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2021 Minerals Yearbook

TANTALUM [ADVANCE RELEASE]

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Tantalum

By Chad A. Friedline

Domestic survey data and tables were prepared by Sidney W. DeLoach-Overton, statistical assistant.

In 2021, U.S. tantalum apparent consumption (measured in tantalum content) equaled 749 metric tons (t), a decrease of 8% compared with that in 2020 (table 1). No domestic mine production of tantalum ore was reported. The estimated tantalum content of world mine production was 1,800 t, a slight decrease from world production (revised) in 2020 (tables 1, 4). The United States imported 1,380 t of tantalum contained in alloys, metals, ores and concentrates, and waste and scrap, 12% more than that in 2020 (table 1). In the same period, the United States exported 628 t of tantalum contained in tantalum-bearing metal, alloys, ores and concentrates, and waste and scrap, 51% more than that in 2020. Traded tantalum materials included chemicals, metal, potassium hepta-fluorotantalate (commercially known as K-salt), residue, scrap, slag, and tantalum ores and concentrates. The principal uses of tantalum were in electronic capacitors and in superalloys for aircraft engines and turbines.

K-salt and tantalum oxide (Ta_2O_5) do not have unique Harmonized Tariff Schedule of the United States (HTS) codes. As a result, a potentially significant part of tantalum material trade is undocumented.

Government Actions and Legislation

The United States is heavily reliant on imports of certain mineral commodities vital to the Nation's security and economic prosperity. This dependency on foreign sources creates a strategic vulnerability for the U.S. economy and military to adverse foreign government action, natural disasters, and other events that can disrupt the supply of critical minerals. On May 18, 2018, under Executive Order 13817, the U.S. Department of the Interior published a list of 35 critical mineral commodities that included tantalum (U.S. Department of the Interior, 2018).

On September 29, 2020, the U.S. Department of Defense revised Defense Federal Acquisition Regulation Supplement section 849 of the National Defense Authorization Act for the fiscal year 2020 to include tantalum in the definition of "covered materials" in 10 U.S.C. 2533c. With some exceptions, 10 U.S.C. 2533c prohibits commercial contracts and subcontracts in the acquisition of any covered material melted or produced in any covered country (China, Iran, North Korea, or Russia) or any end use item manufactured in any covered country containing a covered material (U.S. Department of Defense, 2020).

Tantalum was first added to the U.S. Government stockpile in 1942 in the form of tantalite ore (DeMille, 1947, p. 479). The U.S. Department of Defense, Defense Logistics Agency Strategic Materials (DLA Strategic Materials) designated a maximum quantity of 1,710 kilograms (kg) of tantalum contained in tantalum carbide powder and 86 kg of tantalum scrap for disposal from the National Defense Stockpile under its Annual Materials Plan for fiscal year 2022 (October 4, 2021, to September 30, 2022), and designated no tantalum for potential acquisition (Defense Logistics Agency Strategic Materials, 2021a, b). The stockpile inventory (tantalum content) as of December 30, 2021, was 1.5 kg gross weight of tantalum alloys, no stocks of tantalum carbide powder, 85 kg tantalum metal, and 92,000 kg of tantalum minerals and concentrate.

Production

Globally, tantalite and columbite-tantalite (also referred to as "coltan") were the leading minerals mined for tantalum. The primary marketable tantalum materials were tantalum metal (unwrought and wrought alloys, metal, and powder), ore, and scrap. Tantalum resources in the United States are of mostly low grade and mineralogically complex. Development of these resources is challenging. As a result, domestic supply has been a concern for many years. In 2021, no domestic tantalum mine production was reported. Recycled materials and stocks were the only domestic supply sources of tantalum. Companies in the United States produced tantalum alloys, compounds, and metal from imported tantalum-containing materials and from foreign and domestic scrap, but the available information was inadequate for reliable estimates of output. World tantalum resources and mining capacity were concentrated in Brazil, Congo (Kinshasa), Nigeria, and Rwanda. Current world tantalum reserves are adequate to meet anticipated global consumption.

