

Mineral Industry Surveys

For information, contact:

Desiree E. Polyak, Vanadium Commodity Specialist
 National Minerals Information Center
 U.S. Geological Survey
 989 National Center
 Reston, VA 20192
 Telephone: (703) 648-4909, Fax: (703) 648-7757
 Email: dpolyak@usgs.gov

Darlene V. Thompson (Data)
 Telephone: (703) 648-7797
 Fax: (703) 648-7975
 Email: dvthompson@usgs.gov

Internet: <http://minerals.usgs.gov/minerals/>

VANADIUM IN FEBRUARY 2016

Reported domestic consumption of vanadium in February 2016 was slightly less than that of the previous month and was 5% less than that of February 2015. Consumer stocks of vanadium, in all forms, were 165 metric tons (t) at yearend 2015 and 169 t at the end of February.

According to CRU Group, U.S. ferrovanadium (FeV) prices ranged from \$6.550 to \$6.863 per pound of vanadium content in February, compared with \$5.744 to \$6.156 in January. European FeV prices ranged from \$14.531 to \$14.900 per kilogram in February, compared with \$14.031 to \$14.419 in January. Vanadium pentoxide (V₂O₅) prices ranged from \$2.900 to \$3.300 per pound in February, compared with \$2.650 to \$2.919 per pound in January (fig. 1).

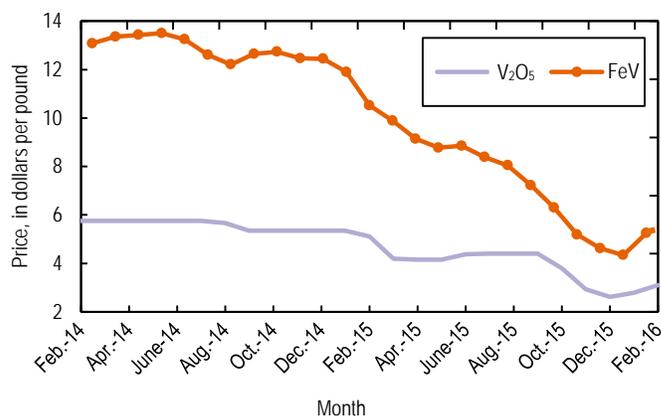


Figure 1. Average monthly prices for U.S. ferrovanadium and vanadium pentoxide from February 2014 through February 2016. Source: CRU Group.

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TABLE 1
U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM¹

(Kilograms, contained vanadium)

	2015		2016					
	Consumption	Stocks	January		February		January-February	
			Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	2,770,000	94,700	223,000	82,900	222,000	94,700	444,000	99,200
Vanadium-aluminum alloy and other forms ³	803,000	70,100	66,400	70,100	66,400	70,100	133,000	70,100
Total	3,570,000	165,000	289,000	153,000	288,000	169,000	577,000	169,000

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

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)

	2015	2016		January– February
	January- December	January	February	
Steel:				
Carbon	W	43,900	43,000	86,800
Full alloy	1,430,000	118,000	118,000	236,000
High-strength low-alloy	W	W	W	W
Stainless and heat resisting	59,200	4,940	4,930	9,870
Tool	W	W	W	W
Total steel	3,260,000	167,000	166,000	333,000
Superalloys	2,290	W	W	W
Miscellaneous and unspecified ²	W	W	W	W
Total	3,570,000	289,000	288,000	577,000

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.

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

TABLE 3
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOYS AND VANADIUM METAL, INCLUDING WASTE AND SCRAP¹

(Kilograms, gross weight)

	Aluminum-vanadium master alloy ²		Vanadium metal, including waste and scrap ³	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2015	204,000	\$4,520,000	182,000	\$3,450,000
2016:				
January	23,000	367,000	--	--
February:				
China	--	--	1,400	14,400
Germany	15	20,600	--	--
Russia	17,100	247,000	--	--
Total	17,100	267,000	1,400	14,400
January–February	40,100	635,000	1,400	14,400
Exports:				
2015	229,000	6,440,000	5,200	354,000
2016:				
January	23,500	574,000	115	21,000
February:				
Germany	--	--	159	6,130
Netherlands	73	2,520	--	--
Total	73	2,520	159	6,130
January–February	23,500	576,000	274	27,100

-- Zero.

