

Mineral Industry Surveys

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LEAD IN OCTOBER 2022

Domestic mine production (recoverable) of lead in October was 23,600 metric tons (t). Average daily mine production in October was 761 t, 14% more than production in the previous month and 12% less than that in October 2021.

Secondary refined lead production in October 2022 was 80,100 t, essentially unchanged from production in the previous month and slightly more than that in October 2021 (fig. 1; tables 1, 2).

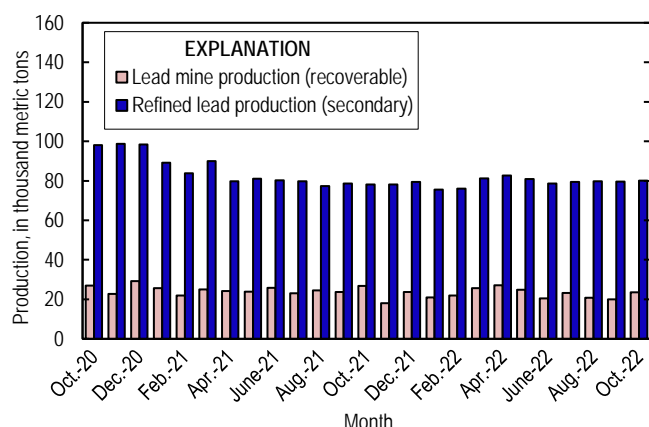


Figure 1. U.S. production of lead from October 2020 through October 2022.

The United States is a significant exporter of lead concentrates. U.S. exports of lead in ores and concentrates through October 2022 were 233,000 t, unchanged from that for the same period in 2021. The destinations in October were China (70%), the Republic of Korea (17%), and Canada (13%) (table 8). U.S. imports of unwrought lead through October were 555,000 t, 7% more than those for the same period in 2021. Leading import sources in October were Australia (51%), Canada (22%), and Mexico (16%) (table 10).

Prices and Stocks

The average London Metal Exchange, Ltd. (LME) cash price for lead in October was \$0.90 per pound, 6% more than that in the previous month and 15% less than that in October 2021 (table 3). The S&P Global Platts Metals Week (Platts) average

North American Market price for lead in October 2022 was \$1.09 per pound, 5% more than that in the previous month and 10% lower than that in October 2021.

The North American premium to the LME cash price in October 2022 averaged 19 cents per pound, 3% more than that in September 2022 and 26% more than that in October 2021 (fig. 2, table 3).

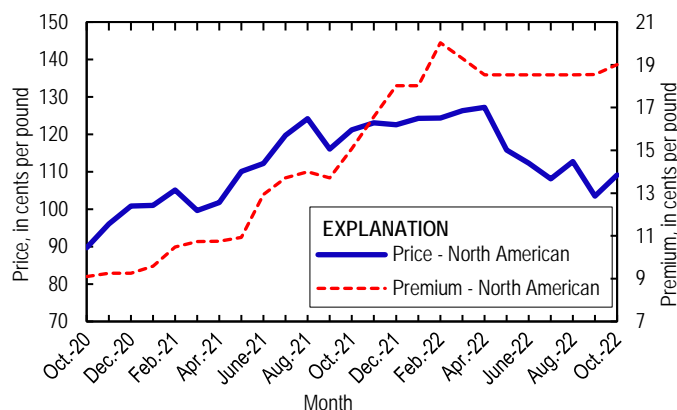


Figure 2. Average monthly North American price and premium for refined lead metal from October 2020 through October 2022. Source: S&P Global Platts Metals Week.

The Platts average U.S. used lead-acid batteries (Midwest) price in October 2022 was 20 cents per pound, 7% less than that in September and 29% less than that in October 2021 (table 3). Most secondary lead is recovered from used lead-acid batteries.

Global LME lead stocks at the end of October 2022 were 27,625 t, 14% less than those at the end of September 2022 and 50% less than those at the end of October 2021 (table 11).

