LEAD

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

Domestic Production and Use: The value of recoverable mined lead in 1997, based on the average U.S. producer price, was $440 million. Seven lead mines in Missouri plus lead-producing mines in Alaska, Colorado, Idaho, and Montana yielded most of the total. Primary lead was processed at two smelter-refineries in Missouri and a smelter in Montana. Of the 30 plants that produced secondary lead, 17 had annual capacities of 10,000 tons or more and accounted for more than 95% of secondary production. Lead was consumed at about 170 manufacturing plants. The transportation industries were the principal users of lead, consuming 71% of it for batteries, fuel tanks, solder, seals, and bearings. Electrical, electronic, and communications uses (including batteries), ammunition, television glass, construction (including radiation shielding), and protective coatings accounted for approximately 23% of consumption. The balance was used in ballast and weights, ceramics and crystal glass, tubes and containers, type metal, foil, wire, and specialized chemicals.

Salient Statistics—United States:	1993	1994	1995	1996	1997[e]
Production: Mine, lead in concentrates	362	370	394	436	450
Primary refinery:					
From domestic ore	310	328	374	326	340
From imported materials[1]	25	23	W	W	W
Secondary refinery, old scrap	838	877	963	1,060	1,100
Imports for consumption, lead in concentrates	1	1	3	7	10
Exports, lead in concentrates	42	39	66	60	30
Imports for consumption, refined metal, wrought and unwrought	202	237	271	278	260
Exports, refined metal, wrought and unwrought	59	54	57	61	60
Shipments from Government stockpile excesses, metal	19	65	34	39	25
Consumption: Reported	1,290	1,450	1,560	1,530	1,600
Apparent	1,340	1,490	1,570	1,660	1,660
Price, average, cents per pound: U.S.	31.7	37.2	42.3	48.8	47
London	18.4	24.8	28.6	35.1	29
Stocks, metal, producers, consumers, yearend	95	78	94	80	75
Employment: Mine and mill (peak), number	1,500	1,300	1,200	1,200	1,200
Primary smelter, refineries	600	600	600	500	450
Secondary smelters, refineries	1,800	1,800	1,800	1,800	1,800
Net import reliance[2] as a percent of apparent consumption	15	19	17	16	14

Recycling: About 1.1 million tons of secondary lead was produced, an amount equivalent to 68% of domestic lead consumption. Nearly all of it was recovered from old (post-consumer) scrap. About 990,000 tons (equivalent to 62% of domestic lead consumption) was recovered from used batteries alone.

Import Sources (1993-96): Lead in concentrates: Mexico, 49%; Canada, 45%; Peru, 1%; and other, 5%. Metal, wrought and unwrought: Canada, 69%; Mexico, 20%; Peru, 9%; Australia, 1%; and other, 1%. Total lead content: Canada, 69%; Mexico, 19%; Peru, 9%; Australia, 1%; and other, 2%.

Tariff: Item	Number	Most favored nation (MFN)[3] 12/31/97	Non-MFN[4] 12/31/97
Unwrought (refined)	7801.10.0000	2.9% ad val.	10.0% ad val.

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

Government Stockpile:

Stockpile Status—9-30-97[5]

Material	Uncommitted inventory	Committed inventory	Authorized for disposal	Disposal plan FY 1997	Disposals FY 1997
Lead	360	13	360	54	31

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Events, Trends, and Issues: During 1997, the price for lead decreased in the U.S. and world markets. The average North American Producer and London Metal Exchange prices for the first 9 months of the year were about 4% and 16%, respectively, below the averages for the previous year, as stocks of refined lead in industrialized countries steadily increased to a level near that existing at the beginning of 1996. U.S. mine production rose by about 3% and primary refinery production increased by about 4% as refineries adjusted to the permanent closure of one refinery in mid-1996. Secondary refinery production continued to increase, rising by 3% over that of 1996. U.S. apparent consumption of lead remained near the level of the previous year owing to the continued demand for both original equipment and replacement lead-acid batteries in the automotive industry. In addition, demand for industrial-type batteries, particularly in the telecommunications and computer sectors, remained strong.

Settlement of a dispute between mining companies and aboriginal Native Title claimants cleared the way for development of a large zinc-lead deposit in Australia, said to be capable of coming into production by yearend 2000 and augmenting world mine production by about 2%.

In China, production of lead and zinc was projected to decline by as much as 40% by the year 2000. Factors cited as contributing to this expected decline were the significant depletion of reserves at several of China's large, and relatively old, state-owned mines and the decreasing investment in these mines. China reportedly hoped to reverse the trend toward lower mine production by encouraging foreign investment in the mining sector. Under China's new Mineral Resource Act, which became effective at the beginning of the year, foreign companies were permitted to own equity interests in Chinese projects. Previously, foreign companies were permitted to own only other types of financial interests.

In March, the U.S. Centers for Disease Control reported results from Phase II of the third National Health and Nutrition Examination Survey (NHANES III), conducted during the period 1991 through 1994, showing a continued decline in blood lead levels in the U.S. population. Despite this decline, however, the results of NHANES III, Phase II also showed that the risk for lead exposure remained disproportionately high for some groups, including children who are poor, black non-Hispanic, Mexican American, living in large metropolitan areas, or living in older housing.

World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves[6]	Reserve base[6]
	1996	1997[e]		
United States	436	450	7,000	18,000
Australia	522	530	18,000	32,000
Canada	241	190	4,000	13,000
China	500	450	6,000	10,000
Kazakstan	40	40	2,000	2,000
Mexico	174	170	1,000	2,000
Morocco	72	70	500	1,000
Peru	249	250	2,000	3,000
South Africa	89	90	2,000	3,000
Sweden	100	100	500	1,000
Other countries	497	550	22,000	34,000
World total (may be rounded)	2,920	2,900	65,000	120,000

World Resources: In recent years, significant lead resources have been demonstrated in association with zinc and/or silver or copper in Alaska, Australia, Canada, China, India, Mexico, Pakistan, and South Africa. 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, tin, iron, and plastics 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.

[e]Estimated. W Withheld to avoid disclosing company proprietary data; Included with "From domestic ore."

[1]Included in imports for calculating net import reliance (see footnote 2).

[2]Defined as imports - exports + adjustments for Government and industry stock changes.

[3]No tariff for Mexico and 0.3% ad val. for Canada.

[4]See Appendix B.

[5]See Appendix C for definitions.

[6]See Appendix D for definitions.