

Mineral Industry Surveys

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VANADIUM IN FEBRUARY 2024

The amount of vanadium in U.S. imports of select vanadium products on a gross weight basis, excluding vanadium bearing ash and residues, in February 2024, was 32% less than that in the previous month and 31% less than that in February 2023 (table 1). In February 2024, the import sources for vanadium pentoxide (V₂O₅), were South Africa, Brazil, and Austria, in descending order of gross weight quantity. In February 2024, the leading import sources for ferrovanadium (FeV) were Austria, Canada, and Japan, in descending order of gross weight quantity (table 2).

Monthly average FeV prices in Europe, 78–82% vanadium content, ranged from \$26.900 to \$29.500 per kilogram of contained vanadium in February 2024 compared with \$28.400 to \$30.000 in January 2024. Monthly average V₂O₅ prices in China, 98% V₂O₅ content, ranged from \$5.800 to \$6.300 per pound in February 2024 compared with \$6.000 to \$6.500 per pound in January 2024 (fig. 1).

Industry News

Largo Inc. (Toronto, Ontario, Canada) reported that its Maracás Menchen Mine in Brazil produced 9,680 t V₂O₅ in 2023, a 7% decrease from the 10,400 t V₂O₅ produced in 2022. Largo expected lower V₂O₅ production in the first quarter of 2024 owing to a planned kiln refractory replacement in February 2024. Production guidance for 2024 was between 9,000–11,000 t V₂O₅ (Largo Inc., 2024, p. 2–5).

Reference Cited

Largo Inc., 2024, Largo reports fourth quarter and full year 2023 operational and sales results highlighted by record quarterly high purity V₂O₅ production; provides 2024 guidance: Toronto, Ontario, Canada, Largo Inc., January 23, 8 p. (Accessed April 12, 2024, at https://s29.q4cdn.com/562286712/files/doc_news/Largo-Reports-Fourth-Quarter-and-Full-Year-2023-Operational-and-Sales-Results-Highlighted-by-Record-Quarterly-High-Purity-V2O5-Produced-JLZVK.pdf.)

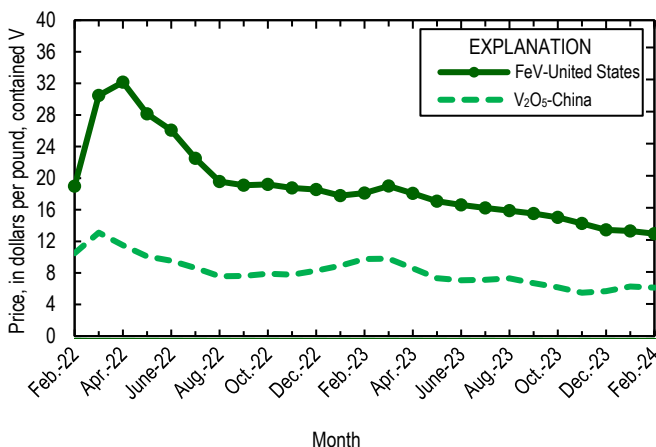


Figure 1. Average monthly prices for ferrovanadium (FeV) in the United States and vanadium pentoxide (V₂O₅) in China from February 2022 through February 2024. Source: Argus Media, Argus Non-Ferrous Markets.

Prices

According to Argus Media, Argus Non-Ferrous Markets, monthly average U.S. FeV prices, 78–82% vanadium content, ranged from \$12.500 to \$13.750 per pound in February 2024 compared with \$12.500 to \$14.000 per pound in January 2024.

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Table 1. U.S. imports for consumption of vanadium products.

[Data are rounded to no more than three significant digits; may not add to totals shown. Data are in kilograms, unless otherwise specified. —, not applicable. Source: U.S. Census bureau.]

