

TANTALUM

(Data in metric tons, tantalum content, unless otherwise specified)

Domestic Production and Use: Tantalum has not been mined in the United States since 1959. Domestic tantalum resources are low grade; some are mineralogically complex, and most are not commercially recoverable. Companies in the United States produced tantalum alloys, capacitors, carbides, compounds, and tantalum metal from imported tantalum ores and concentrates and tantalum-containing materials. Tantalum metal and alloys were recovered from foreign and domestic scrap. Domestic tantalum consumption was not reported by consumers. The value of tantalum consumed in 2024 was estimated to exceed \$230 million as measured by the value of imports.

Salient Statistics—United States:	2020	2021	2022	2023	2024^e
Production:					
Mine	—	—	—	—	—
Secondary	NA	NA	NA	NA	NA
Imports for consumption ¹	1,200	1,330	1,720	1,110	1,300
Exports ¹	434	655	662	672	480
Shipments from Government stockpile ²	-16	-10	—	NA	NA
Consumption, apparent ³	753	663	1,060	4440	770
Price, tantalite, annual average, dollars per kilogram of Ta ₂ O ₅ content ⁵	158	158	196	170	170
Net import reliance ⁶ as a percentage of apparent consumption	100	100	100	100	100

Recycling: Tantalum was recycled mostly from new scrap generated during the manufacture of tantalum-containing electronic components and from tantalum-containing cemented carbide and superalloy scrap. The amount of tantalum recycled was not available, but it may account for as much as 30% of consumption by domestic primary processors.

Import Sources (2020–23): Tantalum ores and concentrates: Australia, 58%; Congo (Kinshasa), 12%; Mozambique, 6%; United Arab Emirates, 5%; and other, 19%. Tantalum metal and powder: China,⁷ 43%; Germany, 27%; Kazakhstan, 15%; Thailand, 5%; and other, 10%. Tantalum waste and scrap: Indonesia, 20%; Japan, 13%; Republic of Korea, 13%; China,⁷ 12%; and other, 42%. Total: China,⁷ 22%; Australia, 12%; Germany, 12%; Indonesia, 8%; and other, 46%.

Tariff:	Item	Number	Normal Trade Relations 12–31–24
	Synthetic tantalum-niobium concentrates	2615.90.3000	Free.
	Niobium ores and concentrates	2615.90.6030	Free.
	Tantalum ores and concentrates	2615.90.6060	Free.
	Tantalum oxide	2825.90.9000	3.7% ad valorem.
	Potassium fluorotantalate	2826.90.9000	3.1% ad valorem.
	Tantalum, unwrought:		
	Powders	8103.20.0030	2.5% ad valorem.
	Alloys and metal	8103.20.0090	2.5% ad valorem.
	Tantalum, waste and scrap	8103.30.0000	Free.
	Tantalum, wrought:		
	Crucibles	8103.91.0000	4.4% ad valorem.
	Other	8103.99.0000	4.4% ad valorem.

Depletion Allowance: 22% (domestic), 14% (foreign).

Government Stockpile:⁸

Material	FY 2024		FY 2025	
	Potential acquisitions	Potential disposals	Potential acquisitions	Potential disposals
Tantalum metal	24.04	0.09	29.26	0.09

Events, Trends, and Issues: U.S. tantalum apparent consumption was estimated to be 770 tons in 2024, a 75% increase from that in 2023, and estimated U.S. imports for consumption increased by 12% compared with those in 2023. The increase in U.S. tantalum imports in 2024 is a reflection of a broader trend in the global market, primarily owing to a recovery in demand from consumer electronics and data centers. Concurrently, estimated U.S. exports decreased by 29% in 2024. The value of primary metal imports had the most significant increase of 29% compared with that in 2023. In 2024, the average monthly price for tantalum ore was valued at \$170 per kilogram of Ta₂O₅ content.

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Since the CHIPS and Science Act was signed into law in 2022, the U.S. Department of Commerce announced as of October 2024 preliminary agreements with 20 companies for 32 semiconductor manufacturing projects in 20 States. In total, these projects have received almost \$34 billion of the available \$39 billion in direct funding and almost \$29 billion in loans. The Department of Commerce planned to allocate the remaining funds to CHIPS and Science Act grantees by the end of 2024. As such, an expanded domestic chip manufacturing industry will increase demand for materials critical to semiconductor production, such as tantalum for capacitors and sputtering targets, to support the high volume of advanced chip fabrication.

In September, the Office of the United States Trade Representative announced final tariff modifications after completing its review of the actions imposed under section 301(b) of the Trade Act of 1974 (19 U.S.C. 2411, as amended): China's acts, policies, and practices related to technology transfer, intellectual property, and innovation. Additional categories of goods from China were subject to tariffs including a 25% ad valorem tariff on critical minerals, which included tantalum.

World Mine Production and Reserves:

	Mine production		Reserves ⁹
	2023	2024 ^e	
United States	—	—	—
Australia	44	52	¹⁰ 110,000
Bolivia	1	2	NA
Brazil	138	210	40,000
Burundi	^e 1	2	NA
China	^e 78	76	240,000
Congo (Kinshasa)	^e 920	880	NA
Ethiopia	^e 40	40	NA
Mozambique	51	55	NA
Nigeria	^e 390	390	NA
Russia	^e 23	29	NA
Rwanda	^e 350	350	NA
World total (rounded)	2,040	2,100	NA

World Resources:⁹ Identified world resources of tantalum, most of which are in Australia, Brazil, Canada, and China, are considered adequate to supply projected needs. The United States has about 55,000 tons of tantalum resources in identified deposits, most of which were considered subeconomic at 2024 prices for tantalum.

Substitutes: The following materials can be substituted for tantalum, but a performance loss or higher costs may ensue: niobium and tungsten in carbides; aluminum, ceramics, and niobium in electronic capacitors; glass, molybdenum, nickel, niobium, platinum, stainless steel, 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 synthetic tantalum-niobium concentrates, niobium and tantalum ores and concentrates, tantalum waste and scrap, unwrought tantalum alloys and powder, and other tantalum articles. Synthetic concentrates and niobium ores and concentrates were assumed to contain 50% Ta₂O₅. Tantalum ores and concentrates were assumed to contain 32% Ta₂O₅. Niobium ores and concentrates were assumed to contain 28% Ta₂O₅. Ta₂O₅ is 81.897% tantalum.

²Defined as change in total inventory from prior yearend inventory. If negative, increase in inventory. Beginning in 2023, Government stock changes no longer available.

³Defined for 2020–22 as production + imports – exports ± adjustments for Government and industry stock changes. Beginning in 2023, Government stock changes no longer included.

⁴Decrease in apparent consumption is owing to a decline in imports for consumption caused by stockpiling in 2022.

⁵Sources: CRU Group (2020–21) and the Institute for Rare Earths and Metals (2022–24).

⁶Defined for 2020–22 as imports – exports ± adjustments for Government and industry stock changes. Beginning in 2023, Government stock changes no longer included.

⁷Includes Hong Kong.

⁸See Appendix B for definitions.

⁹See Appendix C for resource and reserve definitions and information concerning data sources.

¹⁰For Australia, Joint Ore Reserves Committee-compliant or equivalent reserves were 28,000 tons.