

Mineral Industry Surveys

For information, contact:

Kateryna Klochko, Lead Commodity Specialist
 National Minerals Information Center
 U.S. Geological Survey
 989 National Center
 Reston, VA 20192
 Telephone: (703) 648-4977, Fax: (703) 648-7757
 Email: kklochko@usgs.gov

Christine Pisut (Data)
 Telephone: (703) 648-7942
 Fax: (703) 648-7975
 Email: cpisut@usgs.gov

Internet: <http://www.usgs.gov/centers/nmic>

LEAD IN SEPTEMBER 2019

Domestic mine production (recoverable) of lead in September was 24,000 metric tons (t). Average daily mine production in September was 800 t, essentially unchanged from that in the previous month and 13% more than that in September 2018. Total secondary refined lead production in September was 98,200 t, slightly more than that in the previous month and 6% more than that in September 2018 (fig. 1; tables 1, 2).

more than that in the previous month and in September 2018. The North American premium to the LME cash price in September 2019 averaged 9.14 cents per pound, slightly more than that in August 2019 and slightly less than that in September 2018 (fig. 2, table 3).

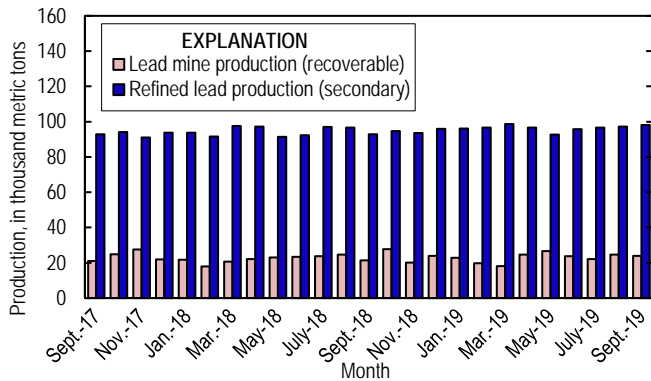


Figure 1. U.S. production of lead from September 2017 through September 2019. Source: U.S. Geological Survey.

The United States is a significant exporter of lead concentrates. U.S. exports of lead in ores and concentrates for the year through September were 186,000 t, slightly less than that for the same period in 2018. Leading destinations in September were China (38%), Italy (15%), Japan (13%), the Republic of Korea (13%), Canada (12%), and the Netherlands (8%) (table 8).

Prices and Stocks

The average London Metal Exchange, Ltd. (LME) cash price for lead in September was 93.9 cents per pound, slightly more than that in the previous month and in September 2018 (table 3). The Platts Metals Week average North American Market price for lead in September 2019 was 103.1 cents per pound, slightly

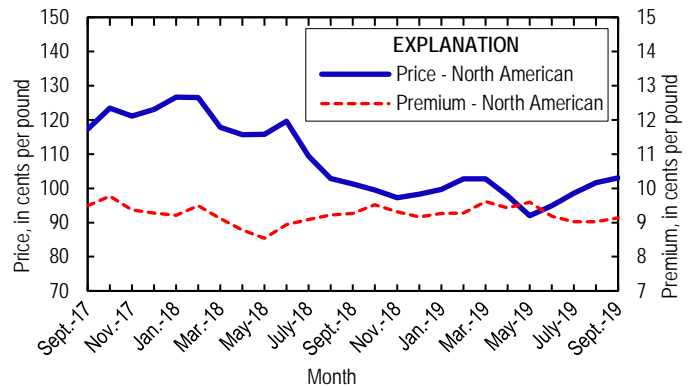


Figure 2. Average monthly North American price and premium for refined lead metal from September 2017 through September 2019. Source: Platts Metals Week.

The Platts average U.S. used lead-acid batteries (Midwest) price in September 2019 was 34.2 cents per pound, slightly more than that in August and essentially unchanged from that in September 2018 (table 3). Most secondary lead is recovered from used lead-acid batteries.