Consumption

Domestic consumption data for tantalum materials were developed by the U. S. Geological Survey by means of the "Columbium (Niobium) and Tantalum," "Consolidated Consumers," and "Specialty Ferroalloys" surveys. For tantalum materials, 1 consumer responded to the "Columbium (Niobium) and Tantalum" canvass, 15 responded to the "Consolidated Consumers" canvass, and 1 responded to the "Specialty Ferroalloys" canvass. Domestic consumption data for tantalum were withheld to avoid disclosing company proprietary data.

In November, Materion Corp. (Mayfield Heights, OH) announced the completion of its acquisition of H.C. Starck Electronic Materials (Newton, MS). The acquisition offered Materion advanced manufacturing processes and technical capabilities for tantalum- and niobium-based products and services for semiconductor, industrial, defense, and aerospace industries. Materion owned 27 manufacturing facilities in 13 countries and produced precious and nonprecious specialty metals, inorganic chemicals and powders, specialty coatings, specialty engineered beryllium alloys, beryllium and beryllium composites, and engineered clad and plated metal systems (Materion Corp., 2021a, b).

Foreign Trade

According to the U.S. Census Bureau, in 2021 the United States exported tantalum materials valued at $203 million, an increase of 29% compared with that in 2020, and imported tantalum materials valued at $285 million, an increase of 37% compared with that in 2020 (table 2). Traded tantalum materials included tantalum metal, ores and concentrates, and scrap. In 2021, Australia continued to be the leading supplier of tantalum ores and concentrates (from Australian and imported ores and concentrates), accounting for 44% of imports to the United States (tables 2, 3). China was the leading supplier of tantalum metal (wrought and unwrought), and Indonesia was the leading supplier of waste and scrap imports. Germany continued to be the leading supplier of tantalum metal powders. In 2021, Germany was the leading destination for United States exported synthetic concentrates, Thailand was the leading destination for tantalum ores and concentrates, and El Salvador was the leading destination for tantalum metal powders. Germany was the leading destination for exported unwrought tantalum metal, and Kazakhstan was the leading destination of waste and scrap. China continued to be the leading destination for wrought products (table 2).

Prices

Tantalum materials were not openly traded. Purchase contracts were confidential between buyer and seller; however, trade journals reported composite prices of tantalite based on interviews with buyers and sellers, and traders declared the value of tantalum materials that they imported or exported. In 2021, the annual average price of tantalite ore remained $158 per kilogram of Ta_2O_5 content (table 1). The average monthly tantalite ore price was $193 per kilogram of tantalum content in January, where it remained through December (CRU Group, 2022).

Based on U.S. Census Bureau data, in 2021 the average unit value (gross weight basis) of tantalum materials imported to the United States was $319 per kilogram for metal and powders; $48 per kilogram for ore and concentrates, including synthetic concentrates; and $62 per kilogram for tantalum waste and scrap. The average unit value (gross weight basis) of exported tantalum materials was $508 per kilogram for metal (unwrought and wrought) and powder, $26 per kilogram for ores and concentrates, and $155 per kilogram for tantalum waste and scrap (table 2).

World Review

In 2021, world production of tantalum contained in cassiterite, columbite-tantalite, loparite, and tantalite concentrates was estimated to be 1,830 t (tables 1, 4), slightly less than 1,840 t (revised) in 2020. Congo (Kinshasa), Brazil, and Rwanda were the leading producers of tantalum mineral concentrates, in descending order of quantity. Tantalum-bearing tin slags, which are byproducts from tin smelting, principally from Asia and Brazil, were another source of tantalum. In 2021, capacitors accounted for an estimated 37% of global tantalum consumption, followed by chemicals (19%), superalloys (17%), sputtering targets (14%), mill products (9%), and cemented carbides (4%) (Roskill Information Services Ltd., 2020).

European Union.—In January, the European Union (EU) regulation on conflict minerals covering gold, tantalum, tin, and tungsten went into effect for EU importers. The regulation was signed into law in 2017 and gave companies until 2021 to adapt to the new rules. It ensures that smelters source materials responsibly and is expected to reduce trade that finances conflict and the illegal exploitation of minerals, workers, and communities (European Commission, 2021).

