

LEAD

(Data in thousand metric tons of lead content unless otherwise noted)

Domestic Production and Use: The value of recoverable mined lead in 2007, based on the average U.S. producer price, was \$1.17 billion. Five lead mines in Missouri, plus lead-producing mines in Alaska, Idaho, Montana, and Washington, yielded most of the total. Primary lead was processed at one smelter-refinery in Missouri. Of the 21 plants that produced secondary lead, 12 had annual capacities of 15,000 tons or more and accounted for more than 99% of secondary production. Lead was consumed at about 110 manufacturing plants. The lead-acid battery industry continued to be the principal user of lead, accounting for 89% of the reported U.S. lead consumption for 2007. Lead-acid batteries were primarily used as starting-lighting-ignition (SLI) batteries for automobiles and trucks. Lead-acid batteries were also used as industrial-type batteries for uninterruptible power-supply equipment for computer and telecommunications networks and hospitals; for load-leveling equipment for commercial electrical power systems; and as traction batteries used in airline ground equipment, industrial forklifts, mining vehicles, golf carts, etc. About 8% of lead was used in ammunition; casting material; sheets (including radiation shielding), pipes, traps and extruded products; cable covering, caulking lead, and building construction; solder; and oxides for glass, ceramics, pigments, and chemicals. The balance was used in ballast and counter weights, brass and bronze, foil, terne metal, type metal, wire, and other undistributed consumption.

Salient Statistics—United States:	2003	2004	2005	2006	2007^e
Production:					
Mine, lead in concentrates	460	445	437	429	430
Primary refinery	245	148	143	153	150
Secondary refinery, old scrap	1,140	1,130	1,150	1,160	1,160
Imports for consumption, lead in concentrates	—	—	—	(¹)	(¹)
Exports, lead in concentrates	253	292	390	298	300
Imports for consumption, refined metal, wrought and unwrought	183	208	310	343	310
Exports, refined metal, wrought and unwrought	123	83	65	68	60
Shipments from Government stockpile excesses, metal	60	42	29	24	(¹)
Consumption:					
Reported	1,390	1,480	1,490	1,560	1,570
Apparent ²	1,490	1,470	1,480	1,580	1,630
Price, average, cents per pound:					
North American Producer	43.8	55.1	61.0	77.4	123
London Metal Exchange	23.3	40.2	44.2	58.0	109
Stocks, metal, producers, consumers, yearend	85	59	47	54	45
Employment:					
Mine and mill (peak), number ³	830	1,020	1,100	1,070	1,100
Primary smelter, refineries	320	240	240	240	240
Secondary smelters, refineries	1,600	1,600	1,600	1,600	1,600
Net import reliance ⁴ as a percentage of apparent consumption	E	E	E	E	E

Recycling: About 1.16 million tons of secondary lead was produced, an amount equivalent to 76% of reported domestic lead consumption. Nearly all of it was recovered from old (post-consumer) scrap.

Import Sources (2003-06): Metal, wrought and unwrought: Canada, 73%; Australia, 8%; China, 7%; Peru, 6%; and other, 6%.

Tariff: Item	Number	Normal Trade Relations ⁵ 12-31-07
Unwrought (refined)	7801.10.0000	2.5% ad val.

Depletion Allowance: 22% (Domestic), 14% (Foreign).

Government Stockpile:

Material	Stockpile Status—9-30-07 ⁶ (Metric tons)				Disposal plan FY 2007	Disposals FY 2007
	Uncommitted inventory	Committed inventory	Authorized for disposal			
Lead	—	—	—		34,000	536

LEAD

Events, Trends, and Issues: During 2007, the average price of refined lead rose appreciably from that of 2006 on both the U.S. and world markets, approaching record highs. Consistent with this rise in price, the global supply situation for refined lead remained tight, as stocks continued to decline and demand remained strong. Use of lead worldwide was estimated to have increased by 4% in 2007. Continued strong economic growth in the automotive, telecommunications, and information technology sectors in China was the most significant factor influencing increased lead usage. Automobile sales alone in China increased by an estimated 25% during 2007. Also contributing to the increase in worldwide lead demand were notably stronger economies continuing to emerge in other areas of Southeast Asia, particularly India, as well as many of the countries in Eastern Europe.

Global mine production of lead concentrate increased by about 5% in 2007. However, Chinese net imports of lead concentrate rose significantly during the year, affecting the supply of concentrate on the world market. Increases in lead concentrate production are anticipated in China, Europe, and South America to meet the rising world demand. Influenced by the higher domestic demand for lead, China removed the value-added tax rebate and imposed a 10% tax on exports of refined lead, leading to significantly decreased such exports. As a result, an appreciable shortage of refined lead was evident on the world market during 2007. Increases in refined lead production were begun in China, India, and some European countries in order to more closely meet the rising demand for refined lead.

U.S. mine production of lead in concentrate remained steady during 2007, as did production of secondary lead that was sourced principally from recycled spent lead-acid batteries. According to Battery Council International statistics, demand for replacement SLI batteries in 2007 was equivalent to that of 2006, whereas original equipment SLI demand was down, the latter being consistent with lower new vehicle sales figures.

World Mine Production, Reserves, and Reserve Base: Reserves estimates for Australia, Canada, and the United States were revised based on information released by producers in the respective countries.

	Mine production		Reserves ⁷	Reserve base ⁷
	2006	2007 ^e		
United States	429	430	7,700	19,000
Australia	686	640	24,000	59,000
Canada	82	75	400	5,000
China	1,200	1,320	11,000	36,000
India	67	75	NA	NA
Ireland	62	55	NA	NA
Kazakhstan	48	50	5,000	7,000
Mexico	120	110	1,500	2,000
Morocco	45	45	500	1,000
Peru	313	330	3,500	4,000
Poland	51	50	NA	5,400
South Africa	48	45	400	700
Sweden	77	75	500	1,000
Other countries	240	250	24,000	30,000
World total (rounded)	3,470	3,550	79,000	170,000

World Resources: In recent years, significant lead resources have been demonstrated in association with zinc and/or silver or copper deposits in Australia, China, Ireland, Mexico, Peru, Portugal, and the United States (Alaska). Identified lead resources of the world total more than 1.5 billion tons.

Substitutes: Substitution of plastics has reduced the use of lead in building construction, electrical cable covering, cans, and containers. Aluminum, iron, plastics, and tin compete with lead in other packaging and protective coatings, and tin has replaced lead in solder for new or replacement potable water systems in the United States. In the electronics industry, there has been a move towards lead-free solders with varying compositions of tin, bismuth, silver, and copper.

^eEstimated. E Net exporter. NA Not available; included in "Other countries." — Zero.

¹Less than ½ unit.

²Apparent consumption series revised to reflect a total raw material balance. Apparent consumption defined as mine production + secondary refined + imports (concentrates and refined) – exports (concentrates and refined) + adjustments for Government and industry stock changes.

³Includes lead and zinc-lead mines for which lead was either a principal or significant product.

⁴Defined as imports – exports + adjustments for Government and industry stock changes. Includes trade in both concentrates and refined lead.

⁵No tariff for Mexico and Canada for item shown.

⁶See Appendix B for definitions.

⁷See Appendix C for definitions.