Global LME lead stocks at the end of September 2019 were 69,500 t, 10% less than those at the end of August 2019 and 40% less than those at the end of September 2018 (table 11).

List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to <https://www.usgs.gov/centers/nmic/minerals-information-publication-list-services>.

TABLE 1
SALIENT LEAD STATISTICS IN THE UNITED STATES¹

(Metric tons, lead content, unless otherwise specified)

	2018 ²		2019		
	January– December	January– September	August	September	January– September
Production:					
Mine (recoverable)	271,000	199,000	24,700	24,000	207,000
Secondary refinery, reported by smelters/refineries	1,140,000	852,000	97,200 [†]	98,200	868,000
Consumption of refined lead, apparent ^{e, 3}	1,630,000	1,260,000	154,000 [†]	142,000	1,240,000
Imports for consumption:					
Ore and concentrate	--	--	--	--	8
Bullion	789	739	--	--	75
Unwrought	563,000	440,000	58,500	45,300	396,000
Exports:					
Ore and concentrate	251,000	189,000	21,100	52,000	186,000
Bullion (gross weight)	2,060	1,450	252	76	783
Unwrought (gross weight)	67,200	34,500	1,130	1,290	21,000
Platts Metals Week North American Market					
price (cents per pound)	110.89	115.07	101.68	103.05	99.25

^eEstimated. [†]Revised. -- 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.

³Smelter production plus imports for consumption minus domestic exports.

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

(Metric tons)

Period	Mine		Secondary refinery ^e
	Lead in concentrate	Recoverable	
2018:			
September	23,300	21,300	92,900
October	28,500	27,700	94,600
November	20,600	20,100	93,600
December	24,700	24,000	96,000
January–December	280,000	271,000	1,140,000
2019:			
January	23,500	22,800	96,100 ^r
February	20,300	19,800	96,600 ^r
March	18,600	18,100	98,700 ^r
April	25,200	24,500	96,600 ^r
May	27,400	26,700	92,600 ^r
June	24,400	23,800	95,800 ^r
July	22,700	22,100	96,600 ^r
August	25,400	24,700	97,200 ^r
September	24,700	24,000	98,200
January–September	212,000	207,000	868,000

^eEstimated. ^rRevised.

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

TABLE 3
MONTHLY AVERAGE LEAD PRICES

	North	London Metal Exchange		Used lead-acid
	American Market ¹	cash		batteries ²
	¢/lb	¢/lb	\$/t	¢/lb
2018:				
September	101.25	91.98	2,027.78	34.38
October	99.53	90.02	1,984.58	33.00
November	97.29	87.98	1,939.65	31.25
December	98.29	89.13	1,965.07	30.63
January–December	110.89	101.76	2,243.35	39.10
2019:				
January	99.70	90.43	1,993.73	30.95
February	102.78	93.51	2,061.45	29.94
March	102.78	93.17	2,054.14	31.34
April	97.80	88.37	1,948.26	33.65
May	91.99	82.40	1,816.64	32.25
June	94.96	85.78	1,891.04	31.38
July	98.54	89.52	1,973.50	33.65
August	101.68	92.66	2,042.70	33.75
September	103.05	93.91	2,070.29	34.22
January–September	99.25	89.97	1,983.53	32.35

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

²Platts 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: Platts Metals Week.

