August
Ores and concentrate (lead content)	38	38	15	17	48
Bullion (lead content)	--	--	--	--	--
Unwrought:					
Refined lead	538,000	380,000	54,800	36,100	317,000
Refined lead containing antimony as the principal alloying element (lead content)	50,800	41,800	2,070	1,880	16,000
Lead alloys (lead content)	22,000	15,300	1,180	1,230	9,860
Other (lead content)	41,000	28,100	1,340	2,700	21,900
Total	651,000	465,000	59,300	41,900	365,000
Wrought:					
Bars, rods, profiles, and wire	5,930	4,460	92	20	2,000
Pipes and tubes, including fittings	19	12	(3)	2	24
Plates, sheets, strip, foil	1,040	603	199	174	1,020
Other	5,590	3,600	219	204	1,690
Total	12,600	8,670	510	399	4,730
Powders and flakes	45	41	(3)	--	15
Tetraethyl lead and tetramethyl lead	165	127	7	8	185
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	621,000	378,000	60,000	34,300	609,000
Lead waste and scrap obtained from lead-acid storage batteries (lead content)	1,640	1,130	136	184	1,190
Other lead waste and scrap (lead content)	3,630	2,050	510	719	4,330

-- Zero.

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

²May include revisions to previously published data.

³Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 10
U.S. IMPORTS FOR CONSUMPTION OF UNWROUGHT LEAD, BY COUNTRY OR LOCALITY^{1,2}

(Metric tons, lead content)

Country or locality of origin	2022 ³		2023		
	January– December	January– August	July	August	January– August
Argentina	274	274	--	--	--
Australia	106,000	51,400	21,100	--	43,400
Brazil	3,960	3,960	539	--	3,010
Cambodia	101	101	--	--	--
Canada	172,000	131,000	10,300	13,700	105,000
China	64,500	64,500	--	--	5,070
Colombia	201	201	--	--	--
Congo (Brazzaville)	--	--	175	--	374
Congo (Kinshasa)	1,160	1,160	--	--	--
Ecuador	9,070	6,200	548	350	4,180
Germany	--	--	--	6	6
Ghana	6,880	3,680	742	1,290	6,710
Hungary	62	29	--	--	--
India	2,330	2,310	197	39	1,070
Indonesia	407	407	--	--	--
Kazakhstan	11,500	11,500	10,900	--	38,600
Korea, Republic of	120,000	77,400	3,200	16,400	87,300
Mexico	87,800	58,300	6,020	6,150	45,500
Netherlands	--	--	5	--	5
Nigeria	26,000	19,800	4,820	3,410	16,800
Norway	(4)	--	--	--	--
Pakistan	14,300	10,800	--	--	--
Panama	300	300	--	--	--
Peru	1,530	918	--	54	199
Russia	8,750	8,750	--	--	--
Singapore	(4)	(4)	--	--	--
South Africa	945	500	--	--	40
Spain	675	675	--	--	--
Sweden	(4)	(4)	--	--	3
Taiwan	423	--	--	--	748
Thailand	--	--	92	--	460
Turkey	--	--	--	--	18
United Kingdom	11,200	10,600	547	100	5,090
Venezuela	136	109	110	386	602
Total	651,000	465,000	59,300	41,900	365,000

-- Zero.

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

²Includes refined lead (Quantity 1) of Harmonized Tariff Schedule of the United States (HTS) code 7801.10.0000 and the lead content (Quantity 2) of HTS codes 7801.91.0000, 7801.99.9030, 7801.99.9050. Excludes bullion.

³May include revisions to previously published data.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

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

(Metric tons)

Period	Asia	Europe	Total
2022:			
August	35,200	2,300	37,500
September	30,050	2,225	32,275
October	25,400	2,225	27,625
November	21,725	2,025	23,750
December	23,200	1,950	25,150
2023:			
January	18,700	1,525	20,225
February	23,700	1,400	25,100
March	25,050	1,325	26,375
April	31,025	1,275	32,300
May	35,225	1,225	36,450
June	40,175	1,200	41,375
July	53,925	1,150	55,075
August	53,750	1,100	54,850

Source: London Metal Exchange, Ltd.