

Mineral Industry Surveys

For information, contact:

Désirée 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

Benjamin N. Bryden (Data)
Telephone: (703) 648-7953
Fax: (703) 648-7975
Email: bbryden@usgs.gov

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

VANADIUM IN NOVEMBER 2014

Reported domestic consumption of vanadium in November 2014 was slightly less than that of the previous month, and was 5% more than that of November 2013. Consumer stocks of vanadium, in all forms, were 166 metric tons (t) at yearend 2013 and 180 t at the end of November.

According to Ryan's Notes, U.S. ferrovanadium (FeV) prices ranged from \$12.293 to \$13.143 per pound of vanadium content in November, as compared with \$12.589 to \$13.300 in October. European FeV prices ranged from \$24.514 to \$25.014 per kilogram in November, as compared with \$24.711 to \$25.211 in October. Vanadium pentoxide (V₂O₅) prices ranged from \$5.300 to \$5.400 per pound in October and November.

EVRAZ Group S.A. announced that it produced 3,277 t of FeV in the third quarter of 2014, a 9% decrease from the 3,590 t of FeV produced in the second quarter of 2014. EVRAZ attributed this decrease to operational issues and repair work at its own facilities, as well as a reduced slag supply from EVRAZ Highveld Steel and Vanadium Ltd. Production of oxides, vanadium aluminum, and chemicals at its EVRAZ Stratcor

facility in Arkansas increased by 19% in the third quarter of 2014 to 467 t compared with 394 t in the second quarter of 2014. The company attributed the increase to higher oxide extraction yields and stable feedstock availability (EVRAZ Group S.A., 2014, p. 8–9).

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Reference Cited

EVRAZ Group S.A., 2014, EVRAZ Q3 2014 production report and interim management statement: Moscow, Russia, EVRAZ Group S.A., October 16, 10 p. (Accessed January 16, 2015, at http://www.evraz.com/upload/files/141016_Q3%202014%20production%20report%20and%20IMS.pdf.)

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

(Kilograms, contained vanadium)

	2013		2014					
	January–December		October		November		January–November	
	Consumption	Stocks	Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	2,810,000	93,300	247,000	110,000	242,000	109,000	2,610,000	109,000
Vanadium-aluminum alloy and other forms ³	812,000	72,600	65,900	70,100	67,400	70,500	736,000	70,500
Total	3,620,000	166,000	313,000	181,000	310,000	180,000	3,350,000	180,000

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)

	2013		2014	
	January–December	October	November	January–November
Steel:				
Carbon	W	44,400	39,900	481,000
Full alloy	1,430,000	133,000	133,000	1,350,000
High-strength low-alloy	W	W	W	W
Stainless and heat resisting	59,200	4,930	4,930	54,300
Tool	W	W	W	W
Total steel	1,490,000	183,000	178,000	1,880,000
Superalloys	2,540	W	W	1,460
Miscellaneous and unspecified ²	W	W	W	W
Total	3,620,000	313,000	310,000	3,350,000

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:				
2013	169,000	\$4,660,000	35,300	\$1,310,000
2014:				
October	19,800	456,000	19,000	513,000
November, Germany	--	--	1,360	38,000
January–November	412,000	9,400,000	149,000	3,530,000
Exports:				
2013	347,000	9,800,000	57,500	1,700,000
2014:				
October	53,000	1,300,000	--	--
November:				
El Salvador	76	2,920	--	--
Kazakhstan	24,500	695,000	--	--
Japan	--	--	20,000	510,000
Netherlands	149	5,040	--	--
Total	24,700	703,000	20,000	510,000
January–November	390,000	11,100,000	31,900	1,150,000

-- 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		Vanadium pentoxide (anhydride) ²		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2013	3,710,000	\$89,800,000	2,040,000	\$29,900,000	205,000	\$2,560,000
2014:						
October	176,000	8,410,000	341,000	4,810,000	8,350	181,000
November:						
Austria	30,600	765,000	--	--	--	--
Canada	73,000	2,000,000	--	--	--	--
China	--	--	12,800	225,000	--	--
Czech Republic	--	1,850,000	--	--	--	--
Japan	15,400	212,000	--	--	--	--
Korea, Republic of	70,900	1,740,000	--	--	--	--
Russia	--	--	132,000	1,200,000	--	--
South Africa	--	--	191,000	2,920,000	--	--
Taiwan	--	--	10,100	212,000	--	--
Total	190,000	6,560,000	346,000	4,560,000	--	--
January–November	3,060,000	86,600,000	3,110,000	42,500,000	90,900	1,640,000
Exports:						
2013	395,000	8,790,000	89,600	1,340,000	448,000	4,850,000
2014:						
October	45,000	917,000	25,500	324,000	29,300	434,000
November:						
Canada	20,000	475,000	--	--	--	--
Estonia	--	--	19,000	239,000	--	--
Italy	--	--	10,700	169,000	--	--
Netherlands	--	--	--	--	19,400	296,000
Thailand	--	--	100	3,450	--	--
Total	20,000	475,000	29,800	411,000	19,400	296,000
January–November	332,000	7,040,000	199,000	2,900,000	311,000	4,220,000

-- Zero.

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

²May include catalysts containing vanadium pentoxide.

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
2013	4,190,000	\$22,500,000	66,100,000	\$8,480,000
2014:				
October	637,000	3,930,000	16,700,000	414,000
November:				
Canada	365,000	1,710,000	43,800,000	1,860,000
Mexico	--	--	38,000	14,200
Russia	117,000	1,310,000	--	--
Total	481,000	3,020,000	43,800,000	1,870,000
January–November	5,720,000	35,600,000	170,000,000	10,200,000

-- Zero.

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

²Includes Harmonized Tariff Schedule 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		Vanadates	
	Quantity	Value	Quantity	Value
2013	29,500	\$306,000	276,000	\$5,700,000
2014:				
October	1	5,300	254	29,400
November:				
Austria	--	--	100	2,370
China	24	2,520	6,630	192,000
South Africa	--	--	11,900	167,000
Total	24	2,520	18,600	362,000
January–November	18,600	224,000	185,000	3,890,000

-- Zero.

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

Source: U.S. Census Bureau.