TABLE 4
CONSUMPTION OF PURCHASED LEAD-BASE SCRAP IN SEPTEMBER 2019¹

(Metric tons, gross weight)

Item	Stocks	Net receipts	Consumption	Stocks
	August 31, 2019			September 30, 2019
Battery-lead	W	75,600	76,600	W
Other ²	W	5,970	5,900	W
Total	8,570 ^r	81,600	82,500	7,600
Percent change from preceding month ³	XX	.5	.9	-11.3

^rRevised. 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 SEPTEMBER 2019¹

(Metric tons)

Product recovered	Secondary metal content		
	Lead	Tin	Antimony
Soft and calcium lead	80,600	--	--
Remelt lead	W	--	--
Antimonial lead	17,000	W	W
Other ²	W	W	--
Total lead-base	98,200	190	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
2018: ^P				
September	92,900	58,700	12,600	139,000
October	94,600	38,500	12,300	121,000
November	93,600	46,100	14,000	126,000
December	96,000	38,000	6,360	128,000
January–December	1,140,000	563,000	67,200	1,630,000
2019:				
January	96,100 ^r	54,000	9,490	141,000
February	96,600 ^r	37,200	1,380	132,000 ^r
March	98,700 ^r	38,100	1,820	135,000
April	96,600 ^r	55,100	918	151,000
May	92,600 ^r	34,900	1,320	126,000 ^r
June	95,800 ^r	41,400	1,860	135,000 ^r
July	96,600 ^r	32,000	1,770	127,000
August	97,200 ^r	58,500	1,130	154,000 ^r
September	98,200	45,300	1,290	142,000
January–September	868,000	396,000	21,000	1,240,000

^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)

	2018 ²		2019		
	January– December	January– September	August	September	January– September
Ores and concentrate (lead content):	251,000	189,000	21,100	52,000	186,000
Bullion	2,060	1,450	252	76	783
Unwrought:					
Refined lead	49,300	20,000	21	24	9,520
Refined lead containing antimony as the principal alloying element	654	543	14	39	436
Lead alloys	14,400	11,700	994	1,180	9,690
Other	2,850	2,300	107	47	1,330
Total	67,200	34,500	1,130	1,290	21,000
Wrought:					
Bars, rods, profiles, and wire	886	673	52	59	474
Pipes and tubes, including fittings	116	73	3	1	41
Plates, sheets, strip, foil	3,180	2,550	213	220	2,630
Other	1,770	1,320	275	194	1,390
Total	5,960	4,620	543	473	4,530
Powders and flakes	372	291	21	21	237
Tetraethyl lead and tetramethyl lead	502	360	1	47	449
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	26,800,000	20,700,000	2,410,000	2,230,000	20,200,000
Lead waste and scrap obtained from lead-acid storage batteries	9,200	9,200	--	--	--
Other lead waste and scrap	40,300	29,900	3,640	2,780	29,500

--Zero.

¹Data are rounded to 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)

	2018 ²		2019		
	January– December	January– September	August	September	January– September
Australia	7,310	--	--	--	--
Canada	51,200	44,000	5,660	6,250	41,400
China	73,600	61,600	11,300	19,900	45,900
Dominican Republic	--	--	--	--	29
Germany	15,100	7,200	--	--	--
Italy	7,170	7,170	--	7,900	23,400
Japan	19,100	10,500	3,980	6,950	16,500
Korea, Republic of	48,700	29,700	--	6,990	32,800
Laos	--	--	--	--	11
Mexico	19,100	18,700	120	32	16,600
Netherlands	7,100	7,100	--	3,980	9,320
Saudi Arabia	27	27	--	--	--
Thailand	2,520	2,520	--	--	--
Vietnam	--	--	--	9	41
Total	251,000	189,000	21,100	52,000	186,000

-- 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)

