

TANTALUM

(Data in metric tons of tantalum content unless otherwise noted)

Domestic Production and Use: No significant U.S. tantalum mine production has been reported since 1959. Domestic tantalum resources are of low grade, some mineralogically complex, and most are not commercially recoverable. Companies in the United States produced tantalum alloys, compounds, and metal from imported concentrates, and metal and alloys were recovered from foreign and domestic scrap. Tantalum was consumed mostly in the form of alloys, compounds, fabricated forms, ingot, and metal powder. Tantalum capacitors were estimated to account for more than 60% of tantalum use. Major end uses for tantalum capacitors include automotive electronics, pagers, personal computers, and portable telephones. The value of tantalum consumed in 2009 was estimated at about \$127 million and was expected to be about \$170 million in 2010 as measured by the value of imports.

Salient Statistics—United States:	2006	2007	2008	2009	2010^e
Production:					
Mine	—	—	—	—	—
Secondary	NA	NA	NA	NA	NA
Imports for consumption ^{e, 1}	1,160	1,160	1,290	798	1,500
Exports ^{e, 1}	949	511	662	326	320
Government stockpile releases ^{e, 2}	289	—	—	—	—
Consumption, apparent	498	644	629	473	1,200
Price, tantalite, dollars per pound of Ta ₂ O ₅ content ³	32	36	39	27	36
Net import reliance ⁴ as a percentage of apparent consumption	100	100	100	100	100

Recycling: Tantalum was recycled mostly from new scrap that was generated during the manufacture of tantalum-containing electronic components and from tantalum-containing cemented carbide and superalloy scrap.

Import Sources (2006–09): Tantalum contained in niobium (columbium) and tantalum ore and concentrate; tantalum metal; and tantalum waste and scrap—Australia, 17%; China, 17%; Kazakhstan, 12%; Germany, 10%; and other, 44%.

Tariff:	Item	Number	Normal Trade Relations 12-31-10
	Synthetic tantalum-niobium concentrates	2615.90.3000	Free.
	Tantalum ores and concentrates	2615.90.6060	Free.
	Tantalum oxide ⁵	2825.90.9000	3.7% ad val.
	Potassium fluotantalate ⁵	2826.90.9000	3.1% ad val.
	Tantalum, unwrought:		
	Powders	8103.20.0030	2.5% ad val.
	Alloys and metal	8103.20.0090	2.5% ad val.
	Tantalum, waste and scrap	8103.30.0000	Free.
	Tantalum, other	8103.90.0000	4.4% ad val.

Depletion Allowance:⁶ 22% (Domestic), 14% (Foreign).

Government Stockpile: In fiscal year (FY) 2010, which ended on September 30, 2010, the Defense Logistics Agency, DLA Strategic Materials (formerly the Defense National Stockpile Center), sold no tantalum materials. The DLA Strategic Materials announced that maximum disposal limits for FY 2011 had not been approved. The DLA Strategic Materials exhausted stocks of tantalum minerals in FY 2007, metal powder in FY 2006, metal oxide in FY 2006, and metal ingots in FY 2005.

Material	Stockpile Status—9-30-10⁶			
	Uncommitted inventory	Authorized for disposal	Disposal plan FY 2010	Disposals FY 2010
Tantalum carbide powder	1.73	1.73	⁷ 3.63	—

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Events, Trends, and Issues: U.S. tantalum apparent consumption in 2010 was estimated to increase about 150% from that of 2009. Tantalum waste and scrap was the leading imported tantalum material, accounting for more than 42% of tantalum imports. By weight, from 2006 through 2009, tantalum mineral concentrate imports for consumption were supplied 66% by Australia and 21% by Canada; metal, 27% by China, 27% by Kazakhstan, and 15% by Germany; and waste and scrap, 15% by China, 14% by Portugal, and 12% by Germany. The United States rebounded from financial market problems and the subsequent economic slowdown in 2008 and 2009, as the world economy began a slow recovery. Several tantalum mines were put on care and maintenance: Wodgina Mine (Australia) in December 2008, and Tanco (Canada) and Marropino (Mozambique) in April 2009; however, Marropino restarted in April 2010.

World Mine Production and Reserves: Reserves for Mozambique were revised based on information published by a mining company.

	Mine production ⁸		Reserves ⁹
	2009	2010 ^e	
United States	—	—	—
Australia	81	80	40,000
Brazil	180	180	65,000
Canada	25	25	NA
Mozambique	113	110	3,200
Rwanda	104	100	NA
Other countries ¹⁰	162	170	NA
World total (rounded)	665	670	110,000

World Resources: Identified resources of tantalum, most of which are in Australia and Brazil, are considered adequate to meet projected needs. The United States has about 1,500 tons of tantalum resources in identified deposits, all of which are considered uneconomic at 2010 prices.

Substitutes: The following materials can be substituted for tantalum, but usually with less effectiveness: niobium in carbides; aluminum and ceramics in electronic capacitors; glass, niobium, platinum, titanium, and zirconium in corrosion-resistant equipment; and hafnium, iridium, molybdenum, niobium, rhenium, and tungsten in high-temperature applications.

^eEstimated. NA Not available. — Zero.

¹Imports and exports include the estimated tantalum content of niobium and tantalum ores and concentrates, unwrought tantalum alloys and powder, tantalum waste and scrap, and other tantalum articles.

²Government stockpile inventory reported by DLA Strategic Materials is the basis for estimating Government stockpile releases.

³Price is an average (time-weighted average of prices sampled weekly) based on trade journal reported prices.

⁴Defined as imports – exports + adjustments for Government and industry stock changes.

⁵This category includes other than tantalum-containing material.

⁶[See Appendix B for definitions.](#)

⁷Actual quantity limited to remaining sales authority or inventory.

⁸Excludes production of tantalum contained in tin slags.

⁹[See Appendix C for resource/reserve definitions and information concerning data sources.](#)

¹⁰Includes Burundi, Congo (Kinshasa), Ethiopia, Somalia, Uganda, and Zimbabwe.