

TIN

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

Domestic Production and Use: In 1995, there was no domestic tin mine production. Production of tin at the only U.S. tin smelter, at Texas City, TX, stopped in 1989. Twenty-five firms consumed about 86% of the primary tin. The major uses were as follows: cans and containers, 32%; electrical, 23%; construction, 9%; transportation, 11%; and other, 25%. The estimated value of primary metal consumption in 1995, based on the New York composite price, was \$300 million.

Salient Statistics—United States:	1991	1992	1993	1994	1995^e
Production: Mine			Negligible		
Secondary (old scrap)	8,800	8,900	6,900	7,400	7,600
Secondary (new scrap)	5,300	4,900	4,200	4,200	4,300
Imports for consumption: Metal	29,100	27,300	33,700	32,400	32,000
Ore	1	—	—	—	—
Exports: Ingots, pigs, and bars ¹	970	1,890	2,600	2,560	2,000
Shipments from Government stockpile excesses	6,195	6,310	6,022	5,620	5,000
Consumption, reported: Primary	35,100	35,000	34,600	32,900	33,000
Secondary	9,670	10,100	11,900	8,490	9,000
Consumption, apparent	48,700	43,600	44,200	43,300	47,000
Price, average, cents per pound:					
New York market	259	283	239	255	290
New York composite	363	402	350	369	420
London	254	277	233	248	280
Kuala Lumpur	248	272	232	245	280
Stocks, consumer and dealer, yearend	13,800	10,700	10,800	10,400	10,000
Employment, mine and primary smelter ^e	5	5	5	—	—
Net import reliance ² as a percent of apparent consumption	74	80	84	83	84

Recycling: About 12,000 tons of purchased old and new tin scrap, including tin alloys, was recycled in 1995. Of this, about 7,600 tons was old scrap. More than one-sixth of the tin consumed in the United States was recovered from old scrap at detinning plants and 28 secondary nonferrous metal processing plants.

Import Sources (1991-94): Brazil, 28%; Bolivia, 24%; Indonesia, 17%; China, 15%; and other, 16%.

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:

Stockpile Status—9-30-95

Material	Uncommitted inventory	Committed inventory	Authorized for disposal	Disposals Jan.-Sept. 95
Pig tin	129,668	—	121,729	10,975

Events, Trends, and Issues: The price of tin rose moderately through the year, buoyed by a general rise in base metal prices. There continued to be a world tin oversupply of about 35,000 tons.

World tin mine output in 1995 remained about the same as in recent years, the result of concerted producer efforts to restrict production.

Brazil became a member of the Association of Tin Producing Countries (ATPC). This was considered an important step since Brazil ranked as the world's third largest producer of mined tin. It followed by a year, the inclusion of China, the world's largest tin producer, in the ATPC. With these two large producers as members, the ATPC believed it could better control its efforts to restrict tin supply to lower world tin excess stocks.

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It was announced that in 1994 the domestic steel can recycling rate reached 53%. The rate was 48% in 1993, and 15% in 1988. More than 18 billion steel cans, weighing 1.55 million tons, were recycled in 1994. The industry's goal was to reach a 66% recycling rate for steel cans by the end of 1995; 66% is the traditional recycling rate for all steel products including appliances, cars, etc. The industry continued to emphasize the recycling of aerosol steel cans. It pointed to its success in Michigan, where a Statewide environmental campaign, sponsored and supported by a coalition of Government, industry, academic and environmental leaders was encouraging Michigan consumers to recycle empty aerosol cans along with other steel cans. Progress was also reported in trying to motivate a number of iron foundries to use scrap steel cans as part of their raw material charge. During the past few years, a small but growing number of iron foundries have been experimenting with melting used steel cans. Iron foundries are found in most of the 50 States, and they depend on steel scrap for about 50% of their charge material.

A major domestic tinplate producer announced plans to construct a new joint-venture tinplate mill in Belmont County, OH. Completion was anticipated for late 1996, and the cost was estimated at \$80 million. It would be the first domestic tinplating facility built since the early 1960's, and would replace that producer's current 50-year-old tin mill.

The world tin industry's major research and development laboratory, based in the United Kingdom, began its first full year under its new structure. It is now privatized, with funding supplied by numerous major tin producing firms rather than by the ATPC. The organization reported progress in several areas of research to develop new tin uses; among these was a tin foil bottle capsule to replace lead foil on wine bottles, and a new noncyanide-based electrolyte called "Stanzec," an alloy of tin and zinc that could replace cadmium as an environmentally acceptable anticorrosion coating on steel.

World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves ³	Reserve base ³
	1994	1995 ^e		
United States	Negligible	Negligible	20,000	40,000
Australia	6,400	6,000	210,000	600,000
Bolivia	16,200	18,000	450,000	900,000
Brazil	27,000	25,000	1,200,000	2,500,000
China	50,000	50,000	1,600,000	1,600,000
Indonesia	34,000	34,000	750,000	820,000
Malaysia	6,400	6,000	1,200,000	1,200,000
Peru	14,000	15,000	20,000	40,000
Portugal	12,000	13,000	70,000	70,000
Russia	4,100	4,000	300,000	300,000
Thailand	4,000	4,000	940,000	940,000
Zaire	700	1,000	510,000	510,000
Other countries	<u>9,000</u>	<u>4,000</u>	<u>180,000</u>	<u>620,000</u>
World total (may be rounded)	⁴ 184,000	⁴ 180,000	7,000,000	10,000,000

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 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.

¹Excludes reexports.

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

³See Appendix C for definitions.

⁴Excludes U.S. production.