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TABLE 1
SALIENT LEAD STATISTICS IN THE UNITED STATES¹

(Metric tons, lead content, unless otherwise specified)

	2021 ²		2022		
	January– December	January– October	September	October	January– October
Production:					
Mine (recoverable)	286,000	244,000	20,000	23,600	229,000
Secondary refinery, reported by smelters/refineries	975,000	818,000	79,600 ^r	80,100	794,000
Consumption of refined lead, apparent ^{e, 3}	1,570,000	1,320,000	122,000	123,000	1,330,000
Imports for consumption:					
Ore and concentrate	839	828	--	--	38
Bullion	79	61	--	--	--
Unwrought	613,000	518,000	45,100	44,500	555,000
Exports:					
Ore and concentrate	262,000	233,000	33,900	20,400	233,000
Bullion (gross weight)	1,940	1,640	74	--	1,440
Unwrought (gross weight)	21,500	18,400	2,400	1,920	21,700
S&P Global Platts Metals Week North American Market price (cents per pound)	113.04	111.09	103.52	109.16	116.37

^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	
2021:			
October	27,500	26,800	78,200
November	18,500	18,000	78,200
December	24,400	23,700	79,400
January–December	294,000	286,000	975,000
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	24,000	23,300	79,500
August	22,700	20,800	79,800
September	20,600	20,000	79,600 ^r
October	24,300	23,600	80,100
January–October	236,000	229,000	794,000

^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
2021:				
October	121.16	106.09	2,338.83	28.31
November	123.03	106.46	2,346.94	26.20
December	122.54	104.52	2,304.20	25.38
January–December	113.04	100.00	2,204.58	30.06
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
January–October	116.37	97.62	2,152.10	23.54

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 OCTOBER 2022¹

(Metric tons, gross weight)

Item	Stocks September 30, 2022	Net receipts	Consumption	Stocks October 31, 2022
Battery-lead	W	61,700	61,500	W
Other ²	W	5,880	7,010	W
Total	11,800 ^r	67,500	68,500	10,800
Percent change from preceding month ³	XX	-1.7	-1.3	-8.5

W Withheld to avoid disclosing company proprietary data; included in "Total." ^rRevised. 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 OCTOBER 2022¹

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	66,900	W	--
Remelt lead	W	--	--
Antimonial lead	12,500	W	W
Other ²	W	--	--
Total lead-base	80,100	178	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	Imports ^{2, 3}	Exports ^{2, 3}	Apparent consumption ⁴
2021: ^p				
October	78,200	54,700	1,790	131,000
November	78,200	37,400	1,850	114,000
December	79,400	58,000	1,320	136,000
January–December	975,000	613,000	21,500	1,570,000
2022:				
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 ^r	45,100	2,400	122,000
October	80,100	44,500	1,920	123,000
January–October	794,000	555,000	21,700	1,330,000

^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	2021 ²		2022		
	January– December	January– October	September	October	January– October
Ores and concentrate (lead content)	262,000	233,000	33,900	20,400	233,000
Bullion	1,940	1,640	74	--	1,440
Unwrought:					
Refined lead	907	848	508	470	3,720
Refined lead containing antimony as the principal alloying element	830	808	473	129	1,200
Lead alloys	18,400	15,600	1,400	1,300	13,900
Other	1,430	1,130	20	17	2,880
Total	21,500	18,400	2,400	1,920	21,700
Wrought:					
Bars, rods, profiles, and wire	886	703	42	100	763
Pipes and tubes, including fittings	61	51	--	--	23
Plates, sheets, strip, foil	4,230	3,710	413	678	4,390
Other	6,080	4,730	348	319	3,090
Total	11,200	9,200	804	1,100	8,260
Powders and flakes	337	234	23	40	247
Tetraethyl lead and tetramethyl lead	213	170	32	13	284
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	35,400,000	28,900,000	2,030,000	2,150,000	26,700,000
Lead waste and scrap obtained from lead-acid storage batteries	--	--	--	1,030	3,480
Other lead waste and scrap	37,600	30,600	3,570	2,920	30,800

-- 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	2021 ²		2022		
	January– December	January– October	September	October	January– October
Canada	34,300	30,300	2,080	2,730	30,500
China	107,000	106,000	16,600	14,200	91,300
Germany	14,500	14,500	--	--	7,980
Italy	14,500	7,190	--	--	7,640
Japan	24,600	24,500	6,380	--	27,200
Korea, Republic of	37,900	32,100	8,380	3,480	46,900
Mexico	22,200	11,200	521	--	12,600
Netherlands	3,980	3,980	--	--	7,960
Philippines	81	81	--	--	--
Thailand	430	430	--	--	--
Vietnam	2,120	2,120	--	--	1,190
Total	262,000	233,000	33,900	20,400	233,000

