

Mineral Industry Surveys

For information, contact:

Kateryna Klochko, Lead Commodity Specialist
National Minerals Information Center
U.S. Geological Survey
Telephone: (703) 648-4977
Email: kklochko@usgs.gov

Christine Pisut (Data)

Telephone: (703) 648-7942

Email: cpisut@usgs.gov

Internet: <https://www.usgs.gov/centers/national-minerals-information-center/mineral-industry-surveys>

LEAD IN MAY 2023

Domestic mine production (recoverable) of lead in May was 24,200 metric tons (t). Average daily mine production in May was 780 t, unchanged from the revised production in the previous month and 3% less than that in May 2022. Secondary refined lead production in May 2023 was 80,900 t, unchanged from the revised production in the previous month and in May 2022 (fig. 1; tables 1, 2).

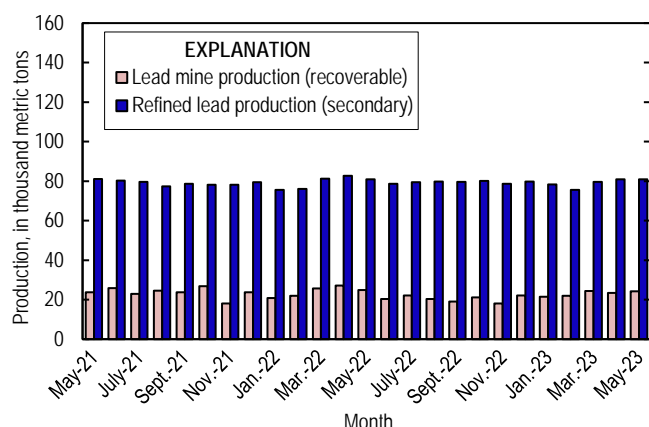


Figure 1. U.S. production of lead from May 2021 through May 2023.

The United States is a significant exporter of lead concentrates. U.S. exports of lead in ores and concentrates through May 2023 were 77,900 t, 9% more than that for the same period in 2022. The destinations in May were Germany (52%), Mexico (27%), and Canada (21%) (table 8). U.S. imports of unwrought lead through May were 236,000 t, 15% less than those for the same period in 2022. Leading import sources in May 2023 were Canada (38%), the Republic of Korea (29%), and Mexico (16%) (table 10).

Prices and Stocks

The average London Metal Exchange, Ltd. (LME) cash price for lead in May was 94.7 cents per pound, 3% less than that in the previous month and in May 2022 (table 3). The S&P Global Platts Metals Week (Platts) average North American Market price for lead in May 2023 was \$1.14 per pound, 3% less than

that in the previous month and slightly less than that in May 2022.

The North American premium to the LME cash price in May 2023 averaged 19.2 cents per pound, slightly less than that in April 2023 and 4% more than that in May 2022 (fig. 2, table 3).

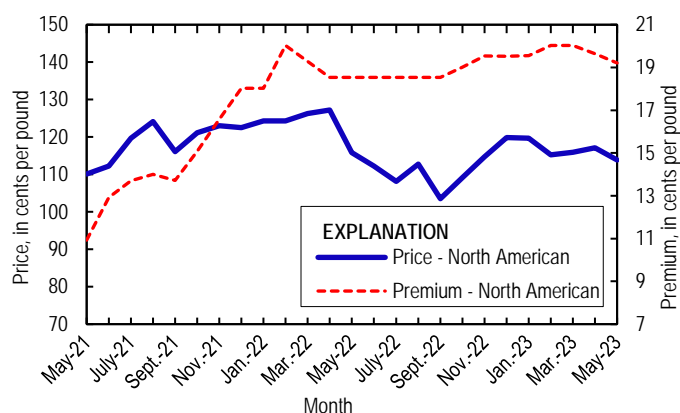


Figure 2. Average monthly North American price and premium for refined lead metal from May 2021 through May 2023. Source: S&P Global Platts Metals Week.

