

# Mineral Industry Surveys

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## LEAD IN JANUARY 2023

Domestic mine production (recoverable) of lead in January was 21,300 metric tons (t). Average daily mine production in January was 687 t, 4% less than the production in the previous month and slightly more than that in January 2022.

Secondary refined lead production in January 2023 was 78,400 t, unchanged from the production in the previous month and 4% more than that in January 2022 (fig. 1; tables 1, 2).

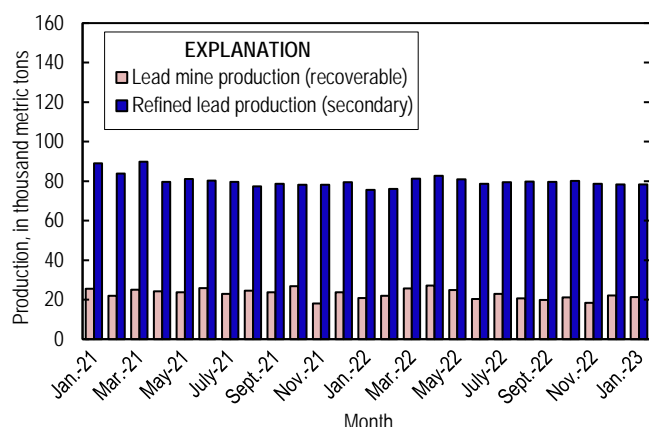


Figure 1. U.S. production of lead from January 2021 through January 2023.

The United States is a significant exporter of lead concentrates. U.S. exports of lead in ores and concentrates in January 2023 were 18,600 t, almost 8 times more than that for the same period in 2022. The destinations in January were China (42%), Mexico (22%), Canada (19%), and the Republic of Korea (17%) (table 8). U.S. imports of unwrought lead in January were 57,200 t, 21% less than those for the same period in 2022. Leading import sources in January 2023 were Kazakhstan (37%), Canada (23%), and the Republic of Korea (21%) (table 10).

## Prices and Stocks

The average London Metal Exchange, Ltd. (LME) cash price for lead in January was \$1 per pound, unchanged from that in the previous month and 6% less than that in January 2022 (table 3). The S&P Global Platts Metals Week (Platts) average North

American Market price for lead in January 2023 was \$1.20 per pound, unchanged from that in the previous month and 4% less than that in January 2022.

The North American premium to the LME cash price in January 2023 averaged 19.6 cents per pound, unchanged from that in December 2022 and 8% more than that in January 2022 (fig. 2, table 3).

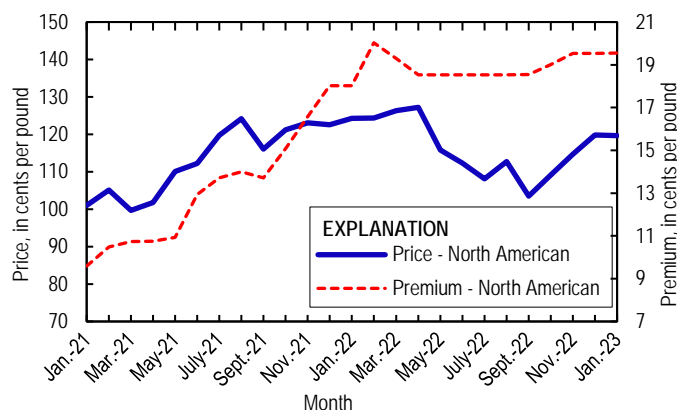


Figure 2. Average monthly North American price and premium for refined lead metal from January 2021 through January 2023. Source: S&P Global Platts Metals Week.

The Platts average U.S. used lead-acid batteries (Midwest) price in January 2023 was 19 cents per pound, 3% more than that in December 2022 and 23% less than that in January 2022 (table 3). Most secondary lead is recovered from used lead-acid batteries.

Global LME lead stocks at the end of January 2023 were 20,225 t, 20% less than those at the end of December 2022 and 61% less than those at the end of January 2022 (table 11).

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TABLE 1  
SALIENT LEAD STATISTICS IN THE UNITED STATES<sup>1</sup>

(Metric tons, lead content, unless otherwise specified)

	2021 <sup>2</sup>	2022 <sup>2</sup>			2023 January
		January	December	January– December	
Production:					
Mine (recoverable)	286,000	20,900 <sup>r</sup>	22,200	266,000	21,300
Secondary refinery, reported by smelters/refineries	975,000	75,500	78,400	951,000	78,400
Consumption of refined lead, apparent <sup>e, 3</sup>	1,570,000	146,000	143,000	1,580,000	134,000
Imports for consumption:					
Ore and concentrate	839	--	--	38	--
Bullion	79	--	--	--	--
Unwrought	613,000	72,100	67,000	652,000	57,200
Exports:					
Ore and concentrate	262,000	2,450	12,500	258,000	18,600
Bullion (gross weight)	1,940	117	10	1,550	71
Unwrought (gross weight)	21,500	1,700	2,180	25,800	1,570
S&P Global Platts Metals Week North American Market price (cents per pound)	113.04	124.26	119.86	116.53	119.69

<sup>e</sup>Estimated. <sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>May include revisions to previously published data.

