

Mineral Industry Surveys

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VANADIUM IN DECEMBER 2009

Reported domestic consumption of vanadium in December 2009 was slightly less than that of the previous month, and was slightly less than that of December 2008, according to the U.S. Geological Survey. Reported domestic consumption of vanadium in 2009 was about the same as that of 2008. Consumer stocks of vanadium, in all forms, were 231 metric tons (t) at the beginning of 2009 and 227 t at the end of December 2009.

Ryan's Notes U.S. ferrovanadium (FeV) prices ranged from \$10.769 to \$11.094 per pound of vanadium content in December, compared with \$10.857 to \$11.336 in November. European FeV prices ranged from \$21.063 to \$22.063 per kilogram in December, compared with \$22.000 to \$23.429 in November. Vanadium pentoxide (V₂O₅) prices ranged from \$5.344 to \$5.594 per pound in December, compared with \$5.500 to \$5.964 in November.

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

(Kilograms, contained vanadium)

	2008		2009					
	Consumption	Stocks	November		December		January-December	
			Consumption	Stocks	Consumption	Stocks	Consumption ²	Stocks
Ferrovandium ³	4,030,000	231,000	340,000 ^r	218,000 ^r	335,000	227,000	4,030,000	227,000
Vanadium-aluminum alloy	W	W	W	W	W	W	W	W
Other ⁴	817,000	76,400	52,200	59,700 ^r	53,800	50,300	692,000	50,300
Total	4,850,000	308,000	392,000	277,000	389,000	277,000	4,720,000	277,000

^rRevised. 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.

²May include revisions to prior months' data.

³Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

⁴Includes 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		
		November	December	January-December
Steel:				
Carbon	760,000	60,300	54,800	610,000
High-strength low-alloy	1,540,000	128,000	128,000	1,540,000
Stainless and heat-resisting	116,000	5,110	5,110	119,000
Full alloy	2,000,000	156,000	157,000	1,880,000
Tool	151,000	34,700	34,700	417,000
Total steel	4,570,000	384,000	380,000	4,570,000
Superalloys	2,490	415	713	3,860
Miscellaneous and unspecified ²	275,000	7,080	8,640	151,000
Total consumption	4,850,000	392,000	389,000	4,720,000

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	618,000	\$2,760,000	4,600	\$409,000
2009:				
October	10,200	47,700	238	46,300
November:				
Germany	--	--	508	99,700
Netherlands	10,800	43,600	--	--
Total	10,800	43,600	508	99,700
Year to date	282,000	979,000	3,520	461,000
Exports:				
2008	21,900,000	76,200,000	57,100	3,740,000
2009:				
October	745,000	2,140,000	755	55,500
November:				
Canada	295,000	668,000	--	--
Egypt	2,170	28,200	--	--
Israel	454	6,420	--	--
Mexico	486,000	1,110,000	--	--
Singapore	248	2,710	--	--
South Africa	194	2,520	--	--
Total	783,000	1,820,000	--	--
Year to date	10,300,000	25,200,000	22,700	1,040,000

-- 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	\$158,000,000	3,700,000	\$115,000,000	144,000	\$4,320,000
2009:						
October	27,100	824,000	117,000	1,590,000	--	--
November:						
Australia	--	--	--	--	8,390	231,000
Austria	1,620	34,300	--	--	--	--
Canada	12,000	338,000	--	--	--	--
China	--	--	18,300	192,000	--	--
Germany	362	19,200	--	--	--	--
Korea	9,830	208,000	--	--	--	--
South Africa	--	--	37,400	597,000	--	--
Total	23,800	599,000	55,700	789,000	8,390	231,000
Year to date	323,000	11,900,000	1,050,000	15,400,000	25,200	551,000
Exports:						
2008	452,000	12,600,000	249,000	5,650,000	1,040,000	11,300,000
2009:						
October	33,700	582,000	51,100	797,000	58,100	505,000
November:						
Canada	16,800	332,000	--	--	34,500	304,000
Germany	--	--	--	--	11,700	163,000
Japan	--	--	16,000	243,000	--	--
Mexico	8,150	171,000	--	--	--	--
Netherlands	--	--	20,000	340,000	47,900	426,000
Saudi Arabia	--	--	1,770	27,000	--	--
Singapore	--	--	--	--	362	3,230
Total	24,900	504,000	37,800	609,000	94,400	896,000
Year to date	941,000	14,400,000	380,000	4,600,000	462,000	4,860,000

-- 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		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity (gross weight)	Value
2008	1,040,000	\$18,000,000	601,000	\$795,000	27,700,000	\$5,970,000
2009:						
October	12,000	56,700	58,400	125,000	144,000	21,000
November:						
Canada	--	--	41,000	78,000	39,600	17,500
Germany	--	--	11,000	40,300	32,800	10,800
Mexico	12,200	57,600	--	--	18,400	5,400
Total	12,200	57,600	52,000	118,000	90,800	33,600
Year to date	741,000	11,700,000	575,000	1,070,000	80,400,000	2,580,000

-- 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:				
October	--	--	11,100	179,000
November:				
South Africa	--	--	44,300	743,000
United Kingdom	--	--	6,280	113,000
Total	--	--	50,500	856,000
Year to date	11,700	136,000	196,000	2,960,000

-- Zero.

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

Source: U.S. Census Bureau.