

TIN

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

Domestic Production and Use: In 2000, no tin was mined domestically. Production of tin at the only U.S. tin smelter, at Texas City, TX, stopped in 1989. Twenty-five firms consumed about 81% of the primary tin. The major uses were as follows: cans and containers, 30%; electrical, 20%; construction, 10%; transportation, 10%; and other, 30%. On the basis of the New York composite price, the estimated values of some critical items were as follows: primary metal consumed, \$318 million; imports for consumption, refined tin, \$391 million; and secondary production (old scrap), \$73 million.

Salient Statistics—United States:	1996	1997	1998	1999	2000^e
Production: Secondary (old scrap)	7,710	7,830	8,390	8,600	8,900
Secondary (new scrap)	3,930	4,540	7,710	7,700	8,000
Imports for consumption, refined tin	30,200	40,600	44,000	47,500	48,000
Exports, refined tin	3,670	4,660	5,020	6,770	7,000
Shipments from Government stockpile excesses	11,800	11,700	12,200	765	12,000
Consumption reported: Primary	36,500	36,200	37,100	38,400	39,000
Secondary	8,180	8,250	8,620	8,890	9,000
Consumption, apparent	48,400	55,300	60,600	59,700	61,900
Price, average, cents per pound:					
New York market	288	264	261	255	255
New York composite	412	381	373	366	370
London	279	256	251	245	370
Kuala Lumpur	275	252	246	241	266
Stocks, consumer and dealer, yearend	10,900	11,200	10,500	10,700	10,700
Net import reliance ¹ as a percent of apparent consumption	83	86	85	85	86

Recycling: About 16,900 tons of tin from old and new scrap was recycled in 2000. Of this, about 8,900 tons was recovered from old scrap at 5 detinning plants and 46 secondary nonferrous metal processing plants.

Import Sources (1996-99): China, 19%; Brazil, 17%; Peru, 16%; Bolivia, 14%; and other, 34%.

Tariff: Most major imports of tin, including unwrought metal, waste and scrap, and unwrought tin alloys, enter duty free.

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

Government Stockpile: The Defense National Stockpile Center (DNSC) no longer sells tin on a monthly basis. Two DNSC tin sales are now held each year, normally in the spring and in the fall, for about 6,000 tons each. The DNSC announced that its Annual Materials Plan for fiscal year 2001 calls for sales of up to 12,000 tons of stockpile tin. Stockpile tin is warehoused at four depots, with the largest holdings at Hammond, IN, and Baton Rouge, LA.

Stockpile Status—9-30-00²

Material	Uncommitted inventory	Committed inventory	Authorized for disposal	Disposal plan FY 2000	Disposals FY 2000
Pig tin	59,686	10,528	59,686	12,000	11,984

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Events, Trends, and Issues: The Steel Recycling Institute (SRI), Pittsburgh, PA, announced that the domestic steel can recycling rate was 58% in 1999 compared with 56% in 1998. Tin, as well as steel, is recovered in can recycling. SRI noted that 200 million Americans had access to steel can recycling programs.

The world tin industry's major research and development laboratory, based in the United Kingdom, was in its sixth full year under its new structure. The laboratory has been privatized, with funding supplied by numerous major tin producing and consuming firms rather than by the Association of Tin Producing Countries. The laboratory reported progress in several areas of research to develop new tin uses; among these were a tin foil capsule to replace lead foil capsules on wine bottles and a new noncyanide-based electrolyte with a coating of tin and zinc, which could replace cadmium as an environmentally acceptable anticorrosion coating on steel. The laboratory focused its efforts on possible new uses for tin that would take advantage of tin's relative nontoxicity compared with other metals—lead-free solders, antimony-free flame-retardant chemicals, and lead-free shotgun pellets.

In the World Mine Production, Reserves, and Reserve Base table below, several reserve and reserve base numbers were changed from those in the prior Mineral Commodity Summaries. Changes were made for countries like Brazil, China, Indonesia, and Thailand based on recently updated information received.

World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves ³	Reserve base ³
	1999	2000 ^e		
United States	—	—	20,000	40,000
Australia	10,000	9,000	210,000	600,000
Bolivia	11,000	12,000	450,000	900,000
Brazil	13,000	13,000	2,200,000	2,500,000
China	62,000	64,000	3,500,000	4,000,000
Indonesia	48,000	50,000	800,000	900,000
Malaysia	7,000	7,000	1,200,000	1,400,000
Peru	30,000	32,000	300,000	400,000
Portugal	3,000	3,000	70,000	80,000
Russia	5,000	5,000	300,000	350,000
Thailand	3,000	3,000	340,000	400,000
Other countries	6,000	2,000	180,000	200,000
World total (may be rounded)	198,000	200,000	9,600,000	12,000,000

World Resources: U.S. resources of tin, primarily in Alaska, were insignificant compared with those of the rest of the world. Sufficient world resources, principally in western Africa, southeastern Asia, Australia, Bolivia, Brazil, China, and Russia were available to sustain current (2000) production rates well into the next century.

Substitutes: Aluminum, glass, paper, plastic, or tin-free steel substitute for tin in cans and containers. Other materials that substitute for tin are epoxy resins for solder; aluminum alloys, copper-base alloys, and plastics for bronze; plastics for bearing metals that contain tin; and compounds of lead and sodium for some tin chemicals.

^eEstimated.

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

²See Appendix B for definitions.

³See Appendix C for definitions.