

Mineral Industry Surveys

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VANADIUM IN JULY 2019

Reported domestic consumption of vanadium in July 2019 was essentially unchanged from that of the previous month and slightly less than that of July 2018. Consumer stocks of all forms of vanadium were 192 metric tons (t) at the end of July, an increase from 185 t at yearend 2018 (table 1).

Prices

According to CRU Group (2019), U.S. ferrovandium (FeV) prices ranged from \$16.239 to \$17.750 per pound of contained vanadium in July 2019, compared with \$17.675 to \$18.938 per pound in June 2019. In Europe, FeV prices ranged from \$31.489 to \$33.000 per kilogram of contained vanadium in July 2019, compared with \$34.713 to \$37.188 per kilogram in June 2019. In China, vanadium pentoxide (V₂O₅) prices ranged from \$10.000 to \$10.500 per pound of contained vanadium in June and July 2019 (fig. 1).

Reference Cited

CRU Group, 2019, Noble alloys and minor metals prices: CRU Group, July 31. (Accessed September 19, 2019, via <http://www.crugroup.com/>)

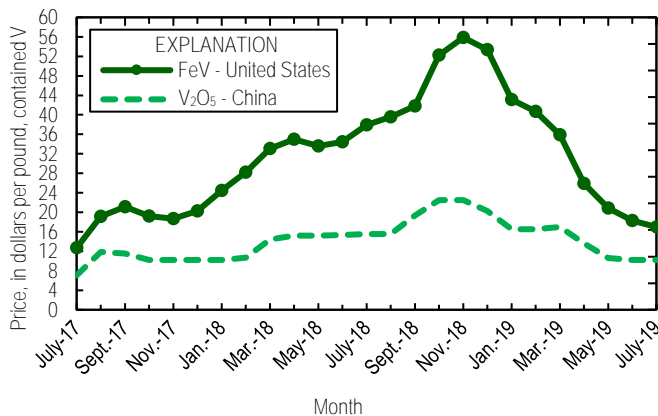


Figure 1. Average monthly prices for FeV and V₂O₅ from July 2017 through July 2019. Source: CRU Group.

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TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM^{p,1}

(Kilograms, contained vanadium)

	2019					
	June		July		January–July	
	Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	221,000	188,000	219,000	154,000	1,540,000	154,000
Vanadium-aluminum alloy and other forms ³	21,000	37,600	21,000	37,600	147,000	37,600
Total	242,000	226,000	240,000	192,000	1,690,000	192,000

^pPreliminary.

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

²Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

³Includes vanadium-aluminum alloy, other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, and other specialty chemicals.

TABLE 2
U.S. CONSUMPTION OF VANADIUM, BY END USE¹

(Kilograms, contained vanadium)

	2019		
	June	July	January– July
Steel:			
Carbon	W	W	W
Full alloy	101,000	101,000	705,000
High-strength low-alloy	W	W	W
Stainless and heat resisting	4,930	4,930	34,600
Tool	W	W	W
Total steel	106,000	106,000	739,000
Superalloys	W	W	W
Miscellaneous and unspecified ²	W	W	W
Total	242,000	240,000	1,690,000

W Withheld to avoid disclosing company proprietary data; included in "Total."

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

²Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM PRODUCTS¹

(Kilograms, unless otherwise specified)

Material	HTS ² code	2019								
		June			July			January–July		
		Gross weight	Contained weight	Value (thousands)	Gross weight	Contained weight	Value (thousands)	Gross weight	Contained weight	Value (thousands)
Vanadium bearing ash and residues	2620.40.0030, 2620.99.1000	1,350,000	131,000	\$4,590,000	1,410,000	138,000	\$3,690,000	12,200,000	1,210,000	\$47,400,000
Chemical compounds:										
Vanadium pentoxide (anhydride)	2825.30.0010	444,000	420,000	9,980,000	312,000	310,000	6,040,000	2,400,000	2,330,000	80,100,000
Vanadium oxides and hydroxides, other	2825.30.0050	--	--	--	--	--	--	129,000	82,200	5,660,000
Vanadium sulfates	2833.29.3000	2,130	1,330	12,800	--	--	--	4,900	3,060	29,400
Vanadates	2841.90.1000	11,800	6,590	321,000	5	2	2,200	90,600	54,000	2,680,000
Ferrovandium	7202.92.0000	324,000	211,000	13,200,000	236,000	139,000	9,820,000	2,190,000	1,470,000	123,000,000
Vanadium metal, including waste and scrap	8112.92.7000	1,010	1,010	84,100	10,600	7,100	740,000	46,200	33,400	3,450,000
Vanadium and articles thereof ³	8112.99.2000	45,200	29,700	2,760,000	60,800	40,100	2,950,000	204,000	137,000	12,400,000
Total		2,170,000	801,000	31,000,000	2,030,000	634,000	23,200,000	17,200,000	5,320,000	275,000,000

-- Zero.

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

²Harmonized Tariff Schedule of the United States.