Australia.—Liontown Resources Ltd. announced the definitive feasibility study results for its wholly owned Kathleen Valley lithium-tantalum project in Western Australia. Liontown Resources reported a measured, indicated, and inferred resource of 156 million metric tons (Mt) with an average grade of 0.013% Ta_2O_5; there was no change in the resource estimates compared with the 2020 prefeasibility study (Liontown Resources Ltd., 2021, p. 9).

In October 2021, Pilbara Minerals Ltd. announced its total Ta_2O_5 production for the year ending June 30, 2021, as 60 t, a 52% increase compared with 39 t in 2020 (Pilbara Minerals Ltd., 2021, p. 17). Of the total tantalite concentrate produced, 59 t was shipped to Global Advanced Metals Greenbushes Pty Ltd. for processing into tantalum metallurgical products (Pilbara Minerals Ltd., 2021, p. 28). During fiscal year 2021, Pilbara Minerals acquired Altura Lithium Operations Pty Ltd., which owned the Altura Lithium Project, and subsequently renamed them Ngungaju Lithium Operations Pty Ltd. and the Ngungaju Plant, respectively. Once integrated into its existing operations, the Ngungaju Plant was expected to expand the production capacity of spodumene concentrate (Pilbara Minerals Ltd., 2021, p. 23). Pilbara Minerals only produced tantalite concentrate as a byproduct from its Pilgan Plant (Pilbara Minerals Ltd., 2021, p. 8).

Brazil.—Mineração Taboca S.A. [a subsidiary of MINSUR S.A. (Peru)] operated the Pitinga-Pirapora Mine complex in Amazonas State. In 2021, the company reported production of 4,003 t in gross weight of niobium and tantalum ferroalloys, a 15% increase compared with 3,484 t in 2020. MINSUR reported that the production increase was due to improvements in recovery of niobium and tantalum at the metallurgical plant and a greater number of days of continuous operation compared to that in 2020 (MINSUR S.A., 2021, p. 9).

In January 2021, AMG Advanced Metallurgical Group N.V. (Netherlands) restructured into three operating segments; tantalum and niobium became part of AMG Clean Energy Materials (AMG Advanced Metallurgical Group N.V., 2022, p. 30). For 2019, 2020, and 2021, tantalum concentrate production at its Mibra lithium-tantalum-niobium-tin mine in Minas Gerais State was not disclosed.

Canada.—In March, Canada's Minister of Natural Resources announced the release of Canada's list of critical minerals. This list consists of 31 minerals, including tantalum and niobium, considered critical for the sustainable economic success of Canada and its allies (Natural Resources Canada, 2021).

Namibia.—Kazera Global Investments plc (formerly known as Kennedy Ventures), owner of the Tantalite Valley Tantalum Mine (TVM), announced in 2020 that commercial

mine production had yet to be achieved owing to the lack of a consistent water source. To rectify this issue, the company intended to run a 17-kilometer pipeline from the Orange River (Align Research Ltd., 2020, p. 2, 12). In 2021, Kazera reported successful testing of its plant upgrades, which included using borehole water and implementing aggressive water recycling policies. Additionally, Kazera announced initial terms of funding were reached that would aid in site developments and the building of the Orange River pipeline (Kazera Global Investments plc, 2022, p. 3)

In November, AfriTin Mining Ltd. reported the success of its By-product and Metallurgical Process Development Programme in producing a high-grade tantalum concentrate at its Uis Tin Mine location. In 2021, AfriTin did not receive credit for the tantalum content within the tin concentrate and aimed to separate the tantalum-bearing minerals by employing dry screening and a high-intensity dry electromagnetic separation to produce a separate salable tantalum concentrate (AfriTin Mining Ltd., 2021, p. 2).

Zimbabwe.—Prospect Resources Ltd. announced feasibility study results for its Arcadia Lithium Project. The report demonstrated a measured, indicated, and inferred resource of 73 Mt with an average grade of 0.012% Ta_2O_5 and an assumed tantalum recovery of 27.0% (Prospect Resources Ltd., 2021, p. 5). Once operational, the Arcadia Lithium Project was expected to produce byproduct tantalum using gravity concentration to separate tantalite from the petalite dense media separation circuits and spodumene flotation tailings (Prospect Resources Ltd., 2021, p. 5, 80).