2024										
Material	HTS ¹ code	January			February			January–February		
		Gross weight	Contained weight	Value (thousands)	Gross weight	Contained weight	Value (thousands)	Gross weight	Contained weight	Value (thousands)
Vanadium ores and concentrates	2615.90.6090	0	0	0	1,050	633	83,900	1,050	633	83,900
Vanadium bearing ash and residues	2620.40.0030, 2620.99.1000	(³)	(³)	2,610,000	(³)	(³)	515,000	(³)	(³)	3,130,000
Chemical compounds:										
Vanadium pentoxide (anhydride)	2825.30.0010	421,000	313,000	6,830,000	251,000	164,000	4,540,000	672,000	477,000	11,400,000
Vanadium oxides and hydroxides, other	2825.30.0050	10,000	6,490	210,000	0	0	0	10,000	6,490	210,000
Vanadium chlorides	2827.39.1000	0	0	0	520	495	14,800	520	495	14,800
Vanadium chloride oxide and chloride hydroxide	2827.49.1000	0	0	0	0	0	0	0	0	0
Vanadium sulfates	2833.29.3000	0	0	0	100	62	4,800	100	62	4,800
Vanadates	2841.90.1000	1,010	625	24,500	87	58	2,020	1,100	683	26,600
Hydrides and nitrides of vanadium	2850.00.2000	62,800	50,600	445,000	9,210	7,280	83,600	72,000	57,900	529,000
Ferrovandium	7202.92.0000	224,000	158,000	5,990,000	207,000	141,000	6,130,000	432,000	299,000	12,100,000
Vanadium metal, including waste and scrap	8112.92.7000	0	0	0	0	0	0	0	0	0
Vanadium and articles thereof ⁴	8112.99.2000	2,630	1,810	101,000	18,000	11,600	720,000	20,600	13,400	821,000
Total	—	722,000	—	16,200,000	488,000	—	12,100,000	1,210,000	—	28,300,000

¹Harmonized Tariff Schedule of the United States.²Data are in kilograms of vanadium pentoxide.³U.S. Census Bureau has suppressed quantity data for some months; not included in “Total.”⁴Aluminum-vanadium master alloy consisting of 35% aluminum and 64.5% vanadium.

TABLE 2. U.S. imports and exports of ferrovandium, other oxides and hydroxides of vanadium and vanadium pentoxide (anhydride).

[Data are rounded to no more than three significant digits; may not add to totals shown. Presentation of monthly data is based on the quantities (gross weight or contained weight) of the five leading countries or localities in February. Data are in kilograms, gross and contained weight. Revised data are marked with a superscript "r". NA, not available, —, not applicable. Source: U.S. Census Bureau.]

2024							
Country or locality	HTS ¹ codes	January		February		January–February	
		Gross weight	Contained weight	Gross weight	Contained weight	Gross weight	Contained weight
Imports for consumption							
Vanadium ores and concentrates							
Canada	2615.90.6090	0	0	1,050	633 ²	1,050	633 ²
Vanadium pentoxide (anhydride)³							
Austria		0	0	3,930	2,250	3,930	2,250
Brazil		180,000	154,000	120,000	85,500	300,000	239,000
South Africa	2825.30.0010	217,000	137,000	127,000	76,100	344,000	213,000
Other [2 countries and (or) localities]		24,800 ^r	22,700 ^r	0	0	24,800	22,700
Total		421,000	313,000	251,000	164,000	672,000	477,000
Other oxides and hydroxides of vanadium:							
Brazil	2825.30.0050	10,000	6,490	0	0	10,000	6,490
Ferrovandium							
Austria		30,000	18,800	111,000	79,100	141,000	98,000
Canada		158,000	122,000	45,600	35,600	204,000	157,000
Japan		20,000	10,200	41,000	18,700	61,000	28,900
Latvia	7202.92.0000	15,300	6,250	8,690	6,950	24,000	13,200
Sweden		0	0	1,000	807	1,000	807
Other [1 country and (or) locality]		1,000	813	0	0	1,000	813
Total		224,000	158,000	207,000	141,000	432,000	299,000
Exports							
Vanadium ores and concentrates							
Canada		0	0	1,830	NA	1,830	NA
Other [1 country and (or) locality]	2615.90.6090	3,060 ^r	NA	0	0	3,060	NA
Total		3,060	—	1,830	NA	4,890	—
Vanadium pentoxide (anhydride)³							
Australia		0	0	NA	493	NA	493
Japan		0	0	NA	3,050	NA	3,050
Other [2 countries and (or) localities]	2825.30.0010	NA	8,960 ^r	0	0	NA	8,960
Total		—	8,960	—	3,550	—	12,500
Other oxides and hydroxides of vanadium							
Canada	2825.30.0050	NA	31,900	NA	1,360	NA	33,300
Ferrovandium							
Argentina		0	0	91	68	91	68
Canada		12,800	9,610	1,310	980	14,100	10,600
Mexico	7202.92.0000	68	51	10,000	7,500	10,100	7,550
Total		12,900	9,660	11,400	8,550	24,300	18,200