<sup>3</sup>Secondary 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 STATES<sup>1</sup>

(Metric tons)

Period	Mine		Secondary refinery <sup>c</sup>
	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	23,500	22,900	79,500
August	22,500	20,700	79,800
September	20,300	19,800	79,600
October	21,800	21,200	80,100
November	19,000	18,400	78,600
December	22,900	22,200	78,400
January–December	275,000	266,000	951,000
2023, January	21,900	21,300	78,400

<sup>c</sup>Estimated.

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

TABLE 3  
MONTHLY AVERAGE LEAD PRICES

	North American Market <sup>1</sup>	London Metal Exchange (LME) cash		Used lead-acid batteries <sup>2</sup>
	¢/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

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

<sup>2</sup>S&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 JANUARY 2023<sup>1</sup>

(Metric tons, gross weight)

Item	Stocks December 31, 2022	Net receipts	Consumption	Stocks January 31, 2023
Battery-lead	W	62,400	62,400	W
Other <sup>2</sup>	W	5,690	5,690	W
Total	11,100	68,100	68,100	11,100
Percent change from preceding month <sup>3</sup>	XX	-1.7	0.0	0.0

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

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

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

<sup>3</sup>Based on unrounded data; preceding monthly data may have been revised.

TABLE 5  
LEAD, TIN, AND ANTIMONY RECOVERED FROM  
LEAD-BASE SCRAP IN JANUARY 2023<sup>1</sup>

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	66,000	W	--
Remelt lead	W	--	--
Antimonial lead	11,900	W	W
Other <sup>2</sup>	W	--	--
Total lead-base	78,400	174	W

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

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

<sup>2</sup>Includes cable lead, lead-base babbitt, solder, type metals, and other products.

TABLE 6  
U.S. APPARENT CONSUMPTION OF LEAD<sup>1</sup>

(Metric tons)

Period	Production <sup>c</sup>	Imports <sup>2, 3</sup>	Exports <sup>2, 3</sup>	Apparent consumption <sup>4</sup>
2022: <sup>p</sup>				
January	75,500	72,100	1,700	146,000
February	76,100	53,300	1,530	128,000
March	81,200	55,900	1,730	135,000
April	82,700	37,400	1,590	119,000
May	80,900	59,000	3,730	136,000
June	78,600	74,300	1,910	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	2,400	122,000
October	80,100	44,500	1,920	123,000
November	78,600	29,900	1,960	107,000
December	78,400	67,000	2,180	143,000
January–December	951,000	652,000	25,800	1,580,000
2023, January	78,400	57,200	1,570	134,000

<sup>c</sup>Estimated. <sup>p</sup>Preliminary.

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

<sup>2</sup>Import 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.

<sup>3</sup>Source: U.S. Census Bureau.

<sup>4</sup>Smelter production plus imports for consumption minus domestic exports.

TABLE 7  
U.S. EXPORTS OF LEAD, BY CLASS<sup>1</sup>

(Metric tons, gross weight, unless otherwise specified)

Class	2021 <sup>2</sup>	2022 <sup>2</sup>			2023 January
		January	December	January– December	
Ores and concentrate (lead content)	262,000	2,450	12,500	258,000	18,600
Bullion	1,940	117	10	1,550	71
Unwrought:					
Refined lead	907	58	383	4,270	262
Refined lead containing antimony as the principal alloying element	830	53	51	1,640	100
Lead alloys	18,400	1,520	1,660	16,900	1,180
Other	1,430	71	78	2,980	31
Total	21,500	1,700	2,180	25,800	1,570
Wrought:					
Bars, rods, profiles, and wire	886	37	68	910	41
Pipes and tubes, including fittings	61	9	--	23	7
Plates, sheets, strip, foil	4,230	437	863	6,160	1,190
Other	6,080	292	131	3,400	167
Total	11,200	775	1,060	10,500	1,400
Powders and flakes	337	6	63	330	51
Tetraethyl lead and tetramethyl lead	213	39	72	409	8
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	35,400,000	3,020,000	2,310,000	31,000,000	2,420,000
Lead waste and scrap obtained from lead-acid storage batteries	--	--	1,640	6,320	3,000
Other lead waste and scrap	37,600	2,960	2,450	36,400	3,230

-- Zero.

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

<sup>2</sup>May include revisions to previously published data.

Source: U.S. Census Bureau.



