LEAD

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

<u>Domestic Production and Use</u>: The value of recoverable mined lead in 2002, based on the average U.S. producer price, was \$415 million. Six 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. Of the 24 plants that produced secondary lead, 15 had annual capacities of 15,000 tons or more and accounted for more than 99% of secondary production. Lead was consumed at about 130 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.

Salient Statistics—United States:	<u>1998</u>	<u> 1999</u>	2000	<u>2001</u>	2002 ^e
Production:		·			
Mine, lead in concentrates	493	520	465	466	450
Primary refinery	337	350	341	290	260
Secondary refinery, old scrap	1,060	1,060	1,080	1,050	1,040
Imports for consumption, lead in concentrates	33	12	31	2	5
Exports, lead in concentrates	72	94	117	181	120
Imports for consumption, refined metal, wrought					
and unwrought	275	323	366	284	255
Exports, refined metal, wrought and unwrought	40	37	49	35	30
Shipments from Government stockpile					
excesses, metal	50	61	32	41	30
Consumption:					
Reported	1,630	1,680	1,720	1,590	1,510
Apparent	1,690	1,760	1,740	1,650	1,580
Price, average, cents per pound:					
North American Producer	45.3	43.7	43.6	43.6	44
London Metal Exchange	24.0	22.8	20.6	21.6	21
Stocks, metal, producers, consumers, yearend	89	91	124	100	80
Employment:					
Mine and mill (peak), number	1,200	1,100	1,100	1,100	900
Primary smelter, refineries	450	450	450	400	320
Secondary smelters, refineries	1,800	1,700	1,700	1,600	1,600
Net import reliance ¹ as a percentage of					
apparent consumption	18	20	18	19	18

Recycling: About 1.1 million tons of secondary lead were produced, an amount equivalent to 69% of domestic lead consumption. Nearly all of it was recovered from old (post-consumer) scrap. About 1 million tons (equivalent to 63% of domestic lead consumption) was recovered from used batteries alone.

Import Sources (1998-2001): Lead in concentrates: Peru, 26%; Mexico, 18%; Canada, 8%; Australia, 3%; and other, 45%. Metal, wrought and unwrought: Canada, 62%; Mexico, 10%; Australia, 6%; Peru, 2%; and other, 20%. Total lead content: Canada, 60%; Mexico, 11%; Australia, 6%; Peru, 3%; and other, 20%.

Tariff: Item Number Normal Trade Relations²

Unwrought (refined) 7801.10.0000 2.5% ad val.

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

Government Stockpile:

Stockpile Status—9-30-02³

	Uncommitted	Committed	Authorized	Disposal plan	Disposals
Material	inventory	inventory	for disposal	FY 2002	FY 2002
Lead	164	14	164	54	17

LEAD

Events, Trends, and Issues: During 2002, the price for refined lead decreased in the United States and world markets. The average North American Producer and London Metal Exchange prices for the first 9 months of the year were 0.1% and 3.7%, respectively, below the averages for the previous year. Worldwide demand for lead remained essentially unchanged in 2002, as the decline in demand for batteries, particularly in the United States, was countered by rising demand for batteries and other lead products in Asia, driven mainly by further industrial growth in China. Total output of refined lead worldwide decreased by about 1% in 2002. Production cutbacks in Europe, Japan, and the United States were nearly offset by increases in production of lead in Australia, Canada, and the Republic of Korea. A modest excess of refined lead was anticipated in the industrialized world in 2002, according to a report issued by the International Lead and Zinc Study Group at its 47th Session in Stockholm, Sweden, in October.

U.S. mine production declined by about 3% as a result of temporary closures or production cutbacks, prompted mainly by the continuation of low prices for lead during the year, and secondary refinery production declined by about 1%. U.S. apparent consumption of lead decreased by about 7% compared with the previous year, as economic recovery continued at a slow pace. Consequently, the demand for industrial-type lead acid batteries declined further as a result of stalled investment plans in the telecommunications industry. Demand for automotive-type batteries in new vehicles also remained weak; however, the decline in demand was countered somewhat by sales incentives provided by the automobile producers. In addition, demand for replacement batteries in automobiles and light trucks was slowed by the lack of sustained temperature extremes that would have increased automotive battery failures.

A major U.S. producer of recycled lead and manufacturer of lead acid batteries received approval in May from the U.S. Bankruptcy Court to use its \$250 million debtor-in-possession financing facility to fund normal operations and to pay obligations to employees and suppliers. The company had filed for Chapter 11 bankruptcy protection in mid-April. Also, bondholders for a major U.S. producer of refined lead accepted an arrangement in October that would secure additional financing and enable the company to restructure its outstanding debt. The holders of notes due in 2003 and 2005 could either exchange the notes for new ones or return them for cash, at a reduced value.

A lead industries association, founded in 1928, closed down in April and filed for Chapter 7 bankruptcy liquidation. According to an official, the association closed because of "a lack of insurance to cover litigation in which the association had been a defendant starting 14 years ago." Also, the association had accumulated additional litigation in recent years, most being related to lead in paint, in which the association was named as one of many defendants.

<u>World Mine Production, Reserves, and Reserve Base</u>: Reserves and reserve base estimates for China, Kazakhstan, and Peru have been revised upward based on new information from official country sources.

,	['] Mine pr	Mine production		Reserve base⁴	
	<u>2001</u>	2002 ^e			
United States	466	450	8,100	20,000	
Australia	714	715	15,000	28,000	
Canada	149	100	2,000	9,000	
China	600	650	11,000	36,000	
Kazakhstan	38	38	5,000	7,000	
Mexico	135	140	1,500	2,000	
Morocco	83	80	500	1,000	
Peru	271	295	3,500	4,000	
South Africa	51	49	2,000	3,000	
Sweden	95	36	500	1,000	
Other countries	<u>480</u>	<u>345</u>	<u> 19,000</u>	30,000	
World total (rounded)	3,100	2,900	68,000	140,000	

<u>World Resources</u>: 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.

<u>Substitutes</u>: 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.

^eEstimated

¹Defined as imports - exports + adjustments for Government and industry stock changes.

²No tariff for Mexico and Canada for item shown.

³See Appendix B for definitions.

⁴See Appendix C for definitions.