

Mineral Industry Surveys

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VANADIUM IN APRIL 2009

Reported domestic consumption of vanadium in April 2009 was slightly less than that of the previous month, and was about 10% less than that of April 2008, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 308 metric tons (t) at the beginning of 2009 and 261 t at the end of April.

According to Ryan's Notes (2009), U.S. ferrovanadium (FeV) prices ranged from \$8.456 to \$8.925 per pound of vanadium content in April, as compared with \$9.889 to \$10.417 in March. European FeV prices ranged from \$18.569 to \$19.500 per kilogram in April, as compared with \$22.100 to \$23.028 in March. Vanadium pentoxide (V₂O₅) prices ranged from \$3.656 to \$4.156 per pound in April, as compared with \$4.639 to \$5.139 in March.

South African steel producer Highveld Steel and Vanadium Corp. Ltd., in which Russia's Evraz Group S.A. has a controlling stake, announced that Umnotho weSizwe Investment Holdings Ltd. (South Africa) would take a 26% interest in the

Mapochs Mine, in Mpumalanga, South Africa, under the country's Black Economic Empowerment program. The Mapochs Mine produces lumpy titaniferous magnetite ore, which is supplied exclusively to Vanchem Vanadium Products Pty Ltd. (South Africa) operations to produce a variety of vanadium products. Vanchem, an independently managed division of Highveld, was expected to be transferred into Mapochs Newco, a subsidiary of Highveld. Also under the terms of the deal, a 23% equity stake in Mapochs Newco was expected to be sold to Lashka 81 Ltd., which was to change its name to Umnotho Iron and Vanadium Ltd., a subsidiary of Umnotho weSizwe (Creamer, 2009).

References Cited

Creamer, Terence, 2009, Highveld unveils R540m empowerment deal for Mapochs mine: Engineering News, April 9. (Accessed October 30, 2009, via <http://www.engineeringnews.co.za>)
Ryan's Notes, 2009, [untitled]: Ryan's Notes, v. 15, no. 17, April 27, p. 10.

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

(Kilograms, contained vanadium)

	2008		2009					
	Consumption	Stocks	March		April		January-April	
			Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovanadium ²	4,030,000	231,000	331,000	230,000	323,000	210,000	1,320,000	210,000
Vanadium-aluminum alloy	W	W	W	W	W	W	W	W
Other ³	817,000	76,400	60,900	56,000	65,700	50,700	242,000	50,700
Total	4,850,000	308,000	392,000	286,000	388,000	261,000	1,560,000	261,000

W Withheld to avoid disclosing company proprietary data; included with "Other."

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 other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol W.

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

(Kilograms, contained vanadium)

	2008	2009		
		March	April	January-April
Steel:				
Carbon	760,000	47,000	47,000	189,000
High-strength low-alloy	1,540,000	128,000	128,000	514,000
Stainless and heat-resisting	116,000	5,110	5,110	20,400
Full alloy	2,000,000	160,000	152,000	634,000
Tool	151,000	34,700	34,700	139,000
Total steel	4,570,000	376,000	368,000	1,500,000
Superalloys	2,490	218	216	968
Miscellaneous and unspecified ²	275,000	15,800	20,600	61,500
Total consumption	4,850,000	392,000	388,000	1,560,000

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 ALLOY AND VANADIUM
METAL, INCLUDING WASTE AND SCRAP¹

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2008	1,110,000	\$2,110,000	3,620	\$198,000
2009:				
February	194,000	592,000	351	131,000
March:				
Belgium	7,000	22,300	2	3,450
Germany	--	--	91	16,000
Netherlands	4,950	24,300	--	--
Total	12,000	46,600	93	19,400
Year to date	235,000	779,000	444	151,000
Exports:				
2008	21,900,000	76,200,000	57,100	3,740,000
2009:				
February	1,400,000	2,950,000	3,020	181,000
March:				
Canada	31,500	74,500	--	--
China	4,110	10,600	--	--
Germany	454	5,900	--	--
Mexico	418,000	1,420,000	--	--
United Kingdom	95,400	1,240,000	--	--
Total	549,000	2,760,000	--	--
Year to date	3,140,000	8,510,000	14,300	687,000

-- Zero.

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

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:						
2008	2,800,000	\$159,000,000	3,700,000	\$115,000,000	144,000	\$4,320,000
2009:						
February	44,300	1,570,000	140,000	2,370,000	--	--
March:						
China	--	--	19,800	229,000	--	--
Germany	136	14,100	--	--	--	--
Kazakhstan	395	14,200	--	--	--	--
Korea, Republic of	6,640	301,000	--	--	--	--
South Africa	--	--	111,000	1,450,000	--	--
Sweden	196	7,020	--	--	--	--
Total	7,370	337,000	131,000	1,680,000	--	--
Year to date	122,000	5,000,000	356,000	5,920,000	--	--
Exports:						
2008	281,000	12,600,000	249,000	5,650,000	1,040,000	11,300,000
2009:						
February	71,100	1,480,000	--	--	42,400	377,000
March:						
Argentina	--	--	200	9,700	--	--
Canada	5,970	153,000	--	--	--	--
China	23,600	416,000	--	--	12,000	107,000
Mexico	4,630	106,000	--	--	--	--
Netherlands	--	--	--	--	41,100	365,000
Saudi Arabia	--	--	6,080	102,000	--	--
South Africa	--	--	76,800	324,000	--	--
Venezuela	8,610	307,000	--	--	--	--
United Kingdom	--	--	36	4,430	--	--
Total	42,800	982,000	83,200	440,000	53,100	472,000
Year to date	163,000	3,940,000	128,000	1,240,000	102,000	906,000

-- 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)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)	
	Quantity	Value	Quantity	Value
2008	1,040,000	\$18,000,000	601,000	\$795,000
2009:				
February	136,000	2,240,000	28,000	38,200
March:				
Canada	--	--	42,700	107,000
Mexico	14,400	57,600	--	--
Total	14,400	57,600	42,700	107,000
Year to date	265,000	4,270,000	113,000	182,000

-- Zero.

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

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
2008	2,160	\$119,000	187,000	\$4,230,000
2009:				
February	--	--	219	26,900
March:				
China	5	3,700	--	--
South Africa	--	--	22,100	320,000
Total	5	3,700	22,100	320,000
Year to date	5	3,700	22,300	347,000

-- Zero.

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

Source: U.S. Census Bureau.