

Mineral Industry Surveys

For information, contact:

Kim B. Shedd, Cobalt Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4974, Fax: (703) 648-7757
E-mail: kshedd@usgs.gov

Jo-Ann Sterling (Data)
Telephone: (703) 648-7953
Fax: (703) 648-7975
E-mail: jsterlin@usgs.gov

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

COBALT IN DECEMBER 2004

On the basis of preliminary data, U.S. cobalt consumption during 2004 was slightly higher than consumption during 2003, according to the U.S. Geological Survey. U.S. cobalt consumption during the quarter ending December 31, 2004, was nearly equal in amount to consumption during the quarter ending September 30, 2004.

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 5% higher during January through November 2004 than that of imports during the same period in 2003. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals was basically the same during January through November 2004 as that of exports during the same period in 2003. Trade data for December 2004 will be available in a subsequent issue.

Price

Prices for electrolytic cobalt, in dollars per pound from Platts Metals Week, are listed below.

<u>Date</u>	<u>Price range</u>
January 20	19.10-19.65
January 27	19.00-19.50
February 3	18.25-19.25

<u>Month</u>	<u>Average price</u>
January	19.38

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS¹

(Metric tons, contained cobalt)

Period	Metal ²	Oxide and other chemical compounds ³	Scrap	Total
2003:				
December	216	155	167	538
January-December ⁴	2,750	1,930	2,010	6,700
Year ⁵	3,570	1,940	2,140	7,640
2004:				
January	246	219	172	636
February	254	178	158	590
March	212	165	175	552
April	222	169	169	561
May	220	156	172	547
June	223	179	171	573
July	245	155	162	562
August	234	161	162	557
September	232	163	162	558
October	304	154	162	620
November	257	159	162	578
December	260	164	162	587
January-December	2,910	2,020	1,990	6,920

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

²Includes metal powder.

³Data may include other cobalt materials.

⁴Data based on monthly reports.

⁵Includes annual reports.

TABLE 2
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE¹

(Metric tons, contained cobalt)

End use	2003		2004	
	January- December ²	Year ³	December	January December ⁴
Steel	431	565	35	440
Superalloys	3,030	3,400	275	3,100
Magnetic alloys	330	339	29	344
Other alloys ⁵	W	632	W	W
Cemented carbides ⁶	662	662	58	700
Chemical and ceramic uses ⁷	1,970	1,980	168	2,060
Miscellaneous and unspecified	271	63	23	270
Total	6,700	7,640	587	6,920

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

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

²Data based on monthly reports.

³Includes annual reports.

⁴May include revisions to prior months.

⁵Includes nonferrous alloys, welding materials, and wear-resistant alloys.

⁶Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

⁷Includes catalysts, driers in paints or related usages, feed or nutritive additives, glass decolorizer, ground coat frit, pigments, and other uses.

TABLE 3
U.S. REPORTED STOCKS OF COBALT MATERIALS¹

(Metric tons, contained cobalt)

Period	Industry ²			Total	U.S. Government, metal ⁵
	Metal ³	Oxide and other chemical compounds ⁴	Scrap		
2003:					
December ⁶	342	194	104	641	4,290
Year ⁷	380	214	105	699	XX
2004:					
January	358	204	104	666	3,900
February	325	193	104	622	3,410
March	363	218	104	685	3,120
April	338	207	104	650	2,980
May	338	202	104	644	2,860
June	334	202	104	640	2,800
July	343	189	104	636	2,740
August	329	201	104	634	2,730
September	332	196	104	631	2,700
October	308	217	104	629	2,700
November	324	216	104	644	2,700
December	323	210	104	637	2,660

XX Not applicable.

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

²Stocks reported by cobalt processors and consumers.

³Includes metal powder.

⁴Data may include other cobalt materials.

⁵Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

⁶Data based on monthly reports.

