

Mineral Industry Surveys

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LEAD IN APRIL 2023

Domestic mine production (recoverable) of lead in April was 23,200 metric tons (t). Average daily mine production in April was 772 t, unchanged from the production in the previous month and 14% less than that in April 2022. Secondary refined lead production in April 2023 was 82,400 t, 5% more than the production in the previous month and unchanged from that in April 2022 (fig. 1; tables 1, 2).

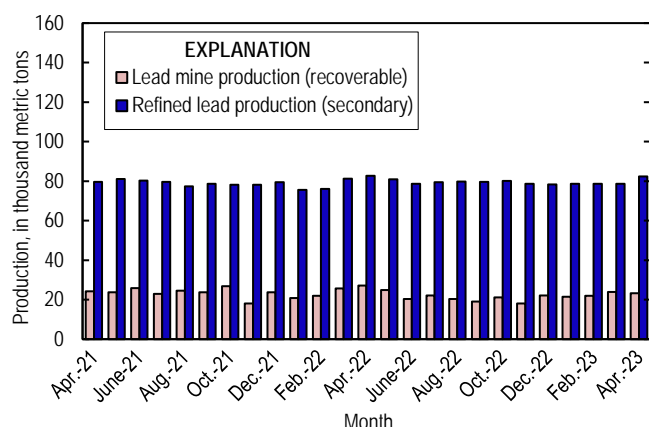


Figure 1. U.S. production of lead from April 2021 through April 2023.

The United States is a significant exporter of lead concentrates. U.S. exports of lead in ores and concentrates through April 2023 were 64,200 t, 24% more than that for the same period in 2022. The destinations in April were Japan (47%), Canada (37%), and China (15%) (table 8). U.S. imports of unwrought lead through April were 199,000 t, 9% less than those for the same period in 2022. Leading import sources in April 2023 were the Republic of Korea (36%), Australia (27%), and Canada (18%) (table 10).

Prices and Stocks

The average London Metal Exchange, Ltd. (LME) cash price for lead in April was 97.5 cents per pound, slightly more from that in the previous month and 10% less than that in April 2022 (table 3). The S&P Global Platts Metals Week (Platts) average North American Market price for lead in April 2023 was \$1.17

per pound, essentially unchanged from that in the previous month and 8% less than that in April 2022.

The North American premium to the LME cash price in April 2023 averaged 19.7 cents per pound, slightly less than that in March 2023 and 6% more than that in April 2022 (fig. 2, table 3).

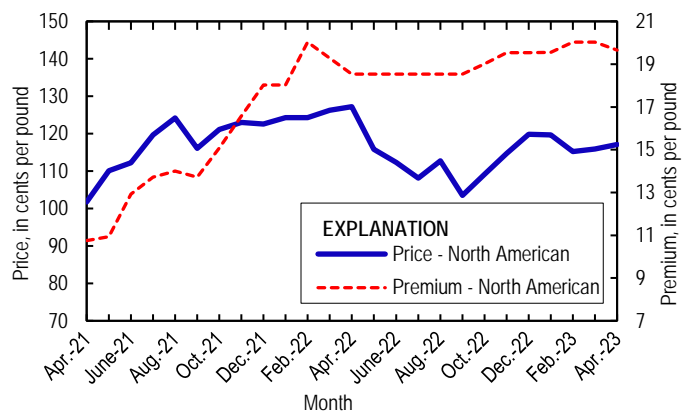


Figure 2. Average monthly North American price and premium for refined lead metal from April 2021 through April 2023. Source: S&P Global Platts Metals Week.

The Platts average U.S. used lead-acid batteries (Midwest) price in April 2023 was 20.3 cents per pound, 3% more than that in March 2023 and 17% less than that in April 2022 (table 3). Most secondary lead is recovered from used lead-acid batteries.