Outlook

Tantalum is produced as a byproduct from many lithium hard-rock deposits, typically spodumene-bearing pegmatites. Global demand for lithium has increased significantly in recent years. As a result, several new hard-rock lithium mining operations, many in Australia, have started production, and these operations may become significant sources of tantalum as a byproduct. However, Africa, where tantalum is produced primarily at artisanal and small-scale mining operations, is still expected to remain the leading tantalum-producing region in the near future.

References Cited

AfriTin Mining Ltd., 2021, By-product and metallurgical process development programme: Illovo, South Africa, AfriTin Mining Ltd., November 18, 3 p. (Accessed June 29, 2022, at https://polaris.brighterir.com/public/afritin_mining/news/rns/story/rg827jw/export.)

Align Research Ltd., 2020, Kazera Global Investments plc, August 2020: Malton, United Kingdom, Align Research Ltd., August 5, 38 p. (Accessed March 8, 2022, at https://www.alignresearch.co.uk/wp-content/uploads/2020/08/Kazera_Global_Investments_Align_Initiation_August_2020.pdf.)

AMG Advanced Metallurgical Group N.V., 2022, Accelerating the energy transition—Annual report 2021: Amsterdam, Netherlands, AMG Advanced Metallurgical Group N.V., March 11, 160 p. (Accessed June 20, 2022, at https://amg-nv.com/wp-content/uploads/AMG-Annual-Report-2022-03-11.pdf.)

CRU Group, 2022, Noble alloys and minor metals prices: London, United Kingdom, CRU Group, April 1. (Accessed June 23, 2022, via http://www.crugroup.com/.)

Defense Logistics Agency Strategic Materials, 2021a, Annual Materials Plan for FY 2022 (potential acquisitions): Fort Belvoir, VA, Defense Logistics Agency Strategic Materials announcement, DLA–SM–22–3200, October 4, 1 p. (Accessed June 21, 2022, via https://www.dla.mil/HQ/Acquisition/StrategicMaterials/Reports/.)

Defense Logistics Agency Strategic Materials, 2021b, Annual Materials Plan for FY 2022 (potential disposals*): Fort Belvoir, VA, Defense Logistics Agency Strategic Materials announcement, DLA–SM–22–3199, October 4, 1 p. (Accessed June 21, 2022, via https://www.dla.mil/HQ/Acquisition/StrategicMaterials/Reports/.)

DeMille, J.B., 1947, Strategic minerals—A summary of uses, world output, stockpiles, procurement: New York, NY, McGraw-Hill Book Company, Inc., 642 p. (Accessed February 2, 2022, at https://ia801405.us.archive.org/24/items/strategicmineral031804mbp/strategicmineral031804mbp.pdf.)

European Commission, 2021, Conflict Minerals Regulation—The regulation explained: Brussels, Belgium, European Commission Directorate-General for Communication, December 21. (Accessed March 15, 2022, at https://policy.trade.ec.europa.eu/development-and-sustainability/conflict-minerals-regulation/regulation-explained_en/.)

Kazera Global Investments plc, 2022, Annual report for the year ended 30 June 2021: Cardiff, United Kingdom, Kazera Global Investments plc, March 29, 46 p. (Accessed June 29, 2022, at https://kazeraglobal.com/wp-content/uploads/2024/09/KZG-230315-Kazera-AFS-Web.pdf.)

Liontown Resources Ltd., 2021, Kathleen Valley DFS confirms Tier-1 global lithium project with outstanding economics and sector-leading sustainability credentials: West Perth, Western Australia, Australia, Liontown Resources Ltd., November 11, 69 p. (Accessed June 27, 2022, at https://wcsecure.weblink.com.au/pdf/LTR/02450567.pdf.)

Materion Corp., 2021a, Accelerating our transformation with the acquisition of H.C. Starck's electronic materials portfolio: Mayfield Heights, OH, Materion Corp. presentation, September 21. (Accessed June 23, 2022, at https://s24.q4cdn.com/750845857/files/doc_presentations/2021/09/HCS-Electronic-Materials-Presentation-(Final).pdf.)

