



# Mineral Industry Surveys

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## TITANIUM IN THE FIRST QUARTER 2019

Industry participation is key to the publication of aggregated totals of domestic titanium statistics. In the first quarter, domestic production, consumption, and shipments 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 so as not to reveal company proprietary data and are treated as confidential by the Department of the Interior.

Companies may report on 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/nmic/>.*

TABLE 1  
COMPONENTS OF U.S. TITANIUM METAL SUPPLY AND DEMAND<sup>1</sup>

(Metric tons)

	2018					2019
	1st quarter	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter
<b>Production:</b>						
Sponge	W	W	W	W	W	W
Ingot	20,100	22,300	21,900	20,700	85,000	W
Mill products	9,460	9,660	9,580	9,310	38,000	W
<b>Exports:</b>						
Waste and scrap	2,020	2,490	3,210	4,150	11,900	3,230
Sponge	388	70	30	46	533 <sup>†</sup>	233
Ingot	2,190	3,140	2,950	2,310	10,600	2,100
Other unwrought	624 <sup>†</sup>	756	755	632	2,770	500
Bar, rod, profiles, wire	1,220 <sup>†</sup>	1,500 <sup>†</sup>	1,440 <sup>†</sup>	1,830 <sup>†</sup>	5,990 <sup>†</sup>	1,830
Bloom, sheet bar, slab	797	1,000	442	357	2,600	311
Other wrought	2,830	2,640	2,790	3,040	11,300	3,180
Total	10,100 <sup>†</sup>	11,600	11,600	12,400	45,600 <sup>†</sup>	11,400
<b>Imports:</b>						
Waste and scrap	5,920 <sup>†</sup>	6,500 <sup>†</sup>	7,370 <sup>†</sup>	7,300 <sup>†</sup>	27,100 <sup>†</sup>	7,050
Sponge <sup>2</sup>	5,020 <sup>†</sup>	4,820 <sup>†</sup>	7,100 <sup>†</sup>	6,760 <sup>†</sup>	23,700 <sup>†</sup>	6,770
Ingot	321	682	629	318	1,950	555
Powder	65	40	44 <sup>†</sup>	42	191 <sup>†</sup>	38
Other unwrought	349	196	332	315	1,190	332
Wrought	1,940 <sup>†</sup>	1,810 <sup>†</sup>	2,030	1,850	7,630	1,940
Castings	17	22	21 <sup>†</sup>	25	85 <sup>†</sup>	30
Other	126 <sup>†</sup>	153 <sup>†</sup>	195	204	678 <sup>†</sup>	201
Total	13,800 <sup>†</sup>	14,200 <sup>†</sup>	17,700 <sup>†</sup>	16,800 <sup>†</sup>	62,500 <sup>†</sup>	16,900
<b>Stocks, end of period:</b>						
Sponge, industry	10,200	10,100	10,700	10,700	10,700	W
Scrap	16,000	13,300	15,900	15,900	15,900	11,500
Ingot	6,770	5,780	6,040	8,530	8,530	10,400
<b>Consumption:</b>						
Sponge	8,850	8,560	8,920	8,860	35,200	W
Scrap	13,900	11,000	16,300	10,900	52,100	W
Ingot	16,400	17,400	17,500	16,200	67,600	W
<b>Shipments:</b>						
Ingot and slab (producer net shipments)	4,750	6,300	5,470	6,810	23,300	W
<b>Mill products (net shipments):</b>						
Forging and extrusion billet	6,560	6,530	6,730	6,010	25,800	W
Other	2,900	3,130	2,850	3,310	12,200	W
Total	9,460	9,660	9,580	9,310	38,000	W
Castings	W	W	W	W	W	W
<b>Receipts, scrap:</b>						
Home	6,010	5,280	6,060	5,900	23,200	W
Purchased	12,100	13,500	13,800	12,600	52,000	W
Total	18,100	18,700	19,800	18,500	75,200	W

<sup>†</sup>Revised. W Withheld to avoid disclosing company proprietary data.

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

<sup>2</sup>Estimated by the U.S. Geological Survey.