The Platts average U.S. used lead-acid batteries (Midwest) price in May 2023 was 20.5 cents per pound, essentially unchanged from that in April 2023 and 18% less than that in May 2022 (table 3). Most secondary lead is recovered from used lead-acid batteries.

Global LME lead stocks at the end of May 2023 were 36,450 t, 13% more than those at the end of April 2023 and 6% less than those at the end of May 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– May	April	May	January– May
Production:					
Mine (recoverable)	264,000	120,000	23,400 ^r	24,200	115,000
Secondary refinery, reported by smelters/refineries	960,000	404,000	80,900 ^r	80,900	395,000
Consumption of refined lead, apparent ^{e, 3}	1,590,000	671,000	155,000 ^r	115,000	622,000
Imports for consumption:					
Ore and concentrate	38	31	--	1	1
Bullion	--	--	--	--	--
Unwrought	651,000	278,000	75,500	37,000	236,000
Exports:					
Ore and concentrate	255,000	71,600	7,680	13,700	77,900
Bullion (gross weight)	1,550	1,030	--	97	167
Unwrought (gross weight)	25,800	10,200	1,740	2,580	9,740
S&P Global Platts Metals Week North American Market price (cents per pound)	116.53	123.58	117.10	113.86	116.35

^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.

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:			
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	79,800 ^r
January–December	273,000	264,000	960,000 ^r
2023:			
January	22,100	21,500	78,400 ^r
February	22,500	21,900	75,600 ^r
March	25,100 ^r	24,400 ^r	79,600 ^r
April	24,100 ^r	23,400 ^r	80,900 ^r
May	24,900	24,200	80,900
January–May	119,000	115,000	395,000

^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:				
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
May	113.86	94.66	2,086.84	20.50
January–May	116.36	96.66	2,131.00	19.60

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 MAY 2023¹

(Metric tons, gross weight)

Item	Stocks April 30, 2023	Net receipts	Consumption	Stocks May 31, 2023
Battery-lead	W	64,300	64,300	W
Other ²	W	6,120	6,120	W
Total	6,260 ¹	70,400	70,400	6,260
Percent change from preceding month ³	XX	2.7	0.0	0.0

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 MAY 2023¹

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	68,900	W	--
Remelt lead	W	--	--
Antimonial lead	11,200	W	W
Other ²	W	--	--
Total lead-base	80,900	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 ^e	Imports ^{2, 3}	Exports ^{2, 3}	Apparent consumption ⁴
2022: ^p				
May	80,900	59,000	3,690	136,000
June	78,600	74,300	1,950	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	122,000
October	80,100	44,500	1,920	123,000
November	78,600	29,600	1,960	106,000
December	79,800 ^r	67,000	2,180	145,000 ^r
January–December	960,000 ^r	651,000	25,800	1,590,000 ^r
2023:				
January	78,400 ^r	57,200	1,570	134,000
February	75,600 ^r	30,600	1,630	105,000 ^r
March	79,600 ^r	35,600	2,220	113,000 ^r
April	80,900 ^r	75,500	1,740	155,000 ^r
May	80,900	37,000	2,580	115,000
January–May	395,000	236,000	9,740	622,000

^eEstimated. ^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– May	April	May	January– May
Ores and concentrate (lead content)	255,000	71,600	7,680	13,700	77,900
Bullion	1,550	1,030	--	97	167
Unwrought:					
Refined lead	4,250	743	437	1,090	2,720
Refined lead containing antimony as the principal alloying element	1,640	333	101	86	465
Lead alloys	16,900	7,440	1,180	1,360	6,370
Other	2,980	1,730	20	43	187
Total	25,800	10,200	1,740	2,580	9,740
Wrought:					
Bars, rods, profiles, and wire	910	432	103	140	408
Pipes and tubes, including fittings	23	18	1	8	27
Plates, sheets, strip, foil	6,150	2,010	966	1,110	5,330
Other	3,400	1,260	211	210	995
Total	10,500	3,710	1,280	1,460	6,760
Powders and flakes	330	141	103	33	246
Tetraethyl lead and tetramethyl lead	409	130	3	10	74
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	30,900,000	14,400,000	2,020,000	2,580,000	11,100,000
Lead waste and scrap obtained from lead-acid storage batteries	6,360	1,680	1,180	2,560	10,900
Other lead waste and scrap	36,400	15,700	2,520	3,340	16,800

