

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 are mineralogically complex, and most are not commercially recoverable. Companies in the United States produced tantalum alloys, capacitors, compounds, and metal from imported tantalum ores and concentrates, tantalum-containing materials, and metal and alloys were recovered from foreign and domestic scrap. Domestic tantalum consumption is not reported by consumers. Major end uses for tantalum capacitors include automotive electronics, mobile phones, and personal computers. Tantalum oxide (Ta₂O₅) is used in glass lenses to make lighter weight lenses that produce a brighter image. Tantalum carbide is used in cutting tools. The value of tantalum consumed in 2017 was estimated to exceed \$240 million as measured by the value of imports.

Salient Statistics—United States:	2013	2014	2015	2016	2017^e
Production:					
Mine	—	—	—	—	—
Secondary	NA	NA	NA	NA	NA
Imports for consumption ^{e, 1}	1,110	1,230	1,240	1,060	1,290
Exports ^{e, 1}	844	725	657	604	630
Government stockpile releases ^{e, 2}	—	—	—	—	—
Consumption, apparent ³	263	508	586	458	660
Price, tantalite, dollars per kilogram of Ta ₂ O ₅ content ⁴	260	221	193	193	193
Net import reliance ⁵ 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 (2013–16): Tantalum minerals: Brazil, 40%; Rwanda, 26%; Australia, 8%; Canada, 7%; and other, 19%. Tantalum metal: China, 23%; Kazakhstan, 12%; Austria, 11%; Indonesia, 8%; and other, 46%. Tantalum waste and scrap: Austria, 20%; China, 17%; Indonesia, 15%; and other 48%.

Tariff:	Item	Number	Normal Trade Relations 12–31–17
	Synthetic tantalum-niobium concentrates	2615.90.3000	Free.
	Tantalum ores and concentrates	2615.90.6060	Free.
	Tantalum oxide ⁶	2825.90.9000	3.7% ad val.
	Potassium fluorotantalate ⁶	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: 22% (Domestic), 14% (Foreign).

Government Stockpile: For FY 2018, the Defense Logistics Agency (DLA) Strategic Materials announced a maximum acquisition limit for tantalum materials of about 15 tons. DLA Strategic Materials planned to dispose of or upgrade 1.7 tons of tantalum carbide powder.

Stockpile Status—9–30–17⁷

Material	Inventory	Disposal Plan FY 2017	Disposals FY 2017
Tantalum carbide powder	1.71	1.71	—
Tantalum materials	0.09	—	—

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Events, Trends, and Issues: U.S. tantalum apparent consumption in 2017 was estimated to have increased 44% from that of 2016. U.S. imports for consumption increased 22% from those of 2016. The increase was largely attributed to the increase in imports of tantalum powders (30% increase) and tantalum waste and scrap (23% increase). U.S. exports increased 4% from those of 2016. In 2017, the average monthly price of tantalum ore remained at about \$193 per kilogram of Ta₂O₅ content from January through September. This was unchanged from the average price in 2015. Congo (Kinshasa) and Rwanda accounted for about 60% of estimated global tantalum production in 2017.

A company in Australia announced that its Bald Hill lithium and tantalum mine was fully funded, and production in Western Australia was expected to start in 2018. Bald Hill was expected to produce approximately 220 tons per year of Ta₂O₅.

World Mine Production and Reserves: Reserves for Australia and Brazil were revised based on Government and industry information.

	Mine production		Reserves ⁸
	2016	2017 ^e	
United States	—	—	—
Australia	NA	NA	⁹ 78,000
Brazil	103	100	34,000
China	94	95	NA
Congo (Kinshasa)	370	370	NA
Ethiopia	63	60	NA
Nigeria	192	190	NA
Rwanda	350	390	NA
Other	45	65	NA
World total (rounded)	1,220	1,300	>110,000

World Resources: Identified resources of tantalum, most of which are in Australia, Brazil, and Canada, are considered adequate to meet projected needs. The United States has about 1,500 tons of tantalum resources in identified deposits, most of which are considered uneconomic at recent 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 applications; 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. Synthetic ore and concentrate was assumed to contain 32% Ta₂O₅. Niobium ore and concentrate was assumed to contain 32% Ta₂O₅. Tantalum ore and concentrate was assumed to contain 37% Ta₂O₅. Ta₂O₅ is about 81.9% Ta.

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

³Defined as imports – exports + adjustments for Government and industry stock changes.

⁴Price is annual average price reported by CRU Group.

⁵Defined as imports – exports + adjustments for Government and industry stock changes.

⁶This category includes materials other than tantalum-containing material.

⁷See [Appendix B](#) for definitions.

⁸See [Appendix C](#) for resource and reserve definitions and information concerning data sources.

⁹For Australia, Joint Ore Reserves Committee-compliant reserves were about 37,000 tons.