TABLE 2  
U.S. EXPORTS OF TITANIUM PRODUCTS<sup>1</sup>

(Metric tons)

	HTS <sup>2</sup> Code	2018				1st quarter–	2019
		1st quarter	2d quarter	3d quarter	4th quarter	4th quarter	1st quarter
<b>Metal:</b>							
Waste and scrap	8108.30.0000	2,020	2,490	3,210	4,150	11,900	3,230
<b>Unwrought:</b>							
Sponge	8108.20.0010	388	70	30	46	533 <sup>r</sup>	233
Ingot	8108.20.0030	2,190	3,140	2,950	2,310	10,600	2,100
Other unwrought	8108.20.0090	624 <sup>r</sup>	756	755	632	2,770	500
<b>Wrought:</b>							
Bar, rod, profiles, wire	8108.90.6031	1,220 <sup>r</sup>	1,500 <sup>r</sup>	1,440 <sup>r</sup>	1,830 <sup>r</sup>	5,990 <sup>r</sup>	1,830
Bloom, sheet bar, slab	8108.90.6020	797	1,000	442	357	2,600	311
Other	8108.90.8000	2,830	2,640	2,790	3,040	11,300	3,180
Ferrotitanium and ferrosilicon titanium	7202.91.0000	539	603	1,000	975	3,120	325
Ores and concentrates	2614.00.0000	44,800	1,760	2,760	2,120	51,400	2,460
<b>Pigment:</b>							
80% or more titanium dioxide	3206.11.0000	130,000	138,000	126,000	114,000	508,000	93,200
Other titanium dioxide	3206.19.0000	5,350	4,100	3,200	3,160	15,800	3,500
Unfinished titanium dioxide <sup>3</sup>	2823.00.0000	978	1,220	1,190 <sup>r</sup>	1,290	4,670	985

<sup>r</sup>Revised.

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

<sup>2</sup>Harmonized Tariff Schedule of the United States.

<sup>3</sup>Unmixed and not surface treated.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM METAL<sup>1</sup>

(Metric tons)

	HTS <sup>2</sup> Code	2018				1st quarter–	2019
		1st quarter	2d quarter	3d quarter	4th quarter	4th quarter	1st quarter
Waste and scrap:	8108.30.0000						
Canada		329	420	388	381	1,520	315
China		86	85	195	269	635	62
France		796	783 <sup>r</sup>	1,350 <sup>r</sup>	961	3,890 <sup>r</sup>	839
Germany		720 <sup>r</sup>	939	1,020	702 <sup>r</sup>	3,390 <sup>r</sup>	831
Italy		346 <sup>r</sup>	674 <sup>r</sup>	555	568	2,140 <sup>r</sup>	711
Japan		991	771	887	1,130	3,780	1,110
Korea, Republic of		173	313	461	339	1,290	379
Mexico		238	196	386	373	1,190	471
Singapore		142	214	138	92	586	221
United Kingdom		1,270	1,590 <sup>r</sup>	1,420	1,910 <sup>r</sup>	6,200 <sup>r</sup>	1,600
Other		834 <sup>r</sup>	512 <sup>r</sup>	566 <sup>r</sup>	570 <sup>r</sup>	2,480 <sup>r</sup>	514
Total		5,920 <sup>r</sup>	6,500 <sup>r</sup>	7,370 <sup>r</sup>	7,300 <sup>r</sup>	27,100 <sup>r</sup>	7,050
Unwrought:							
Sponge:	8108.20.0010						
Japan		4,620 <sup>r</sup>	4,410	6,870	6,180 <sup>r</sup>	22,100	6,190
Kazakhstan <sup>e</sup>		346 <sup>r</sup>	408 <sup>r</sup>	218 <sup>r</sup>	557 <sup>r</sup>	1,530 <sup>r</sup>	542
Other		57 <sup>r</sup>	(3)	16 <sup>r</sup>	14 <sup>r</sup>	88 <sup>r</sup>	35
Total		5,020 <sup>r</sup>	4,820 <sup>r</sup>	7,100 <sup>r</sup>	6,760 <sup>r</sup>	23,700 <sup>r</sup>	6,770
Ingot:	8108.20.0030						
Russia		314	682	629	314	1,940	539
Other		7	--	(3)	4	12 <sup>r</sup>	16
Total		321	682	629	318	1,950	555
Powder	8108.20.0015	65	40	44 <sup>r</sup>	42	191 <sup>r</sup>	38
Other	8108.20.0095	350 <sup>r</sup>	196	332	315	1,190	332
Wrought:							
Bar, rod, profiles, wire	8108.90.6031	522 <sup>r</sup>	515	618	508 <sup>r</sup>	2,160 <sup>r</sup>	525
Bloom, sheet bar, slab	8108.90.6020	311	70	80	5	466	279
Plate, sheet, strip, foil	8108.90.6045	874 <sup>r</sup>	911 <sup>r</sup>	951 <sup>r</sup>	919	3,660 <sup>r</sup>	908
Tube and pipe	8108.90.6060	124 <sup>r</sup>	207	206 <sup>r</sup>	147	684 <sup>r</sup>	91
Other	8108.90.6075	112 <sup>r</sup>	109 <sup>r</sup>	171 <sup>r</sup>	270 <sup>r</sup>	662 <sup>r</sup>	137
Total		1,940 <sup>r</sup>	1,810 <sup>r</sup>	2,030	1,850	7,630 <sup>r</sup>	1,940
Other articles of titanium:							
Castings	8108.90.3030	17	22	21 <sup>r</sup>	25	85 <sup>r</sup>	30
Other	8108.90.3060	126 <sup>r</sup>	153 <sup>r</sup>	195	204	678 <sup>r</sup>	201
Ferrotitanium and ferrosilicon titanium	7202.91.0000	846	834	551 <sup>r</sup>	477	2,710	1,100