¹Harmonized Tariff Schedule of the United States are imports and Schedule B of the United States are exports.

²Data are kilograms of vanadium pentoxide.

³May include catalysts containing vanadium pentoxide.

Table 3. U.S imports and exports of aluminum vanadium master alloy, vanadium bearing ash and residues, vanadium sulfates, vanadates, vanadium metal, and U.S. imports of slag.

[Data are rounded to no more than three significant digits; may not add to totals shown. Presentation of monthly data is based on the quantities (gross weight or contained weight) of the leading countries and (or) localities in February. Data are in kilograms, gross and contained weight. Revised data are marked with a superscript "r". NA, not available —, not applicable. Source: U.S. Census Bureau.]

Country or locality	HTS ¹ code	January		February		January–February	
		Gross weight	Contained weight	Gross weight	Contained weight	Gross weight	Contained weight
Imports for consumption							
Slag, from the manufacture of iron and steel							
Canada		1,840,000	NA	507,000	NA	2,340,000	NA
China		0	0	1,240	NA	1,240	NA
Mexico	2619.00.9000	70,700	NA	50,900	NA	122,000	NA
Turkey		463,000	NA	463,000	NA	925,000	NA
Other [1 country and (or) locality]		3,010,000 ^r	NA	0	0	3,010,000	NA
Total		5,380,000	—	1,020,000	—	6,400,000	—
Vanadium sulfates							
China	2833.29.3000	0	0	100	62	100	62
Vanadates							
Poland		0	0	87	58	87	58
Other [2 countries and (or) localities]	2841.90.1000	1,010 ^r	625 ^r	0	0	1,010	625
Total		1,010	625	87	58	1,100	683
Vanadium metal, including waste and scrap and aluminum-vanadium master alloy							
China		68	68	18,000	11,600	18,100	11,700
Germany	8112.92.7000,	0	0	10	8	10	8
United Kingdom	8112.99.2000	1	1	1	1	2	2
Other [2 countries and (or) localities]		2,570	1,740	0	0	2,570	1,740
Total		2,630	1,810	18,000	11,600	20,600	13,400
Exports							
Vanadium bearing ash and residues							
Belgium		0	0	37,900	NA	37,900	NA
France		115,000	NA	75,000	NA	190,000	NA
Netherlands		0	0	26,200	NA	26,200	NA
Saudi Arabia	2620.50.0000,	0	0	100	NA	100	NA
Trinidad and Tobago	2620.99.1000	0	0	22,100	NA	22,100	NA
Other [1 country and (or) locality]		117,000 ^r	NA	0	0	117,000	NA
Total		231,000	—	161,000	—	393,000	—
Hydrides and nitrides of vanadium							
South Africa		6,020	4,760	9,210	7,280	15,200	12,000
Other [2 countries and (or) localities]	2850.00.2000	56,800 ^r	45,800 ^r	0	0	56,800	45,800
Total		62,800	50,600	9,210	7,280	72,000	57,900
Vanadium metal, including waste and scrap and aluminum-vanadium master alloy							
France		0	0	250	NA	250	NA
Turkey	8112.92.7000,	0	0	50	NA	50	NA
Total	8112.99.2000	0	0	300	—	300	—

¹Harmonized Tariff Schedule of the United States are imports and Schedule B of the United States are exports.