⁷Includes annual reports.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY¹

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals ²		Oxides and hydroxides		Salts and compounds ³		Total cobalt content for the month ⁵	Cobalt content, year to date ^{5, 6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2003:								
November	553,000	\$12,300,000	104,000	\$1,720,000	77,900	\$488,000	651,000	7,310,000
December	632,000	16,300,000	131,000	2,540,000	121,000	996,000	770,000	8,080,000
January-November	6,070,000	119,000,000	1,230,000	20,500,000	1,230,000	7,350,000	7,310,000	XX
January-December	6,700,000	135,000,000	1,370,000	23,000,000	1,350,000	8,350,000	8,080,000	XX
2004:								
January	525,000	17,100,000	131,000	2,710,000	172,000	1,620,000	677,000	677,000
February	862,000	25,400,000	139,000	3,940,000	178,000	2,380,000	1,020,000	1,700,000
March	680,000	29,900,000	126,000	4,290,000	119,000	1,030,000	804,000	2,500,000
April	591,000	28,000,000	81,100	2,630,000	130,000	1,910,000	690,000	3,190,000
May	404,000	20,300,000	40,100	1,760,000	38,900	613,000	446,000	3,640,000
June	609,000	30,600,000	148,000	6,170,000	158,000	2,240,000	763,000	4,400,000
July	458,000	18,700,000	117,000	4,790,000	182,000	2,210,000	599,000	5,000,000
August	371,000	20,100,000	102,000	3,960,000	124,000	1,860,000	483,000	5,480,000
September	666,000	32,600,000	101,000	3,770,000	196,000	2,430,000	799,000	6,280,000
October	598,000	27,500,000	124,000	4,550,000	146,000	2,090,000	731,000	7,010,000
November:								
Australia	100,000	4,940,000	--	--	--	--	100,000	429,000
Belgium	52,000	1,210,000	12,000	477,000	--	--	60,700	932,000
Brazil	--	--	--	--	--	--	--	6,360
Bulgaria	--	--	--	--	--	--	--	3,450
Canada	66,500	3,270,000	--	--	--	--	66,500	1,040,000
China	48,600	1,330,000	3,000	86,900	36,200	391,000	60,300	597,000
Colombia	--	--	--	--	--	--	--	694
Congo (Kinshasa)	8,030	333,000	--	--	--	--	8,030	8,570
Finland	36,400	2,100,000	21,500	796,000	46,200	797,000	68,300	790,000
France	398	41,700	1,340	68,600	--	--	1,360	70,200
Germany	227	14,800	--	--	--	--	227	34,900
India	--	--	--	--	--	--	--	31,800
Italy	--	--	--	--	--	--	--	819
Japan	8,940	488,000	25	2,160	--	--	8,960	157,000
Korea, Republic of	180	9,710	--	--	--	--	180	36,800
Mexico	--	--	--	--	--	--	--	629
Netherlands	--	--	--	--	--	--	--	14
Norway	125,000	5,790,000	--	--	--	--	125,000	1,290,000
Philippines	--	--	--	--	--	--	--	22,400
Russia	89,900	3,900,000	--	--	--	--	89,900	1,350,000
South Africa	500	24,500	--	--	--	--	500	110,000
Spain	--	--	--	--	--	--	--	1,120
Sweden	971	45,000	--	--	--	--	971	5,670
Switzerland	--	--	--	--	--	--	--	4,700
Taiwan	--	--	--	--	--	--	--	29,900
Uganda	--	--	--	--	--	--	--	30,500
United Kingdom	210	19,400	60,300	2,110,000	14,700	211,000	47,300	221,000
Zambia	40,000	1,750,000	--	--	--	--	40,000	493,000
Total	578,000	25,300,000	98,200	3,540,000	97,200	1,400,000	678,000	7,690,000
January-November	6,340,000	275,000,000	1,210,000	42,100,000	1,540,000	19,800,000	7,690,000	XX

XX Not applicable. -- Zero.

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

²Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder; may include intermediate products of cobalt metallurgy.

³Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

⁴Customs value.

⁵Estimated from gross weights.

⁶May include revisions to prior months.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY ¹