<sup>e</sup>Estimated. <sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>Harmonized Tariff Schedule of the United States.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF TITANIUM CONCENTRATES<sup>1</sup>

(Metric tons)

	HTS <sup>2</sup> Code	2018					2019
		1st quarter	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter	1st quarter
<b>Ilmenite:</b>	2614.00.6020						
Australia		53,600	62,800	77,300	62,100	256,000	28,400
Madagascar		53,000	39,000	74,000	3,020	169,000	86,000
Mozambique		34,700	49,000	25,000	32,200	141,000	91,000
Senegal		--	40,500	--	25,700	66,200	27,300
Ukraine		20,100	14,900	--	33,500	68,600	40,300
Other		2	5,200 <sup>r</sup>	--	-- <sup>r</sup>	5,200 <sup>r</sup>	--
<b>Total</b>		<b>161,000</b>	<b>211,000<sup>r</sup></b>	<b>176,000</b>	<b>157,000</b>	<b>706,000<sup>r</sup></b>	<b>273,000</b>
<b>Titanium slag:</b>	2620.99.5000						
Canada		27,700	36,900	29,200	42,600	136,000	11,000
Norway		--	10,000	10,500	--	20,500	9,650
South Africa		88,800	99,700	74,900	79,900	343,000	70,800
<b>Total</b>		<b>117,000</b>	<b>147,000</b>	<b>115,000</b>	<b>123,000</b>	<b>500,000</b>	<b>91,400</b>
<b>Rutile:</b>	2614.00.6040						
Australia		32,200	10,400	17,100	6,180	65,800	32,900
Kenya		--	--	--	--	--	21,000
Norway		--	--	5,000	--	5,000	--
Sierra Leone		40	--	--	10,000	10,000	1
South Africa		51,900	20,700	44,600	46,200	163,000	42,500
Ukraine		98	152	156	20	426	5,970
Other		40 <sup>r</sup>	20 <sup>r</sup>	22 <sup>r</sup>	16 <sup>r</sup>	98 <sup>r</sup>	3
<b>Total</b>		<b>84,200</b>	<b>31,300</b>	<b>66,900</b>	<b>62,400</b>	<b>245,000</b>	<b>102,000</b>
<b>Synthetic rutile:</b>	2614.00.3000						
Australia		9,010	--	--	6,000	15,000	--
Other		--	--	53	20	73	60
<b>Total</b>		<b>9,010</b>	<b>--</b>	<b>53</b>	<b>6,020</b>	<b>15,100</b>	<b>60</b>
<b>Titaniferous iron ore, Canada<sup>3</sup></b>	2614.00.6020	--	10,100	--	16 <sup>r</sup>	10,100 <sup>r</sup>	--

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>Harmonized Tariff Schedule of the United States.

<sup>3</sup>Includes materials consumed for purposes other than the production of titanium commodities, principally heavy aggregate and steel-furnace flux. Titaniumiferous 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 PIGMENT<sup>1</sup>

(Metric tons)