Materion Corp., 2021b, Materion completes acquisition of H.C. Starck's electronic materials portfolio: Mayfield Heights, OH, Materion Corp. press release, November 11. (Accessed June 23, 2022, at https://investor.materion.com/press-releases/press-release-details/2021/Materion-Completes-Acquisition-of-H.C.-Starcks-Electronic-Materials-Portfolio/default.aspx.)

MINSUR S.A., 2021, Reportes trimestrales—Resultados consolidados cuarto trimestre 2021 [Quarterly reports—Consolidated results fourth quarter 2021]: Lima, Peru, MINSUR S.A., 21 p. (Accessed June 28, 2022, via https://www.minsur.com/relacion-con-inversionistas/reportes-trimestrales/.) [In Spanish.]

Natural Resources Canada, 2021, Critical minerals: Ottawa, Ontario, Canada, Natural Resources Canada, March 29. (Accessed June 30, 2022, at https://www.nrcan.gc.ca/our-natural-resources/minerals-mining/critical-minerals/23414.)

Pilbara Minerals Ltd., 2021, Annual report 2021: West Perth, Western Australia, Australia, Pilbara Minerals Ltd., October 21, 180 p. (Accessed June 27, 2022, via https://www.pilbaraminerals.com.au/investors/reports-and-asx-announcements/.)

Prospect Resources Ltd., 2021, Lycopodium completes Direct OFS for Arcadia Project: West Perth, Western Australia, Australia, Prospect Resources Ltd. ASX announcement, December 14, p. 93. (Accessed June 29, 2022, at https://prospectresources.com.au/wp-content/uploads/2022/07/61068491.pdf.)

Roskill Information Services Ltd., 2020, Tantalum—Outlook to 2029 (databook for figures): London, United Kingdom, Roskill Information Services Ltd., April 1.

U.S. Department of Defense, 2020, Defense Federal Acquisition Regulation Supplement—Restriction on the acquisition of tantalum (DFARS Case 2020–D007): Federal Register, v. 85, no. 189, September 29, p. 61500–61502. (Accessed February 9, 2022, at https://www.govinfo.gov/app/details/FR-2020-09-29/2020-21249/summary.)

U.S. Department of the Interior, 2018, Final list of critical minerals 2018: Federal Register, v. 83, no. 97, May 18, p. 23295–23296. (Accessed February 9, 2022, at https://www.govinfo.gov/content/pkg/FR-2018-05-18/pdf/FR-2018-05-18.pdf.)

GENERAL SOURCES OF INFORMATION

U.S. Geological Survey Publications

Historical Statistics for Mineral and Material Commodities in the United States. Data Series 140.
Niobium and Tantalum. Ch. in Critical Mineral Resources of the United States—Economic and Environmental Geology and Prospects for Future Supply, Professional Paper 1802, 2017.
Niobium (Columbium) and Tantalum. International Strategic Minerals Inventory Summary Report, Circular 930–M, 1993.
Shift in Global Tantalum Mine Production, 2000 to 2014. Fact Sheet 2015–3079
Tantalum. Ch. in Mineral Commodity Summaries, annual.
Tantalum Recycling in the United States in 1998. Ch. in Flow Studies for Recycling Metal Commodities in the United States, Circular 1196–A–M, 2004.
Tantalum (Ta). Ch. in Metal Prices in the United States Through 2010, Scientific Investigations Report 2012–5188, 2013.

Other

Company reports and press releases.
International Symposium Proceedings, Tantalum-Niobium International Study Center, 2005.
Mining Journal, weekly.
Platts Metals Week, weekly.
CRU Group (formerly Ryan's Notes), weekly.
Tantalum. Ch. in Mineral Facts and Problems, U.S. Bureau of Mines Bulletin 675, 1985.
Tantalum-Niobium International Study Center.

