

## LEAD

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

**Domestic Production and Use:** The value of recoverable mined lead in 2000, based on the average U.S. producer price, was \$432 million. Seven lead mines in Missouri plus lead-producing mines in Alaska, Idaho, and Montana yielded most of the total. Primary lead was processed at two smelter-refineries in Missouri and at a smelter in Montana. Of the 27 plants that produced secondary lead, 15 had annual capacities of 15,000 tons or more and accounted for more than 98% of secondary production. Lead was consumed at about 150 manufacturing plants. The transportation industries were the principal users of lead, consuming 76% of it for batteries, fuel tanks, solder, seals, bearings, and wheel weights. Electrical, electronic, communications uses (including batteries), ammunition, television glass, construction (including radiation shielding), and protective coatings accounted for approximately 22% of consumption. The balance was used in ballast and counterweights, ceramics and crystal glass, tubes and containers, type metal, foil, wire, and specialized chemicals.

<b>Salient Statistics—United States:</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000<sup>o</sup></b>
Production: Mine, lead in concentrates	436	459	493	520	480
Primary refinery	326	343	337	350	350
Secondary refinery, old scrap	1,030	1,040	1,060	1,060	1,020
Imports for consumption, lead in concentrates	7	18	33	12	35
Exports, lead in concentrates	60	42	72	94	90
Imports for consumption, refined metal, wrought and unwrought	278	272	275	323	400
Exports, refined metal, wrought and unwrought	61	53	40	37	25
Shipments from Government stockpile excesses, metal	39	26	50	61	54
Consumption: Reported	1,540	1,620	1,630	1,680	1,730
Apparent	1,630	1,610	1,690	1,760	1,790
Price, average, cents per pound:					
North American Producer	48.8	46.5	45.3	43.7	44
London Metal Exchange	35.1	28.3	24.0	22.8	21
Stocks, metal, producers, consumers, yearend	80	101	89	92	100
Employment: Mine and mill (peak), number	1,200	1,200	1,200	1,100	1,100
Primary smelter, refineries	500	450	450	450	450
Secondary smelters, refineries	1,800	1,800	1,800	1,700	1,700
Net import reliance <sup>1</sup> as a percent of apparent consumption	17	14	18	20	24

**Recycling:** About 1.1 million tons of secondary lead was produced, an amount equivalent to 66% of domestic lead consumption. Nearly all of it was recovered from old (post-consumer) scrap. About 1 million tons (equivalent to 61% of domestic lead consumption) was recovered from used batteries alone.

**Import Sources (1996-99):** Lead in concentrates: Peru, 32%; Canada, 17%; Australia, 13%; Mexico, 6%; and other, 32%. Metal, wrought and unwrought: Canada, 67%; Mexico, 20%; Peru, 4%; Australia, 2%; and other, 7%. Total lead content: Canada, 65%; Mexico, 19%; Peru, 5%; Australia, 3%; and other, 8%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations<sup>2</sup> 12/31/00</b>
Unwrought (refined)	7801.10.0000	2.5% ad val.

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

### **Government Stockpile:**

#### **Stockpile Status—9-30-00<sup>3</sup>**

<b>Material</b>	<b>Uncommitted inventory</b>	<b>Committed inventory</b>	<b>Authorized for disposal</b>	<b>Disposal plan FY 2000</b>	<b>Disposals FY 2000</b>
Lead	205	23	205	54	47

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**Events, Trends, and Issues:** During 2000, the price for lead decreased in the U.S. and world markets. The average North American Producer and London Metal Exchange (LME) prices for the first 9 months of the year were 0.4% and 10.8%, respectively, below the averages for the previous year. Worldwide demand for lead rose in 2000, mainly owing to further growth in the Asian market, particularly in China and Thailand. Total output of refined lead worldwide increased in 2000 with about 60% being derived from the recovery and recycling of secondary materials. The supply and demand for lead in the industrialized countries of the world were expected to remain in close balance in 2000, according to a report issued by the International Lead and Zinc Study Group at its 45th Session in London, England, in October.

U.S. mine production declined by about 8%, mainly as a result of production decreases implemented by one major producer during the year, and secondary refinery production declined by about 4%. U.S. apparent consumption of lead remained near the level of the previous year, as the lack of temperature extremes in most of the heavily populated regions of the country reduced the rate of automotive-type battery failures and the consequent rate of demand for replacement batteries. However, demand for industrial-type stationary and traction batteries continued to grow.

A major U.S. secondary lead producer and automotive battery manufacturer completed its acquisition of another major U.S. secondary lead producer and battery manufacturer at the end of September. The latter company supplies a significant portion of industrial batteries to the North American market, and is also a leading supplier of automotive batteries for both the original equipment and replacement battery markets. The purchase was completed about 18 months after negotiations were terminated on the purchase of the latter company by another major U.S. secondary lead producer. As a result of the purchase, several initiatives were begun involving closure and consolidation of facilities that would effectively restructure the newly formed company.

### **World Mine Production, Reserves, and Reserve Base:**

	Mine production		Reserves <sup>4</sup>	Reserve base <sup>4</sup>
	<u>1999</u>	<u>2000<sup>e</sup></u>		
United States	520	480	6,700	20,000
Australia	681	630	15,000	28,000
Canada	161	140	1,800	11,000
China	501	560	9,000	30,000
Kazakhstan	34	30	2,000	2,000
Mexico	120	140	1,000	2,000
Morocco	87	90	500	1,000
Peru	273	270	2,000	3,000
South Africa	80	80	2,000	3,000
Sweden	115	120	500	1,000
Other countries	<u>447</u>	<u>440</u>	<u>23,000</u>	<u>33,000</u>
World total (may be rounded)	3,020	2,980	64,000	130,000

**World Resources:** In recent years, significant lead resources have been demonstrated in association with zinc and/or silver or copper in the United States (Alaska), Australia, Canada, China, Ireland, Mexico, Peru, and Portugal. 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.

<sup>e</sup>Estimated.

<sup>1</sup>Defined as imports - exports + adjustments for Government and industry stock changes.

<sup>2</sup>No tariff for Canada and Mexico for item shown.

<sup>3</sup>See Appendix B for definitions.

<sup>4</sup>See Appendix C for definitions.