	2018 ²		2019		
	January– December	January– September	August	September	January– September
Ores and concentrate (lead content):	--	--	--	--	8
Bullion (lead content)	789	739	--	--	75
Unwrought:					
Refined lead	448,000	359,000	50,000	36,100	324,000
Refined lead containing antimony as the principal alloying element (lead content)	45,200	33,400	2,280	2,120	20,100
Lead alloys (lead content)	18,600	12,700	2,950	2,920	17,400
Other (lead content)	50,800	35,400	3,280	4,130	34,400
Total	563,000	440,000	58,500	45,300	396,000
Wrought:					
Bars, rods, profiles, and wire	1,020	721	231	62	1,700
Pipes and tubes, including fittings	29	5	1	1	71
Plates, sheets, strip, foil	1,740	1,270	81	137	1,270
Other	4,090	2,540	131	219	2,190
Total	6,890	4,540	444	418	5,230
Powders and flakes	203	149	19	31	241
Tetraethyl lead and tetramethyl lead	716	689	14	13	101
Waste and scrap:					
Spent lead-acid storage batteries for starting engines (units)	1,050,000	744,000	32,300	18,600	360,000
Lead waste and scrap obtained from lead-acid storage batteries (lead content)	1,660	1,230	123	138	1,360
Other lead waste and scrap (lead content)	2,450	1,870	139	160	1,420

-- Zero.

¹Data are rounded to 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	2018 ²		2019		
	January– December	January– September	August	September	January– September
Refined lead:					
Argentina	6,050	4,890	127	300	3,020
Australia	2,780	--	--	--	--
Brazil	15,500	11,700	803	702	5,220
Burma	100	100	250	100	850
Canada	148,000	113,000	13,000	12,200	119,000
Chile	100	100	--	--	--
China	--	--	--	100	101
Colombia	491	491	--	--	801
Dominican Republic	250	225	--	--	50
Ecuador	10,900	7,410	2,100	750	15,700
Germany	--	--	--	--	50
Honduras	199	199	--	--	--
Hong Kong	--	--	--	100	200
India	23,200	22,100	223	--	3,540
Israel	1,820	1,820	--	--	1,650
Kazakhstan	5,130	5,130	5,820	--	16,600
Korea, Republic of	106,000	87,300	18,600	14,100	73,500
Mexico	107,000	85,500	7,220	7,230	75,000
Nigeria	47	--	48	--	397
Panama	125	125	400	--	400
Peru	3,350	2,250	--	100	1,450
Russia	6,460	6,460	1,010	470	4,170
South Africa	174	174	--	--	20
Sri Lanka	625	625	--	--	--
Thailand	7,500	6,550	--	--	1,160
United Kingdom	485	289	15	--	211
Venezuela	2,460	1,790	380	--	934
Total	448,000	359,000	50,000	36,100	324,000
Other unwrought lead:³					
Argentina	1,920	1,920	168	132	1,690
Bolivia	--	--	--	--	124
Canada	93,100	65,300	7,770	8,950	65,800
Chile	1,780	1,780	--	--	--
Colombia	1,040	431	--	--	--
Costa Rica	4,470	3,050	--	--	19
Ecuador	125	125	--	--	334
Honduras	2,490	2,490	--	--	--
India	93	18	19	--	148
Mexico	8,150	5,150	196	88	2,430
Panama	199	199	--	--	--
Peru	50	50	221	--	221
Russia	209	172	--	--	(4)
South Africa	95	95	--	--	--
Sweden	--	--	11	--	11
United Kingdom	--	--	97	--	1,040
Venezuela	885	831	26	--	81
Other	--	--	3	--	8
Total	115,000	81,600	8,510	9,170	71,900
Grand total	563,000	440,000	58,500	45,300	396,000

-- Zero.

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

²May include revisions to previously published data.

³Includes 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.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

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

(Metric tons)

Period	United States	Asia	Europe	Total
2018:				
September	--	27,200	88,500	116,000
October	--	23,600	90,000	114,000
November	--	21,100	84,100	105,000
December	--	20,700	86,700	107,000
2019:				
January	--	19,300	53,200	72,500
February	--	22,600	54,300	76,900
March	--	22,200	56,500	78,800
April	--	22,100	52,400	74,400
May	--	20,600	48,800	69,400
June	--	19,100	46,700	65,800
July	--	27,900	50,700	78,500
August	--	30,900	46,700	77,500
September	--	27,400	42,100	69,500

-- Zero.

Source: London Metal Exchange, Ltd.