TABLE 1
SALIENT TANTALUM STATISTICS[1]

(Metric tons unless otherwise specified)

		2017	2018	2019	2020	2021
United States:						
Exports:						
Niobium ores and concentrates, gross weight		7	5	27	4	5
Synthetic ores and concentrates, gross weight		113	198	40	120	238
Tantalum ores and concentrates, gross weight		109	48	28	10	180
Tantalum-containing ores and concentrates,[2] tantalum (Ta) content[e]		65	68	26	36	118
Tantalum, unwrought, Ta content[3]		220	185	137	76	143
Tantalum, waste and scrap, Ta content[3]		169	305	145	138	190
Tantalum, wrought, Ta content[3]		95	124	115	168	177
Total exports, Ta content		549	681	423	417	628
Imports for consumption:						
Niobium ores and concentrates, gross weight		1	31	3	4	1
Synthetic ores and concentrates, gross weight		15	12	6	6	30
Tantalum ores and concentrates, gross weight		1,010	1,050	840	693	1,300
Tantalum-containing ores and concentrates,[2] Ta content[e]		311	330	257	213	403
Tantalum, unwrought, Ta content[3]		484	623	535	464	569
Tantalum, waste and scrap, Ta content[3]		586	608	508	489	348
Tantalum, wrought, Ta content[3]		74	96	79	65	57
Total imports, Ta content		1,460	1,660	1,380	1,230	1,380
Apparent consumption,[4] Ta content		907	975	956	814	749
Price, tantalite,[5] Ta_2O_5 content	dollars per kilogram	193	214	161	158	158
Value,[6] tantalum ores and concentrates, gross weight	do.	39	57	50	43	48
World, production of tantalum concentrates, Ta content[7]		1,910	2,090 [r]	1,750 [r]	1,840 [r]	1,830

[e]Estimated. [r]Revised. do. Ditto.
[1]Table includes data available through August 10, 2022. Data are rounded to no more than three significant digits, except values; may not add to totals shown.
[2]Includes natural and synthetic tantalum-containing ores and concentrates. Tantalum (Ta) content of ores and concentrates is estimated assuming the following tantalum oxide (Ta_2O_5) contents: 32% in niobium ore, 32% in synthetic concentrates, and 37% in tantalum ore. Ta_2O_5 is 81.897% Ta.
[3]Ta content estimated at 100%.
[4]Defined as imports minus exports.
[5]Average annual price per Ta_2O_5 content as reported by CRU Group.
[6]Weighted average value of imported plus exported materials.
[7]May include estimated data.

TABLE 2
U.S. FOREIGN TRADE IN TANTALUM, BY CLASS[1]

Categorization code[2]	Class	2020 Gross weight (metric tons)	2020 Value (thousands)	2021 Gross weight (metric tons)	2021 Value (thousands)	Principal destinations and sources in 2021 (gross weight in metric tons and values in thousand dollars)
	Exports:					
2615.90.3000	Synthetic concentrates	120	$2,110	238	$2,700	Germany 96, $932; Taiwan 78, $83; Mexico 54, $1,550.
2615.90.6030	Niobium ores and concentrates	4	126	5	149	India 3, $101; United Kingdom 1, $23; China 1, $20.
2615.90.6060	Tantalum ores and concentrates	10	525	180	8,160	Thailand 172, $7,670; Belgium 6, $361; Austria 1, $117.
8103.20.0030	Tantalum, unwrought, powders	69	28,500	84	31,100	El Salvador, 41, $12,500; Israel, 15, $7,050; Mexico 14, $4,870.
8103.20.0090	Tantalum, unwrought, other	7	2,070	59	17,500	Germany 48, $14,800; El Salvador 6, $1,040; Netherlands 3, $750.
8103.30.0000	Tantalum, waste and scrap	138	18,100	190	29,500	Kazakhstan 104, $19,200; Mexico 32, $2,570; United Kingdom 17, $2,710.
8103.90.0000	Tantalum, wrought	168	106,000	177	114,000	China 68, $46,700; Republic of Korea 57, $36,300; Germany 18, $8,070.
	Total exports	516	157,000	933	203,000	
	Imports for consumption:					
2615.90.3000	Synthetic concentrates	6	199	30	931	Singapore 28, $921; Taiwan 2, $10.
2615.90.6030	Niobium ores and concentrates	4	97	1	85	China 1, $48.
2615.90.6060	Tantalum ores and concentrates	693	29,800	1,300	62,700	Australia 567, $27,500; Congo (Kinshasa) 281, $12,800; Mozambique 170, $8,200; Tanzania 93, $5,180; United Arab Emirates 71, $3,480.
8103.20.0030	Tantalum, unwrought, powders	189	55,700	195	64,300	Germany 91, $30,800; China 72, $23,000; Thailand 22, $8,720.
8103.20.0090	Tantalum, unwrought, other	275	71,700	375	107,000	China 165, $40,100; Kazakhstan 90, $27,900; Germany 71, $25,100.
8103.30.0000	Tantalum, waste and scrap	489	22,100	348	21,700	Indonesia 83, $1,960; Republic of Korea 39, $883; Canada 31, $835; China 30, $4,800; Germany 30, $2,260.
8103.90.0000	Tantalum, wrought	65	29,400	57	29,200	China 39, $18,500; Kazakhstan 8, $3,740.
	Total imports	1,720	209,000	2,310	285,000	

