

Mineral Industry Surveys

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TITANIUM IN THE FIRST QUARTER 2022

In the first quarter, U.S. imports of titanium mineral concentrates, excluding titaniferous iron ore, totaled 283,000 metric tons (t) (gross weight) and included ilmenite (148,000 t), rutile (80,600 t), synthetic rutile (205 t), and titanium slag (54,100 t) (table 4). Exports of all forms of titanium mineral concentrates were 65,600 t (table 2).

Imports of all forms of titanium pigment were 56,500 t compared with 59,100 t in the prior quarter (table 5). Exports of all forms of titanium pigment were 103,000 t compared with 109,000 t in the prior quarter (table 2).

Total imports of titanium metal, excluding ferrotitanium, were 14,700 t and were primarily in the form of sponge (45%) and waste and scrap (23%). Imports of sponge and waste and scrap increased by 23% and 30%, respectively, compared with the prior quarter (table 3). Exports of all forms of titanium metal were 6,810 t, a 6% decrease compared with the prior quarter (table 2). The net increase in imports was expected to result in increased production of titanium ingot and mill products.

Industry participation is key to the publication of aggregated totals of domestic titanium statistics. In the first quarter of 2022, domestic production, consumption, shipments, and stocks of sponge, ingot, slab, and mill products were withheld to avoid disclosing company proprietary data owing to limited responses (table 1).

The U.S. Geological Survey's (USGS) National Minerals Information Center canvasses the nonfuel mining and mineral processing industry in the United States for data on mineral production, consumption, recycling, stocks, and shipments. Reporting is voluntary, and the USGS greatly appreciates the data provided by companies participating in the surveys

throughout the United States. The data that companies provide are the foundation upon which the USGS builds its minerals information publications. Unless authorization is granted for release, the data furnished are aggregated to avoid disclosing company proprietary data and are treated as confidential by the Department of the Interior.

Companies may report on a monthly, quarterly, semiannual, and (or) annual basis, depending on the frequency of the surveys. Canvass forms are mailed shortly after the end of the reporting period and are requested to be returned within about 30 days. In addition to reporting by paper canvass forms, companies can electronically submit data to contribute to this valuable effort. Companies already registered with the USGS can sign up to report electronically by selecting the "Sign up" link at <https://mids.er.usgs.gov>. To notify the USGS of a new operation, or for further information on registering for electronic submissions, visit <https://mids.er.usgs.gov>. The USGS titanium metal quarterly survey has a canvas code of G37. For more information on how to participate in the titanium surveys, please contact Joseph Gambogi using the contact information listed above.

List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to <https://www.usgs.gov/centers/national-minerals-information-center/minerals-information-publication-list-services>.

TABLE 1
COMPONENTS OF U.S. TITANIUM METAL SUPPLY AND DEMAND¹

(Metric tons)

	2021					2022 1st quarter
	1st quarter	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	
Production:						
Sponge	W	W	W	W	W	W
Ingot	W	W	W	W	W	W
Mill products	W	W	W	W	W	W
Exports:						
Waste and scrap	3,190	2,250	2,480	2,520	10,400	1,970
Sponge	8	50	32	27	117	79
Ingot	439	634	634	871	2,580	792
Other unwrought	354	436	802	439	2,030	398
Bar, rod, profiles, wire	902	909	1,190	1,210	4,210	1,350
Bloom, sheet bar, slab	573	439	328	358	1,700	468
Other wrought	1,400	1,460	1,480	1,840	6,180	1,740
Total	6,860	6,180	6,950	7,270	27,300	6,810
Imports:						
Waste and scrap	2,620	2,700	2,710	2,640	10,700	3,430
Sponge ²	2,150	4,960	3,410	5,380	15,900	6,630
Ingot	220	48	341	266	875	453
Powder	44	59	59	51	214	28
Other unwrought	190	156	330	593	1,270	357
Wrought	1,430	1,710	2,290	1,880	7,310	3,460
Castings	13	6	6	20	44	14
Other	126	132	159	166	583	283
Total	6,790	9,770	9,310	11,000	36,900	14,700
Stocks, end of period:						
Sponge, industry	W	W	W	W	W	W
Scrap	W	W	W	W	W	W
Ingot	W	W	W	W	W	W
Consumption:						
Sponge	W	W	W	W	W	W
Scrap	W	W	W	W	W	W
Ingot	W	W	W	W	W	W
Shipments:						
Ingot and slab (producer net shipments)	W	W	W	W	W	W
Mill products (net shipments):						
Forging and extrusion billet	W	W	W	W	W	W
Other	W	W	W	W	W	W
Total	W	W	W	W	W	W
Castings	W	W	W	W	W	W
Receipts, scrap:						
Home	W	W	W	W	W	W
Purchased	W	W	W	W	W	W
Total	W	W	W	W	W	W

W Withheld to avoid disclosing company proprietary data.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Estimated by the U.S. Geological Survey.