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

²Aluminum-vanadium master alloy consisting of 35% aluminum and 64.5% vanadium. Includes Harmonized Tariff Schedule code 8112.99.2000.

³Vanadium metal, including waste and scrap (HTS 8112.92.7000).

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND
OTHER OXIDES AND HYDROXIDES OF VANADIUM¹

(Kilograms, contained vanadium)

	Ferrovanadium ²		Vanadium pentoxide (anhydride) ^{3,4}		Other oxides and hydroxides of vanadium ⁵	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2015	2,030,000	\$64,700,000	2,870,000	\$32,800,000	93,700	\$1,840,000
2016:						
January	102,000	1,910,000	258,000	2,160,000	--	--
February:						
Austria	75,900	579,000	--	--	--	--
China	--	--	20,800	233,000	--	--
Czech Republic	--	1,170,000	--	--	--	--
Korea, Republic of	59,500	591,000	--	--	--	--
Russia	20,000	194,000	--	--	--	--
South Africa	--	--	121,000	918,000	52,100	726,000
Taiwan	--	--	21,800	270,000	--	--
Total	155,000	2,540,000	163,000	1,420,000	52,100	726,000
January–February	257,000	4,450,000	421,000	3,580,000	52,100	726,000
Exports:						
2015	163,000	3,190,000	356,000	3,430,000	99,800	841,000
2016:						
January	136,000	1,510,000	910	36,700	19,900	138,000
February:						
Belgium	10,800	118,000	--	--	--	--
Canada	11,700	118,000	--	--	--	--
Germany	10,300	101,000	--	--	--	--
Korea, Republic of	2,000	46,800	--	--	--	--
Mexico	21,900	151,000	1,000	18,600	--	--
Netherlands	39,500	447,000	--	--	--	--
Spain	7,460	73,500	--	--	--	--
Trinidad and Tobago	--	--	--	--	40,200	270,000
Total	104,000	1,060,000	1,000	18,600	40,200	270,000
January–February	240,000	2,560,000	1,910	55,300	60,100	409,000

-- Zero.

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

²Includes HTS code 7202.92.0000.

³Includes HTS code 2825.30.0010.

⁴May include catalysts containing vanadium pentoxide.

⁵Includes HTS code 2825.30.0050.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG¹

(Kilograms, contained vanadium pentoxide, unless otherwise specified)

	Ash and residues ²		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity (gross weight)	Value
	2015	9,440,000	\$36,700,000	87,600,000
2016:				
January	474,000	667,000	66,400	64,200
February:				
Canada	383,000	514,000	37,900	20,800
Mexico	--	--	4,370	8,730
Total	383,000	514,000	42,300	29,600
January–February	857,000	1,180,000	109,000	93,700

-- Zero.

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

²Includes HTS code 2620.40.0030 and 2620.99.1000.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF MISCELLANEOUS VANADIUM CHEMICALS¹

(Kilograms, contained vanadium)

	Sulfates ²		Vanadates ³	
	Quantity	Value	Quantity	Value
2015	12,600	\$142,000	173,000	\$2,330,000
2016:				
January	700	5,140	22,900	267,000
February:				
China	--	--	6,630	131,000
Finland	700	5,440	--	--
Germany	--	--	3,120	58,400
Japan	--	--	179	15,200
Total	700	5,440	9,920	204,000
January–February	1,400	10,600	32,800	471,000

-- Zero.

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

²Sulfates (HTS code 2833.29.3000).

³Vanadates (HTS code 2841.90.1000).

Source: U.S. Census Bureau.