Global LME lead stocks at the end of April 2023 were 32,300 t, 22% more than those at the end of March 2023 and 15% less than those at the end of April 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– April	March	April	January– April
Production:					
Mine (recoverable)	264,000	95,700	23,900 ^r	23,200	90,400
Secondary refinery, reported by smelters/refineries	951,000	315,000	78,600	82,400	318,000
Consumption of refined lead, apparent ^{e, 3}	1,580,000	528,000	112,000	156,000	510,000
Imports for consumption:					
Ore and concentrate	38	25	--	--	(4)
Bullion	--	--	--	--	--
Unwrought	651,000	219,000	35,600	75,500	199,000
Exports:					
Ore and concentrate	255,000	51,600	24,100	7,680	64,200
Bullion (gross weight)	1,550	814	--	--	71
Unwrought (gross weight)	25,800	6,560	2,220	1,740	7,160
S&P Global Platts Metals Week North American Market price (cents per pound)	116.53	125.52	115.93	117.10	116.98

^eEstimated. ^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.

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

⁴Less than ½ unit.

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:			
January	21,500	20,900	75,500
February	22,600	22,000	76,100
March	26,400	25,700	81,200
April	27,800	27,100	82,700
May	25,500	24,800	80,900
June	21,000	20,400	78,600
July	22,800	22,200	79,500
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	22,800	22,200	78,400
January–December	273,000	264,000	951,000
2023:			
January	22,100 ^r	21,500 ^r	78,600
February	22,500 ^r	21,900 ^r	78,600
March	24,600 ^r	23,900 ^r	78,600
April	23,800	23,200	82,400
January–April	93,000	90,400	318,000

^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:				
January	124.26	106.23	2,341.99	24.63
February	124.32	104.29	2,299.16	24.50
March	126.29	106.99	2,358.79	24.40
April	127.21	108.68	2,396.05	24.50
May	115.80	97.27	2,144.48	24.90
June	112.28	93.75	2,066.73	24.50
July	108.14	89.61	1,975.54	23.75
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
January–April	116.98	97.16	2,142.04	19.38

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 APRIL 2023¹

(Metric tons, gross weight)

Item	Stocks March 31, 2023	Net receipts	Consumption	Stocks April 30, 2023
Battery-lead	W	63,700	65,700	W
Other ²	W	6,250	6,120	W
Total	10,400 ¹	70,000	71,800	8,500
Percent change from preceding month ³	XX	-2.1	0.2	-18.1

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 APRIL 2023¹

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	70,400	W	--
Remelt lead	W	--	--
Antimonial lead	11,200	W	W
Other ²	W	--	--
Total lead-base	82,400	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				
January	75,500	72,100	1,700	146,000
February	76,100	53,200 ^r	1,530	128,000
March	81,200	55,900	1,730	135,000
April	82,700	37,600 ^r	1,590	119,000
May	80,900	59,000	3,690 ^r	136,000
June	78,600	74,300	1,950 ^r	151,000
July	79,500	35,300	1,920	113,000
August	79,800	77,900	3,270	154,000
September	79,600	45,100	2,380 ^r	122,000
October	80,100	44,500	1,920	123,000
November	78,600	29,600 ^r	1,960	106,000 ^r
December	78,400	67,000	2,180	143,000
January–December	951,000	651,000 ^r	25,800	1,580,000
2023:				
January	78,600	57,200	1,570	134,000
February	78,600	30,600	1,630	108,000
March	78,600	35,600	2,220	112,000
April	82,400	75,500	1,740	156,000
January–April	318,000	199,000	7,160	510,000

^cEstimated. ^pPreliminary. ^rRevised.

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– April	March	April	January– April
Ores and concentrate (lead content)	255,000	51,600	24,100	7,680	64,200
Bullion	1,550	814	--	--	71
Unwrought:					
Refined lead	4,250	386	420	437	1,630
Refined lead containing antimony as the principal alloying element	1,640	274	126	101	380
Lead alloys	16,900	5,680	1,620	1,180	5,000
Other	2,980	214	55	20	144
Total	25,800	6,560	2,220	1,740	7,160
Wrought:					
Bars, rods, profiles, and wire	910	326	68	103	267
Pipes and tubes, including fittings	23	16	3	1	19
Plates, sheets, strip, foil	6,150	1,530	1,390	966	4,230
Other	3,400	1,010	262	211	785
Total	10,500	2,880	1,730	1,280	5,300
Powders and flakes	330	104	35	103	213
Tetraethyl lead and tetramethyl lead	409	85	52	3	65
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	30,900,000	11,900,000	2,090,000	2,020,000	8,540,000
Lead waste and scrap obtained from lead-acid storage batteries	6,360	1,010	1,540	1,180	8,350
Other lead waste and scrap	36,400	12,900	4,320	2,520	13,400