³Aluminum-vanadium master alloy consisting of 35% aluminum and 64.5% vanadium.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, OTHER OXIDES AND HYDROXIDES OF VANADIUM,
AND VANADIUM PENTOXIDE (ANHYDRIDE)^{1,2}

(Kilograms, gross and contained weight)

Country or locality	HTS ³ code	2019					
		June		July		January–July	
		Gross weight	Contained weight	Gross weight	Contained weight	Gross weight	Contained weight
Imports for consumption:							
Vanadium pentoxide (anhydride) ⁴	2825.30.0010						
Brazil		200,000	199,000	220,000	219,000	1,320,000	1,320,000
China		55,900	33,300	1,600	914	83,500	47,900
Germany		--	--	10,000	10,000	86,400	82,500
South Africa		188,000	187,000	80,000	79,700	849,000	833,000
Other [4 countries and (or) localities]		--	--	--	--	54,900	49,700
Total		444,000	420,000	312,000	310,000	2,400,000	2,330,000
Other oxides and hydroxides of vanadium, South Africa	2825.30.0050	--	--	--	--	129,000	82,200
Ferrovanadium	7202.92.0000						
Austria		107,000	79,700	23,000	18,600	435,000	322,000
Canada		131,000	88,400	42,700	34,800	929,000	719,000
Japan		30,000	15,600	50,000	25,200	280,000	143,000
Latvia		--	--	40,000	20,600	140,000	65,800
Ukraine		55,000	27,700	80,000	40,000	345,000	173,000
Other [4 countries and (or) localities]		--	--	--	--	61,000	45,700
Total		324,000	211,000	236,000	139,000	2,190,000	1,470,000
Exports:							
Vanadium pentoxide (anhydride) ⁴	2825.30.0010						
China		7,660	NA	--	--	7,660	NA
Saudi Arabia		1,530	NA	--	--	1,530	NA
Other [4 countries and (or) localities]		--	--	--	--	113,000	NA
Total		9,190	XX	--	--	122,000	XX
Other oxides and hydroxides of vanadium	2825.30.0050						
Austria		--	--	24,100	NA	24,100	NA
Netherlands		54,600	NA	54,600	NA	148,000	NA
Trinidad and Tobago		--	--	8,720	NA	14,800	NA
Other [3 countries and (or) localities]		18,800 ^r	NA	--	--	90,200	NA
Total		73,400	XX	87,400	XX	277,000	XX
Ferrovanadium	7202.92.0000						
Canada		316	238	8,890	6,670	52,100	39,100
Colombia		5,000	3,750	412	309	12,200	9,160
Korea, Republic of		--	--	1,900	1,430	1,900	1,430
Mexico		--	--	45,500	21,800	245,000	152,000
Other [2 countries and (or) localities]		--	--	--	--	29,300	21,500
Total		5,320	3,990	56,700	30,200	341,000	224,000

^rRevised. NA Not available. XX Not applicable. -- Zero.

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

²Presentation of monthly data is based on the quantities (gross weight or contained weight) of the five leading countries and (or) localities in July.

³Harmonized Tariff Schedule of the United States.

⁴May include catalysts containing vanadium pentoxide.

Source: U.S. Census Bureau.

TABLE 5
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^{1,2}

(Kilograms, gross and contained weight)

Country or locality	HTS ³ code	2019					
		June		July		January–July	
		Gross weight	Contained weight	Gross weight	Contained weight	Gross weight	Contained weight
Imports for consumption:							
Slag, from the manufacture of iron and steel	2619.00.9000						
Canada		55,500,000	NA	561,000	NA	77,000,000	NA
Finland		--	--	3,100	NA	78,000	NA
Mexico		--	--	33,200	NA	258,000	NA
Other [3 countries and (or) localities]		164 ^r	NA	--	--	40,900	NA
Total		55,500,000	XX	597,000	XX	77,400,000	XX
Vanadium bearing ash and residues	2620.40.0030, 2620.99.1000						
Canada		1,320,000	129,000	1,410,000	138,000	11,400,000	1,110,000
Other [3 countries and (or) localities]		27,700 ^r	2,330 ^r	--	--	791,000	98,800
Total		1,350,000	131,000	1,410,000	138,000	12,200,000	1,210,000
Sulfates, China	2833.29.3000	2,130	1,330	--	--	4,900	3,060
Vanadates	2841.90.1000						
Russia		--	--	5	2	5	2
Other [6 countries and (or) localities]		11,800 ^r	6,590 ^r	--	--	90,600	54,000
Total		11,800	6,590	5	2	90,600	54,000
Vanadium metal, including waste and scrap, and Aluminum-vanadium master alloy	8112.92.7000, 8112.99.2000						
China		8,000	5,160	3,910	2,550	25,800	18,200
France		10	8	1	1	17	15
Germany		1,000	1,000	12,000	8,210	34,400	23,600
Russia		37,200	24,500	55,500	36,400	170,000	112,000
Other [5 countries and (or) localities]		1	1	--	--	20,100	16,700
Total		46,200	30,700	71,400	47,200	250,000	171,000
Exports:							
Vanadium bearing ash and residues	2620.50.0030, 2620.99.1000						
France		161,000	NA	55,500	NA	683,000	NA
Germany		260,000	NA	182,000	NA	634,000	NA
Mexico		41,700	NA	22,000	NA	76,400	NA
Total		462,000	XX	260,000	XX	1,390,000	XX
Vanadium metal, including waste and scrap, and Aluminum-vanadium master alloy	8112.92.7000, 8112.99.2000						
Australia		--	--	2,140	NA	3,280	NA
Other [9 countries and (or) localities]		2,460 ^r	NA	--	--	27,600	NA
Total		2,460	XX	2,140	XX	30,900	XX

^rRevised. NA Not available. XX Not applicable. -- Zero.

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

²Presentation of monthly data is based on the quantities (gross weight or contained weight) of the five leading countries and (or) localities in July.

³Harmonized Tariff Schedule of the United States.

Source: U.S. Census Bureau.