[1]Table includes data available through April 25, 2022. Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Exports categorized as United States Schedule B. Imports categorized as Harmonized Tariff Schedule of the United States.

Sources: U.S. Census Bureau and U.S. Geological Survey.

TABLE 3

U.S. IMPORTS FOR CONSUMPTION OF TANTALUM ORES AND CONCENTRATES, BY COUNTRY OR LOCALITY[1, 2]

Country or locality	2020		2021	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
Australia	499	$20,300	567	$27,500
China	(3)	4	(3)	3
Congo (Kinshasa)	89	3,720	281	12,800
Czechia	--	--	11	398
Germany	--	--	(3)	52
Mauritius	105	5,740	60	3,040
Mozambique	--	--	170	8,200
Reunion	--	--	10	359
Rwanda	--	--	37	1,750
Tanzania	--	--	93	5,180
United Arab Emirates	--	--	71	3,480
Total	693	29,800	1,300	62,700

-- Zero.

[1]Table includes data available through April 25, 2022. Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Harmonized Tariff Schedule of the United States code 2615.90.6060.

[3]Less than ½ unit.

Sources: U.S. Census Bureau and U.S. Geological Survey.

TABLE 4

TANTALUM: WORLD PRODUCTION OF MINERAL CONCENTRATES, BY COUNTRY OR LOCALITY[1, 2]

(Metrc tons, tantalum content)

Country or locality[3]	2017	2018	2019	2020	2021
Australia, tantalite concentrate	20	32	67	42 r	44
Bolivia, tantalite concentrate	2	14	8	7	1 e
Brazil, mineral concentrate[4]	270	360 e	440 e	470 e	360 e
Burundi, ore and concentrate[e]	28	43	38	30 r	39
China, mineral concentrate	75	90	76 e	74 e	76 e
Congo (Kinshasa):[e]					
Cassiterite concentrate	280	240	280	400	430
Columbite-tantalite concentrate	480	500	290	380	360
Total	760	740	570	780	790
Ethiopia, columbite-tantalite concentrate[e]	80 r	62 r	42 r	17 r	32
Mozambique, columbite-tantalite concentrate	26	30	27	43	37
Namibia, tantalite concentrate[e]	2	(5)	1	--	--
Nigeria, columbite-tantalite concentrate[e]	180	260	110 r	30 r	110
Russia, loparite concentrate	36	36	26	49	39 e
Rwanda:					
Cassiterite concentrate	71	72 r, e	58 r, e	42 r, e	47 e
Columbite-tantalite concentrate[e]	360 r	350	290 r	220 r	222
Total	431 r	422 r	348 r	262 r	269
Uganda, ore and concentrate[e]	3	2	2	38	38
Grand total	1,910	2,090 r	1,760 r	1,840 r	1,840

[e]Estimated. [r]Revised. -- Zero.

[1]Table includes data available through August 10, 2022. All data are reported unless otherwise noted; totals and grand totals may include estimated data. Grand totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

[2]Figures for all countries represent marketable output.

[3]In addition to the countries and (or) localities listed, French Guiana may have produced tantalum mineral concentrates, but available information was inadequate to make reliable estimates of output.

[4]Includes columbite-tantalite and microlite.

[5]Less than ½ unit.