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Cobalt waste and scrap		Wrought cobalt and cobalt articles	
	Quantity	Value ²	Quantity	Value ²	Quantity	Value ²
2003:						
November	2,870	\$83,200	68,700	\$479,000	11,300	\$646,000
December	2,140	66,400	53,400	432,000	13,100	1,010,000
January-November	26,900	651,000	429,000	3,540,000	154,000	9,690,000
January-December	29,000	717,000	482,000	3,970,000	167,000	10,700,000
2004:						
January	2,250	100,000	48,900	614,000	11,400	807,000
February	4,450	118,000	152,000	1,500,000	20,000	856,000
March	6,630	363,000	102,000	1,030,000	20,500	1,290,000
April	13,300	548,000	123,000	1,190,000	10,400	843,000
May	9,330	299,000	78,000	514,000	15,000	1,020,000
June	3,330	163,000	111,000	1,510,000	15,700	1,170,000
July	14,100	687,000	57,400	955,000	20,400	1,430,000
August	949	62,800	118,000	1,380,000	9,380	858,000
September	7,310	106,000	39,400	411,000	29,500	1,760,000
October	5,710	318,000	55,400	579,000	11,300	856,000
November:						
Brazil	--	--	674	9,930	--	--
Canada	--	--	--	--	2,040	410,000
China	5,000	252,000	--	--	90	7,250
France	--	--	--	--	6,650	555,000
Germany	--	--	27,400	192,000	936	45,200
Ireland	--	--	5,530	75,000	--	--
Japan	1,500	115,000	3,940	80,900	957	65,000
Saudi Arabia	--	--	703	8,590	--	--
United Kingdom	--	--	--	--	8,480	527,000
Zambia	--	--	--	--	19,800	965,000
Total	6,500	366,000	38,200	366,000	38,900	2,570,000
January-November	73,800	3,130,000	923,000	10,100,000	203,000	13,500,000

-- Zero.

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

²Customs value.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 6
U.S. EXPORTS OF COBALT MATERIALS¹

(Kilograms, gross weight of material, except as noted)

Period	Unwrought cobalt, powders, matte, waste and scrap ²		Oxides and hydroxides		Salts and compounds ³		Total cobalt content for the month ⁵	Cobalt content, year to date ^{5, 6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2003:								
November	137,000	\$3,650,000	54,500	\$1,010,000	70,600	\$447,000	193,000	2,370,000
December	306,000	6,820,000	29,500	778,000	46,200	259,000	338,000	2,710,000
January-November	1,990,000	41,800,000	346,000	5,340,000	569,000	3,110,000	2,370,000	XX
January-December	2,290,000	48,600,000	375,000	6,110,000	615,000	3,370,000	2,710,000	XX
2004:								
January	183,000	4,730,000	36,600	1,430,000	75,500	458,000	228,000	228,000
February	214,000	9,000,000	80,500	3,750,000	65,800	761,000	288,000	516,000
March	232,000	9,740,000	11,400	359,000	78,700	708,000	260,000	776,000
April	154,000	6,530,000	14,600	531,000	82,700	867,000	185,000	960,000
May	205,000	8,000,000	62,000	3,130,000	14,600	166,000	254,000	1,210,000
June	134,000	5,520,000	11,300	440,000	17,700	215,000	147,000	1,360,000
July	203,000	8,580,000	15,400	527,000	41,700	480,000	224,000	1,580,000
August	289,000	7,150,000	41,100	2,060,000	66,200	683,000	334,000	1,920,000
September	118,000	5,300,000	2,450	66,300	29,100	270,000	127,000	2,050,000
October	127,000	4,700,000	20,100	671,000	12,700	136,000	145,000	2,190,000
November	119,000	5,750,000	20,700	693,000	125,000	360,000	164,000	2,360,000
January-November	1,980,000	75,000,000	316,000	13,700,000	610,000	5,100,000	2,360,000	XX

XX Not applicable.

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

²May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

³Cobalt acetates and cobalt chlorides.

⁴Free alongside ship (f.a.s.) value.

⁵Estimated from gross weights.

⁶Year to date may include revisions to prior months.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 7
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES¹

(Kilograms, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value ²	Quantity	Value ²
2003:				
November	97,000	\$2,440,000	29,000	\$559,000
December	83,300	2,470,000	76,000	1,990,000
January-November	922,000	28,800,000	541,000	3,580,000
January-December	1,010,000	31,300,000	617,000	5,560,000
2004:				
January	50,900	2,400,000	126,000	4,320,000
February	94,600	3,680,000	295,000	3,290,000
March	77,000	3,840,000	123,000	6,140,000
April	78,100	3,300,000	110,000	1,600,000
May	129,000	4,920,000	103,000	2,250,000
June	113,000	3,610,000	22,700	1,190,000
July	89,600	3,520,000	14,100	709,000
August	135,000	4,480,000	47,000	568,000
September	69,000	3,720,000	2,500	96,800
October	107,000	5,210,000	12,700	134,000
November	119,000	5,090,000	34,800	213,000
January-November	1,060,000	43,800,000	892,000	20,500,000

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

²Free alongside ship (f.a.s.) value.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.