TABLE 2
U.S. EXPORTS OF TITANIUM PRODUCTS¹

(Metric tons)

	HTS ² Code	2021				1st quarter–	2022
		1st quarter	2d quarter	3d quarter	4th quarter	4th quarter	1st quarter
Metal:							
Waste and scrap	8108.30.0000	3,190	2,250	2,480	2,540 [†]	10,400	1,970
Unwrought:							
Sponge	8108.20.0010	8	50	32	27	117	79
Ingot	8108.20.0030	439	634	634	871	2,580	792
Other	8108.20.0090	354	436	802	439	2,030	398
Wrought:							
Bar, rod, profiles, wire	8108.90.6031	902	909	1,190	1,210	4,210	1,350
Bloom, sheet bar, slab	8108.90.6020	573	439	328	358	1,700	468
Other	8108.90.8000	1,400	1,460	1,480	1,840	6,180	1,740
Ferrotitanium and ferrosilicon titanium	7202.91.0000	375	346	206	331	1,260	313
Ores and concentrates	2614.00.0000	2,550	1,700	3,360	46,500	54,100	65,600
Pigment:							
80% or more titanium dioxide	3206.11.0000	122,000	128,000	115,000	103,000	468,000	96,700
Other titanium dioxide	3206.19.0000	3,670	3,430	3,080	2,800	13,000	3,120
Unfinished titanium dioxide ³	2823.00.0000	4,040	4,610	3,430	3,530	15,600	3,520

[†]Revised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Harmonized Tariff Schedule of the United States.

³Unmixed and not surface treated.

Source: U.S. Census Bureau.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM METAL¹

(Metric tons)

	HTS ² Code	2021					2022 1st quarter
		1st quarter	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	
Waste and scrap:	8108.30.0000						
Canada		350	400	328	381	1,460	451
China		27	11	3	6	47	151
Czechia		39	18	75	--	132	92
France		462	173	217	308	1,160	457
Germany		393	601	573	665	2,230	629
Israel		--	36	57	29	121	44
Italy		36	201	99	114	449	186
Japan		139	293	235	191	857	216
Korea, Republic of		98	179	376	103	755	367
Mexico		214	151	172	229	766	165
Poland		108	19	8	18	153	45
Singapore		62	50	67	60	238	52
Spain		74	50	69	33	226	31
United Kingdom		471	335	312	385	1,500	453
Other		144 ^r	180 ^r	121 ^r	120 ^r	565 ^r	94
Total		2,620	2,700	2,710	2,640	10,700	3,430
Unwrought:							
Sponge:	8108.20.0010						
Japan		2,030	4,600	3,050	4,180	13,900	6,270
Kazakhstan ^e		52	265	317	1,120	1,760	300
Russia		31	12	8	44	94	32
Other		36	83	35	34	188	21
Total		2,150	4,960	3,410	5,380	15,900	6,630
Ingot:	8108.20.0030						
Kazakhstan		--	--	144	116	260	65
Russia		220	48	196	151	614	388
Other		--	--	1	--	1	--
Total		220	48	341	266	875	453
Powder	8108.20.0015	44	59	59	51	214	28
Other	8108.20.0095	190	156	330	593	1,270	357
Wrought:							
Bar, rod, profiles, wire	8108.90.6031	406	647	599	507	2,160	873
Bloom, sheet bar, slab	8108.90.6020	320	174	1,060	627	2,180	1,740
Plate, sheet, strip, foil	8108.90.6045	552	672	489	549	2,260	659
Tube and pipe	8108.90.6060	43	81	103	70	296	61
Other	8108.90.6075	104	135	43	126	409	128
Total		1,430	1,710	2,290	1,880	7,310	3,460
Other articles of titanium:							
Castings	8108.90.3030	13	6	6	20	44	14
Other	8108.90.3060	126	132	159	166	583	283
Ferrotitanium and ferrosilicon titanium	7202.91.0000	1,350	1,220	1,090	569	4,230	534

^eEstimated. ^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Harmonized Tariff Schedule of the United States.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM CONCENTRATES¹

(Metric tons)

	HTS ² Code	2021				1st quarter–	2022
		1st quarter	2d quarter	3d quarter	4th quarter	4th quarter	1st quarter
Ilmenite:	2614.00.6020						
Madagascar		91,000	77,000	59,000	64,100	291,000	93,000
Mozambique		35,800	51,400	104,000	40,600	232,000	--
Senegal		--	39,000	20,800	29,000	88,800	45,000
Ukraine		--	--	20,300	--	20,300	10,200
Other		--	1	(3)	40 ^r	41 ^r	--
Total		127,000	167,000	204,000	134,000	632,000	148,000
Titanium slag:	2620.99.5000						
Canada		19,900	10,100	52,300	48,300	131,000	6,130
Norway		--	19,100	20,900	17,500	57,500	--
South Africa		75,800	18,000	39,500	17,300	151,000	48,000
Total		95,700	47,200	113,000	83,000	339,000	54,100
Rutile:	2614.00.6040						
Australia		17,100	57,900	46,500	23,100	145,000	12,700
Canada		--	13,200	11	35,700	48,900	2,020
Kenya		10,000	--	10,200	--	20,200	5,000
South Africa		30,500	28,900	35,500	27,900	123,000	47,400
Ukraine		280	722	278	376	1,660	13,500
Other		194 ^r	4 ^r	5 ^r	11 ^r	213 ^r	46
Total		58,100	101,000	92,500	87,100	338,000	80,600
Synthetic rutile:	2614.00.3000						
Australia		--	--	--	100	100	205
Netherlands		--	7	--	300	307	--
Sierra Leone		--	160	100	--	260	--
South Africa		--	--	95	--	95	--
Ukraine		--	27	--	200	227	--
Total		--	194	195	601	990	205
Titaniferous iron ore, Canada ⁴	2614.00.6020	--	4,710	--	8,810	13,500	22

¹Revised. -- Zero.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Harmonized Tariff Schedule of the United States.