-- 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	2021 ²		2022		
	January– December	January– October	September	October	January– October
Ores and concentrate (lead content)	839	828	--	--	38
Bullion (lead content)	79	61	--	--	--
Unwrought:					
Refined lead	487,000	412,000	38,400	37,000	455,000
Refined lead containing antimony as the principal alloying element (lead content)	33,200	27,700	1,820	2,440	46,000
Lead alloys (lead content)	18,600	14,400	1,920	1,650	18,900
Other (lead content)	74,400	64,100	2,940	3,350	34,400
Total	613,000	518,000	45,100	44,500	555,000
Wrought:					
Bars, rods, profiles, and wire	6,540	6,010	272	287	5,020
Pipes and tubes, including fittings	33	33	1	3	17
Plates, sheets, strip, foil	1,040	897	100	153	837
Other	3,810	2,700	578	304	4,490
Total	11,400	9,640	951	747	10,400
Powders and flakes	62	61	1	2	44
Tetraethyl lead and tetramethyl lead	102	50	10	8	146
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	5,170,000	5,090,000	113,000	59,600	551,000
Lead waste and scrap obtained from lead-acid storage batteries (lead content)	2,640	2,330	105	77	1,310
Other lead waste and scrap (lead content)	2,100	1,730	258	386	2,700

-- 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 LOCALITY¹

(Metric tons, lead content)

Material and country or locality of origin	2021 ²		2022		
	January– December	January– October	September	October	January– October
Refined lead:					
Australia	38,900	32,600	23,400	22,700	96,800
Austria	203	--	--	--	--
Azerbaijan	719	517	--	--	--
Belgium	23,100	23,100	--	--	--
Brazil	2,150	2,150	--	--	3,960
Cambodia	--	--	--	--	101
Canada	93,000	75,800	6,140	4,630	70,600
Chile	3,090	3,090	--	--	--
China	16,500	--	--	(3)	64,500
Colombia	--	--	--	--	201
Congo (Kinshasa)	711	312	--	--	1,160
Dominican Republic	255	255	--	--	--
Ecuador	4,000	3,300	300	550	6,400
France	3,850	3,850	--	--	--
Germany	51,900	50,600	--	--	--
Ghana	5,140	3,260	793	1,410	5,840
Hungary	--	--	14	--	14
India	23	23	--	--	1,610
Indonesia	--	--	--	--	407
Israel	571	571	--	--	--
Italy	3,370	3,370	--	--	--
Kazakhstan	26,400	17,400	--	--	11,400
Korea, Republic of	54,000	54,000	--	--	77,400
Malaysia	124	124	--	--	--
Mexico	74,700	61,900	6,110	5,490	67,000
Nigeria	11,000	7,400	1,380	2,150	22,600
Pakistan	--	--	--	--	10,800
Panama	150	--	--	--	300
Peru	547	547	240	100	1,260
Poland	49	49	--	--	--
Russia	37,900	33,500	--	--	8,820
Serbia	302	302	--	--	--
Singapore	--	--	--	--	(3)
South Africa	1,700	1,080	--	--	500
Spain	2,680	2,680	--	--	675
Sweden	10,400	10,400	--	--	--
Switzerland	1	1	--	--	--
Ukraine	176	176	--	--	--
United Kingdom	19,600	19,500	25	--	3,090
Total	487,000	412,000	38,400	37,000	455,000
Other unwrought lead: ⁴					
Argentina	--	--	--	--	274
Australia	6,580	6,190	--	--	662
Brazil	99	99	--	--	--
Canada	101,000	83,200	6,210	5,250	83,100
Chile	199	199	--	--	--
Colombia	67	67	--	--	--
Dominican Republic	751	604	--	--	--
Ecuador	556	445	45	--	425
Egypt	949	949	--	--	--
Germany	3	3	--	--	--
Ghana	249	38	--	--	46
Hungary	--	--	--	19	48
India	478	326	--	--	695
Korea, Republic of	50	50	--	--	--
Mexico	10,200	9,570	245	1,820	4,930

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	2021 ²		2022		
	January– December	January– October	September	October	January– October
Other unwrought lead—Continued: ⁴					
Nigeria	--	--	--	--	788
Pakistan	16	16	--	--	--
Panama	490	490	--	--	--
Russia	172	172	--	--	80
South Africa	--	--	--	219	219
Sweden	--	--	--	--	(3)
United Kingdom	4,150	3,720	180	135	7,870
Venezuela	217	162	--	--	109
Total	126,000	106,000	6,680	7,450	99,300
Grand total	613,000	518,000	45,100	44,400	554,000

-- Zero.

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

²May include revisions to previously published data.

³Less than ½ unit.

⁴Includes 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.

Source: U.S. Census Bureau.

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

(Metric tons)

Period	Asia	Europe	Total
2021:			
October	41,325	13,675	55,000
November	47,300	9,475	56,775
December	47,725	6,650	54,375
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

Source: London Metal Exchange, Ltd.