	HTS <sup>2</sup> Code	2018				1st quarter–	2019
		1st quarter	2d quarter	3d quarter	4th quarter	4th quarter	1st quarter
80% or more titanium dioxide:	3206.11.0000						
Belgium		1,840	2,920	4,340	3,880	13,000	2,550
Canada		20,200	21,500	22,800	21,200	85,600	23,300
China		9,430	14,600	14,200	10,300	48,500	3,680
Czechia		1,260	1,740	1,290	1,340	5,630	1,380
Germany		3,690	5,200	4,180	8,410	21,500	3,310
Japan		1,400	1,590	1,560	1,090	5,640	1,590
Mexico		3,930	2,130	1,300	1,710	9,060	1,050
Norway		384	920	1,040	913	3,250	1,460
Spain		1,580	2,760	1,380	1,960	7,670	2,420
Other		2,490 <sup>r</sup>	4,120 <sup>r</sup>	4,130 <sup>r</sup>	4,770 <sup>r</sup>	15,500 <sup>r</sup>	9,540
Total		46,200 <sup>r</sup>	57,400 <sup>r</sup>	56,200 <sup>r</sup>	55,500 <sup>r</sup>	215,000 <sup>r</sup>	50,300
Other titanium dioxide:	3206.19.0000						
Canada		2,740	3,070	2,450	2,640	10,900	2,940
China		666	1,100	1,060	776	3,600	384
France		189	389	188	6	772	205
Italy		155	132	418	89	794	126
Other		422 <sup>r</sup>	435 <sup>r</sup>	412 <sup>r</sup>	489 <sup>r</sup>	1,760 <sup>r</sup>	385
Total		4,170 <sup>r</sup>	5,130 <sup>r</sup>	4,530 <sup>r</sup>	4,000 <sup>r</sup>	17,800 <sup>r</sup>	4,040
Unfinished titanium dioxide: <sup>3</sup>	2823.00.0000						
China		5,500	6,560	5,320	4,470	21,900	2,620
France		726	292	224	809	2,050	568
Germany		878	1,020	1,690	1,150	4,730	843
India		733	1,340	604	516	3,200	415
Other		488 <sup>r</sup>	1,060 <sup>r</sup>	1,470 <sup>r</sup>	536 <sup>r</sup>	3,550 <sup>r</sup>	808
Total		8,330 <sup>r</sup>	10,300 <sup>r</sup>	9,310 <sup>r</sup>	7,480 <sup>r</sup>	35,400 <sup>r</sup>	5,250
Grand total		58,700 <sup>r</sup>	72,800 <sup>r</sup>	70,100 <sup>r</sup>	67,000 <sup>r</sup>	269,000 <sup>r</sup>	59,600

<sup>r</sup>Revised.

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

<sup>2</sup>Harmonized Tariff Schedule of the United States.

<sup>3</sup>Unmixed and not surface treated.

Source: U.S. Census Bureau.

TABLE 6  
PRICES FOR TITANIUM MATERIALS

(End of period)

		2018				2019
		1st quarter	2d quarter	3d quarter	4th quarter	1st quarter
<b>Concentrate:</b>						
Ilmenite, f.o.b. Australian ports <sup>1</sup>	dollars per metric ton	NA	NA	NA	NA	NA
Ilmenite, CIF, China <sup>1</sup>	do.	185-200	190-200	160-180	164-180	170-180
Titanium slag, import <sup>2</sup>	do.	622-742	638-749	642-790	700-790	790-872
<b>Rutile, natural:<sup>1</sup></b>						
Bagged, f.o.b. Australian ports	do.	950-1,200	1,000-1,250	1,050-1,300	1,045-1,350	1,045-1,350
Bulk, f.o.b. Australian ports	do.	800-900	800-900	1,000-1,050	1,000-1,050	1,050-1,150
<b>Metal:</b>						
Sponge metal, Japan, import <sup>2</sup>	dollars per kilogram	10.90	10.70	10.50	10.80 <sup>r</sup>	10.50
Titanium mill products	producer price index <sup>3</sup>	174	173	178	171	174
Titanium scrap, turnings, unprocessed (Ti-6Al-4V) <sup>4</sup>	dollars per pound	0.65-0.70	0.70-0.75	0.80-0.90	0.80-0.90	0.85-0.90
Ferrotitanium, 70% (max. 4.5% Al) per pound Ti <sup>4</sup>	do.	2.20-2.50	2.30-2.70	2.90-3.10	3.00-3.20 <sup>r</sup>	2.90-3.10
<b>Pigment:</b>						
Titanium dioxide pigment, import <sup>2</sup>	dollars per metric ton	2,588 <sup>r</sup>	2,761 <sup>r</sup>	2,752	2,847	2,683
Titanium dioxide pigment	producer price index <sup>3</sup>	216	214	214	205	208

<sup>1</sup>Revised. do. Ditto. NA Not available.

<sup>1</sup>Source: Industrial Minerals (London).

<sup>2</sup>Unit value based on landed-duty-paid U.S. imports for consumption.

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

<sup>4</sup>Source: Platts Metals Week.