TABLE 8  
U.S. EXPORTS OF LEAD ORES AND CONCENTRATES, BY COUNTRY OR LOCALITY<sup>1</sup>

(Metric tons, lead content)

Country or locality	2021 <sup>2</sup>	2022 <sup>2</sup>			2023 January
		January	December	January– December	
Canada	34,300	2,020	2,830	35,800	3,510
China	107,000	--	9,440	107,000	7,780
Germany	14,500	--	--	7,980	--
Italy	14,500	--	--	7,640	--
Japan	24,600	--	93	27,300	--
Korea, Republic of	37,900	--	--	46,900	3,240
Malaysia	--	--	122	122	--
Mexico	22,200	24	53	16,800	4,090
Netherlands	3,980	--	--	7,960	--
Philippines	81	--	--	--	--
Thailand	430	--	--	--	--
Vietnam	2,120	398	--	1,190	--
Total	262,000	2,450	12,500	258,000	18,600

-- Zero.

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

<sup>2</sup>May include revisions to previously published data.

Source: U.S. Census Bureau.

TABLE 9  
U.S. IMPORTS FOR CONSUMPTION OF LEAD, BY CLASS<sup>1</sup>

(Metric tons, gross weight, unless otherwise specified)

Class	2021 <sup>2</sup>	2022 <sup>2</sup>			2023 January
		January	December	January– December	
Ores and concentrate (lead content)	839	--	--	38	--
Bullion (lead content)	79	--	--	--	--
Unwrought:					
Refined lead	487,000	65,600	60,500	538,000	49,200
Refined lead containing antimony as the principal alloying element (lead content)	33,200	2,680	2,400	50,800	2,070
Lead alloys (lead content)	18,600	2,040	1,430	22,100	1,880
Other (lead content)	74,400	1,760	2,680	41,000	4,130
Total	613,000	72,100	67,000	652,000	57,200
Wrought:					
Bars, rods, profiles, and wire	6,540	908	367	5,940	346
Pipes and tubes, including fittings	33	2	1	19	4
Plates, sheets, strip, foil	1,040	52	108	1,020	101
Other	3,810	209	308	5,590	275
Total	11,400	1,170	784	12,600	727
Powders and flakes	62	( <sup>3</sup> )	--	45	--
Tetraethyl lead and tetramethyl lead	102	49	20	165	17
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	5,170,000	25,300	10,300	621,000	44,700
Lead waste and scrap obtained from lead-acid storage batteries (lead content)	2,640	104	178	1,640	118
Other lead waste and scrap (lead content)	2,100	100	468	3,630	355

-- Zero.

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

<sup>2</sup>May include revisions to previously published data.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 10  
U.S. IMPORTS FOR CONSUMPTION OF UNWROUGHT LEAD, BY COUNTRY OR LOCALITY<sup>1,2</sup>

(Metric tons, lead content)

Country or locality of origin	2021 <sup>3</sup>	2022 <sup>3</sup>		January– December	2023 January
		January	December		
Argentina	--	--	--	274	--
Australia	45,500	4,520	8,000	106,000	--
Austria	203	--	--	--	--
Azerbaijan	719	--	--	--	--
Belgium	23,100	--	--	--	--
Brazil	2,250	--	--	3,960	965
Cambodia	--	--	--	101	--
Canada	194,000	15,100	8,810	172,000	13,100
Chile	3,290	--	--	--	--
China	16,500	20,000	--	64,500	2,010
Colombia	67	--	--	201	--
Congo (Kinshasa)	711	502	--	1,160	--
Dominican Republic	1,010	--	--	--	--
Ecuador	4,560	468	1,630	9,070	745
Egypt	949	--	--	--	--
France	3,850	--	--	--	--
Germany	51,900	--	--	--	--
Ghana	5,390	599	396	6,880	--
Hungary	--	--	--	62	--
India	500	--	18	2,330	37
Indonesia	--	--	--	407	--
Israel	571	--	--	--	--
Italy	3,370	--	--	--	--
Kazakhstan	26,400	--	--	11,400	21,300
Korea, Republic of	54,100	15,100	34,200	120,000	12,100
Malaysia	124	--	--	--	--
Mexico	84,900	9,290	7,900	87,800	6,170
Nigeria	11,000	2,550	1,590	26,000	25
Norway	--	--	--	(4)	--
Pakistan	16	--	3,450	14,300	--
Panama	640	--	--	300	--
Peru	547	50	175	1,530	--
Poland	49	--	--	--	--
Russia	38,100	2,980	--	8,900	--
Serbia	302	--	--	--	--
Singapore	--	--	--	(4)	--
South Africa	1,700	--	225	945	--
Spain	2,680	675	--	675	--
Sweden	10,400	--	--	(4)	3
Switzerland	1	--	--	--	--
Taiwan	--	--	423	423	748
Turkey	--	--	--	--	18
Ukraine	176	--	--	--	--
United Kingdom	23,700	215	219	11,200	--
Venezuela	217	--	--	136	--
Total	613,000	72,100	67,000	652,000	57,200

-- Zero.

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

<sup>2</sup>Includes 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.

<sup>3</sup>May include revisions to previously published data.

<sup>4</sup>Less 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

Source: London Metal Exchange, Ltd.