

Mineral Industry Surveys

For information, contact:

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

Jackie Arbour (Data)
Telephone: (703) 648-4792
Fax: (703) 648-7975
E-mail: jarbour@usgs.gov

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

VANADIUM IN JULY 2008

Reported domestic consumption of vanadium in July 2008 was slightly more than that of the previous month, and was about 23% more than that of July 2007, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 295 metric tons (t) at the beginning of 2008 and 269 t at the end of July.

According to Ryan's Notes (2008), U.S. ferrovanadium (FeV) prices ranged from \$34.125 to \$35.125 per pound of vanadium content in July, as compared with \$36.500 to \$37.250 in June. European FeV prices ranged from \$62.125 to \$64.000 per kilogram in July, as compared with \$77.375 to \$79.188 in June. Vanadium pentoxide (V₂O₅) prices ranged from \$15.025 to \$15.450 per pound in July, as compared with \$17.063 to \$17.563 in June.

A spillway collapse in Shanyang County, Shaanxi Province, China, on July 22, seriously contaminated two nearby rivers causing authorities to temporarily close the vanadium mine. The vanadium mine is the property of Shaanxi Yongheng Mining Co. Ltd. (China), a privately owned V₂O₅ processor. The

company, founded in 2007, produces 1,500 tons of V₂O₅ annually (Metal Pages, 2008b).

Chinese vanadium prices had been increasing as more vanadium producer shutdowns during the Olympic Games were expected to further tighten supply. The concern was that vanadium plants in the Hebei Province, which surrounds Beijing, would not be allowed to operate during the Olympic Games in order to cut air pollution. China's second largest producer, Chengde Xinxin Vanadium and Titanium, with more than 3,000 tons per year of FeV production capacity, was expected to be affected (Metal Pages, 2008a).

References Cited

- Metal Pages, 2008a, Chinese vanadium soars amid looming shutdowns during Olympics: Metal Pages. (Accessed March 13, 2009, via <http://www.metal-pages.com/news>.)
- Metal Pages, 2008b, Vanadium tailing mine spillway collapse in Shanyang Shaanxi: Metal Pages. (Accessed March 13, 2009, via <http://www.metal-pages.com/news>.)
- Ryan's Notes, 2008, [untitled]: Ryan's Notes, v. 14, no. 3, August 4, p. 10.

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

(Kilograms, contained vanadium)

	2007		2008					
	Consumption	Stocks	June		July		Year to date	
			Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovandium ²	3,320,000	253,000	363,000	233,000	370,000	213,000	2,520,000	213,000
Vanadium-aluminum alloy	W	W	W	W	W	W	W	W
Other ³	809,000	42,400	77,300	58,900	70,900	55,600	506,000	55,600
Total	4,130,000	295,000	441,000	292,000	441,000	269,000	3,030,000	269,000

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)

	2007	2008		
		June	July	Year to date
Steel:				
Carbon	882,000	71,000	83,000	473,000
High-strength low-alloy	1,270,000	132,000	132,000	924,000
Stainless and heat-resisting	61,400	15,100	6,580	63,600
Full alloy	1,180,000	169,000	173,000	1,230,000
Tool	420,000	21,400	21,400	150,000
Total steel	3,810,000	408,000	416,000	2,840,000
Superalloys	7,180	615	353	3,300
Miscellaneous and unspecified ²	314,000	31,600	25,200	186,000
Total consumption	4,130,000	441,000	441,000	3,030,000

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:				
2007	1,110,000	\$2,110,000	3,620	\$198,000
2008:				
May	61,600	302,000	--	--
June, Greece	38,000	176,000	--	--
Year to date	193,000	825,000	2	5,300
Exports:				
2007	21,100,000	72,700,000	49,400	2,690,000
2008:				
May	1,800,000	6,410,000	8,380	523,000
June:				
Belgium	27,100	797,000	--	--
Canada	481,000	1,560,000	--	--
Germany	181	4,560	--	--
Mexico	492,000	1,450,000	--	--
Netherlands	1,450	4,750	--	--
Taiwan	998	3,150	--	--
Total	1,000,000	3,820,000	--	--
Year to date	10,800,000	36,300,000	25,600	1,850,000

-- 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:						
2007	2,220,000	\$81,300,000	2,390,000	\$46,800,000	41,900	\$1,400,000
2008:						
May	272,000	17,200,000	390,000	14,900,000	--	--
June:						
Canada	107,000	4,820,000	--	--	--	--
China	--	--	145,000	5,280,000	--	--
Germany	456	67,600	--	--	--	--
Korea	253,000	17,100,000	--	--	--	--
Russia	--	--	189,000	4,980,000	--	--
South Africa	--	--	70,300	2,950,000	--	--
Total	361,000	22,000,000	405,000	13,200,000	--	--
Year to date	1,770,000	92,500,000	1,990,000	55,300,000	42,200	1,190,000
Exports:						
2007	206,000	5,810,000	327,000	5,460,000	626,000	7,530,000
2008:						
May	33,100	1,410,000	4,500	198,000	24,000	344,000
June:						
Brazil	--	--	--	--	2,740	39,200
Canada	10,500	552,000	--	--	2,890	25,700
Germany	--	--	1,390	62,700	34,500	307,000
Guadeloupe	--	--	--	--	305	3,490
Italy	--	--	14,400	267,000	--	--
Japan	--	--	--	--	636	5,660
Mexico	--	--	300	15,000	--	--
Russia	--	--	--	--	43,100	807,000
Switzerland	--	--	--	--	899	8,000
Total	10,500	552,000	16,100	344,000	85,100	1,200,000
Year to date	161,000	6,840,000	164,000	3,570,000	469,000	5,060,000

-- 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
2007	1,000,000	\$9,960,000	641,000	\$913,000
2008:				
May	75,900	1,270,000	42,900	66,600
June:				
Canada	--	--	54,600	87,800
Mexico	56,800	813,000	--	--
Total	56,800	813,000	54,600	87,800
Year to date	419,000	5,260,000	291,000	382,000

-- 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
2007	80,200	\$783,000	211,000	\$3,550,000
2008:				
May	6	7,860	31,000	820,000
June:				
China	1	7,200	--	--
South Africa	--	--	22,200	633,000
Total	1	7,200	22,200	633,000
Year to date	10	41,200	139,000	2,710,000

-- Zero.

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

Source: U.S. Census Bureau.