⁴Less than ½ unit.

⁵Includes materials consumed for purposes other than the production of titanium commodities, principally heavy aggregate and steel-furnace flux. Titaniferous iron ore from Canada is classified as ilmenite under the Harmonized Tariff Schedule of the United States and is not included in the previous ilmenite totals.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM PIGMENT¹

(Metric tons)

	HTS ² Code	2021				1st quarter–	2022
		1st quarter	2d quarter	3d quarter	4th quarter	4th quarter	1st quarter
80% or more titanium dioxide:	3206.11.0000						
Australia		928	3,570	4,390	3,690	12,600	2,560
Belgium		1,980	2,120	1,940	2,720	8,750	1,710
Canada		26,100	29,400	24,300	22,100	102,000	24,500
China		6,770	3,260	2,720	2,610	15,400	4,170
Czechia		1,320	1,250	1,450	1,820	5,840	1,180
Germany		5,260	6,270	6,020	4,440	22,000	3,470
Italy		1,200	2,070	1,760	1,760	6,790	1,420
Japan		1,220	1,310	1,200	871	4,590	1,180
Mexico		577	490	1,680	1,500	4,240	879
Norway		1,040	659	1,180	1,400	4,270	1,260
Spain		2,150	2,440	2,320	1,920	8,820	2,240
Ukraine		1,290	585	739	496	3,110	660
United Kingdom		640	851	880	1,060	3,430	751
Other		1,310 ^r	2,310 ^r	2,920 ^r	1,750 ^r	8,290 ^r	1,550
Total		51,800	56,600	53,500	48,200	210,000	47,500
Other titanium dioxide:	3206.19.0000						
Canada		3,570	3,450	3,270	2,990	13,300	3,120
China		363	224	453	534	1,570	297
Italy		199	312	277	278	1,060	255
Mexico		119	188	127	92	527	191
Other		237	358	293	315	1,200	462
Total		4,490	4,540	4,420	4,210	17,700	4,320
Unfinished titanium dioxide: ³	2823.00.0000						
Canada		1,270	1,120	1,470	316	4,180	304
China		1,100	1,070	1,970	3,050	7,200	1,530
France		404	211	685	794	2,090	1,010
Germany		492	1,020	719	1,130	3,360	641
India		616	754	741	493	2,600	545
Korea, Republic of		294	662	770 ^r	471	2,200	280
Other		516	676	513	439	2,150	344
Total		4,690	5,510	6,860	6,700	23,800	4,660
Grand total		60,900	66,600	64,800	59,100	251,000	56,500

^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Harmonized Tariff Schedule of the United States.

³Unmixed and not surface treated.

Source: U.S. Census Bureau.

TABLE 6
PRICES FOR TITANIUM MATERIALS

(End of period)

		2021				2022
		1st quarter	2d quarter	3d quarter	4th quarter	1st quarter
Concentrate:						
Ilmenite, CIF, China ¹	dollars per metric ton	260–270	280–290	290–310	360–400	360–400
Titanium slag, import ²						
Canada	do.	1,100	1,200	1,020	870	950
Norway	do.	NA	730	800	780	NA
South Africa	do.	510	540	780	790	760
Rutile, natural: ¹						
Bagged, f.o.b. Australian ports	do.	1,300–1,400	1,400–1,500	1,450–1,500	1,450–1,550	1,700–2,000
Bulk, f.o.b. Australian ports	do.	1,200–1,300	1,350–1,450	1,350–1,450	1,400–1,500	1,400–1,500
Metal:						
Sponge metal, Japan, import ²	dollars per kilogram	11.10	11.70	11.50	11.60	10.90
Titanium mill products	producer price index ³	168	168	169	171	177
Titanium scrap, turnings, unprocessed (Ti-6Al-4V) ⁴	dollars per pound	1.50–1.90	1.50–1.90	1.50–1.90	1.50–1.90	3.00–3.50
Ferrotitanium, 70% (max. 4.5% Al) per pound Ti ⁴	do.	4.00–4.30	4.00–4.30	4.00–4.30	4.00–4.30	7.00–8.00
Pigment:						
Titanium dioxide pigment, import ²	dollars per metric ton	2,740	2,890	3,030	3,240	3,390
do. Ditto. NA Not available.						

do. Ditto. NA Not available.

¹Source: Fastmarkets IM.

²Unit value based on landed-duty-paid U.S. imports for consumption.

³June 1982=100. Source: U.S. Department of Labor, Bureau of Labor Statistics.

⁴Source: S&P Global Platts Metals Week.