-- 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– May	April	May	January– May
Canada	35,800	14,000	2,880	2,810	19,600
China	103,000	12,300	1,190	--	16,200
Germany	7,980	--	--	7,150	14,200
Italy	7,640	7,640	--	--	--
Japan	27,400	3,520	3,620	--	3,620
Korea, Republic of	46,900	25,200	--	--	9,060
Malaysia	243	--	--	--	--
Mexico	16,800	8,210	--	3,690	11,600
Netherlands	7,960	--	--	--	--
Switzerland	--	--	--	--	3,560
Vietnam	1,180	663	--	--	--
Total	255,000	71,600	7,680	13,700	77,900

-- 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– May	April	May	January– May
Ores and concentrate (lead content)	38	31	--	1	1
Bullion (lead content)	--	--	--	--	--
Unwrought:					
Refined lead	538,000	223,000	68,700	32,900	203,000
Refined lead containing antimony as the principal alloying element (lead content)	50,800	27,000	2,790	1,200	10,800
Lead alloys (lead content)	22,000	9,920	921	560	6,480
Other (lead content)	41,000	17,700	3,090	2,300	15,500
Total	651,000	278,000	75,500	37,000	236,000
Wrought:					
Bars, rods, profiles, and wire	5,930	3,500	665	37	1,800
Pipes and tubes, including fittings	19	9	2	7	18
Plates, sheets, strip, foil	1,040	320	76	144	542
Other	5,590	2,350	207	173	988
Total	12,600	6,170	951	361	3,350
Powders and flakes	45	41	--	4	15
Tetraethyl lead and tetramethyl lead	165	100	29	12	58
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	621,000	242,000	99,500	84,900	481,000
Lead waste and scrap obtained from lead-acid storage batteries (lead content)	1,640	691	105	115	701
Other lead waste and scrap (lead content)	3,630	1,160	656	564	2,500

-- Zero.

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

²May include revisions to previously published data.

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– May	April	May	January– May
Argentina	274	274	--	--	--
Australia	106,000	21,600	20,100	--	22,300
Brazil	3,960	2,100	436	437	2,470
Cambodia	101	--	--	--	--
Canada	172,000	89,200	13,900	14,200	68,100
China	64,500	32,400	--	--	5,070
Colombia	201	--	--	--	--
Congo (Brazzaville)	--	--	98	100	198
Congo (Kinshasa)	1,160	1,160	--	--	--
Ecuador	9,070	4,760	493	800	2,980
Ghana	6,880	2,490	1,710	1,140	3,240
Hungary	62	--	--	--	--
India	2,330	839	428	314	778
Indonesia	407	--	--	--	--
Kazakhstan	11,500	8,640	--	--	27,700
Korea, Republic of	120,000	48,600	27,200	10,600	63,500
Mexico	87,800	39,100	4,760	5,800	27,400
Nigeria	26,000	13,800	1,900	3,460	6,540
Norway	(4)	--	--	--	--
Pakistan	14,300	--	--	--	--
Panama	300	300	--	--	--
Peru	1,530	573	--	36	108
Russia	8,750	5,840	--	--	--
Singapore	(4)	(4)	--	--	--
South Africa	945	298	--	--	20
Spain	675	675	--	--	--
Sweden	(4)	(4)	--	--	3
Taiwan	423	--	--	--	748
Thailand	--	--	92	92	184
Turkey	--	--	--	--	18
United Kingdom	11,200	5,170	4,440	--	4,440
Venezuela	136	82	--	--	52
Total	651,000	278,000	75,500	37,000	236,000

-- 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:			
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
May	35,225	1,225	36,450

Source: London Metal Exchange, Ltd.