-- 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 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– April	March	April	January– April
Canada	35,800	11,400	3,780	2,880	16,800
China	103,000	12,300	--	1,190	16,200
Germany	7,980	--	7,090	--	7,090
Italy	7,640	7,640	--	--	--
Japan	27,400	3,520	--	3,620	3,620
Korea, Republic of	46,900	11,900	5,820	--	9,060
Malaysia	243	--	--	--	--
Mexico	16,800	4,150	3,820	--	7,940
Netherlands	7,960	--	--	--	--
Switzerland	--	--	3,560	--	3,560
Vietnam	1,180	663	--	--	--
Total	255,000	51,600	24,100	7,680	64,200

-- 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– April	March	April	January– April
Ores and concentrate (lead content)	38	25	--	--	(3)
Bullion (lead content)	--	--	--	--	--
Unwrought:					
Refined lead	538,000	179,000	28,600	68,700	170,000
Refined lead containing antimony as the principal alloying element (lead content)	50,800	18,700	2,690	2,790	9,640
Lead alloys (lead content)	22,000	7,690	1,200	921	5,920
Other (lead content)	41,000	13,500	3,140	3,090	13,200
Total	651,000	219,000	35,600	75,500	199,000
Wrought:					
Bars, rods, profiles, and wire	5,930	2,780	458	665	1,760
Pipes and tubes, including fittings	19	9	--	2	11
Plates, sheets, strip, foil	1,040	287	167	76	399
Other	5,590	2,020	186	207	815
Total	12,600	5,100	811	951	2,980
Powders and flakes	45	21	10	--	11
Tetraethyl lead and tetramethyl lead	165	91	--	29	46
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	621,000	192,000	80,200	99,500	396,000
Lead waste and scrap obtained from lead-acid storage batteries (lead content)	1,640	565	166	105	585
Other lead waste and scrap (lead content)	3,630	754	556	656	1,930

-- 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– April	March	April	January– April
Argentina	274	274	--	--	--
Australia	106,000	19,500	2,240	20,100	22,300
Brazil	3,960	2,100	332	436	2,030
Cambodia	101	--	--	--	--
Canada	172,000	68,000	12,800	13,900	53,900
China	64,500	20,000	3,060	--	5,070
Colombia	201	--	--	--	--
Congo (Brazzaville)	--	--	--	98	98
Congo (Kinshasa)	1,160	1,010	--	--	--
Ecuador	9,070	4,340	395	493	2,180
Ghana	6,880	1,790	397	1,710	2,110
Hungary	62	--	--	--	--
India	2,330	185	--	428	464
Indonesia	407	--	--	--	--
Kazakhstan	11,500	8,640	6,320	--	27,700
Korea, Republic of	120,000	39,600	3,060	27,200	52,900
Mexico	87,800	32,100	5,770	4,760	21,600
Nigeria	26,000	8,810	1,150	1,900	3,070
Norway	(4)	--	--	--	--
Pakistan	14,300	--	--	--	--
Panama	300	300	--	--	--
Peru	1,530	352	--	--	72
Russia	8,750	5,840	--	--	--
Singapore	(4)	(4)	--	--	--
South Africa	945	298	20	--	20
Spain	675	675	--	--	--
Sweden	(4)	--	--	--	3
Taiwan	423	--	--	--	748
Thailand	--	--	--	92	92
Turkey	--	--	--	--	18
United Kingdom	11,200	4,870	--	4,440	4,440
Venezuela	136	54	25	--	52
Total	651,000	219,000	35,600	75,500	199,000

-- 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:			
January	47,150	5,325	52,475
February	40,000	4,300	44,300
March	34,525	4,200	38,725
April	34,025	4,100	38,125
May	35,100	3,700	38,800
June	36,700	2,800	39,500
July	36,300	2,575	38,875
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

Source: London Metal Exchange, Ltd.