

Mineral Industry Surveys

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COBALT IN MARCH 2004

On the basis of preliminary data, U.S. cobalt consumption during the quarter ending March 31, 2004, was 5% higher than consumption during the quarter ending December 31, 2003, and 4% higher than consumption during the quarter ending March 31, 2003, according to the U.S. Geological Survey. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 58% higher during January through February 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 45% higher during January through February 2004 than that of exports during the same period in 2003. Trade data for March 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>
April 7	26.70-27.75
April 15	26.50-27.50
April 22	26.00-26.90
April 29	26.00-26.90
May 6	26.00-26.50
May 13	24.90-25.50
May 20	26.00-26.90
May 27	26.00-26.50

<u>Month</u>	<u>Average price</u>
April	26.93
May	26.04

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:				
March	251	170	167	588
April	254	164	167	585
May	266	166	167	599
June	254	169	167	590
July	250	157	167	574
August	254	164	167	585
September	259	168	167	594
October	252	165	167	584
November	265	155	167	588
December	241	156	167	565
January-March	762	485	502	1,750
January-December ⁴	3,060	1,950	2,010	7,010
2004:				
January ^f	260	224	165	649
February ^f	256	183	165	604
March	230	170	165	566
January-March	747	577	495	1,820

^fRevised.

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.

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

(Metric tons, contained cobalt)

End use	2003		2004	
	January- March ^f	January- December ²	March	January- March ³
Steel	96	366	37	106
Superalloys	784	3,170	228	750
Magnetic alloys	96	385	30	86
Other alloys ⁴	W	W	W	W
Cemented carbides ⁵	171	679	61	182
Chemical and ceramic uses ⁶	534	2,140	187	627
Miscellaneous and unspecified	69	273	23	68
Total	1,750	7,010	566	1,820

^fRevised. 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.

³May include revisions to prior months.

⁴Includes nonferrous alloys, welding materials, and wear-resistant alloys.

⁵Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

⁶Includes 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				U.S. Government, metal ⁵
	Metal ³	Oxide and other chemical compounds ⁴	Scrap	Total	
2003:					
March	396	209	188	793	6,170
April	359	200	188	747	5,750
May	366	206	188	760	5,450
June	366	200	188	754	5,240
July	369	216	188	773	5,040
August	387	206	188	781	4,990
September	402	206	188	795	4,930
October	396	203	188	787	4,750
November	368	203	188	759	4,640
December ⁶	387	204	188	779	4,290
2004:					
January	360 ^r	204 ^r	175 ^r	738 ^r	3,900
February	327 ^r	193 ^r	175 ^r	695 ^r	3,410
March	365	218	175	758	3,120

^rRevised.

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.

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:								
February	511,000	\$8,840,000	121,000	\$1,630,000	91,100	\$382,000	623,000	1,070,000
March	794,000	13,700,000	124,000	2,050,000	68,100	424,000	903,000	1,970,000
April	556,000	10,500,000	119,000	2,000,000	144,000	739,000	681,000	2,660,000
May	546,000	10,700,000	237,000	4,210,000	127,000	764,000	755,000	3,410,000
June	454,000	9,210,000	108,000	1,960,000	133,000	797,000	568,000	3,980,000
July	641,000	13,000,000	104,000	1,690,000	130,000	824,000	752,000	4,730,000
August	390,000 ⁷	8,440,000 ⁷	59,100	963,000	70,700	480,000	452,000	5,180,000
September	712,000	14,000,000	92,800	1,560,000	166,000	1,160,000	831,000	6,010,000
October	526,000	11,100,000	100,000	1,660,000	152,000	1,060,000	644,000	6,660,000
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-February	896,000	15,500,000	186,000	2,640,000	157,000	616,000	1,070,000	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:								
Australia	45,000	881,000	--	--	--	--	45,000	64,000
Belgium	59,300	2,520,000	54,600	1,750,000	--	--	98,600	129,000
Brazil	--	--	--	--	359	4,500	97	97
Canada	337,000	3,020,000	--	--	--	--	337,000	431,000
China	19,500	682,000	33,000	618,000	3,000	23,100	44,000	112,000
Colombia	--	--	--	--	625	2,400	169	169
Finland	37,400	1,640,000	50,700	1,550,000	146,000	2,140,000	123,000	208,000
France	2,820	234,000	--	--	--	--	2,820	8,810
India	--	--	--	--	19,500	108,000	5,270	10,500
Japan	14,300	497,000	171	8,320	--	--	14,400	31,700
Korea, Republic of	2,100	91,600	--	--	--	--	2,100	2,330
Norway	170,000	6,890,000	--	--	--	--	170,000	306,000
Philippines	--	--	--	--	5,550	64,000	1,860	1,860
Russia	131,000	7,340,000	--	--	--	--	131,000	260,000
South Africa	500	29,100	--	--	--	--	500	18,500
Sweden	454	19,700	--	--	--	--	454	2,010
Switzerland	577	24,800	--	--	--	--	577	755
Taiwan	--	--	--	--	3,000	36,600	750	750
United Kingdom	1,750	101,000	370	16,900	--	--	2,020	10,500
Zambia	40,000	1,400,000	--	--	--	--	40,000	100,000
Total	862,000	25,400,000	139,000	3,940,000	178,000	2,380,000	1,020,000	1,700,000
January-February	1,390,000	42,500,000	270,000	6,650,000	351,000	4,000,000	1,700,000	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.

⁷All or part of these data have been referred to the U.S. Census Bureau for verification.

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:						
February	844	\$31,600	2,820	\$43,100	14,800	\$722,000
March	1,910	68,700	79,300	536,000	12,200	953,000
April	5,170	152,000	20,500	253,000	15,500	933,000
May	1,510	46,000	55,100	558,000	20,400	1,220,000
June	3,010	33,900	15,100	256,000	13,700	1,050,000
July	230	14,600	30,600	175,000	18,400	1,280,000
August	440	23,500	86,200	618,000	14,400	787,000
September	475	13,000	10,700	126,000	9,410	646,000
October	8,170	84,200	47,900	324,000	11,300	810,000
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-February	3,110	131,000	14,700	211,000	27,400	1,380,000
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:						
Austria	90	3,260	15,800	194,000	--	--
Belgium	200	4,650	2,480	47,600	450	21,500
Canada	--	--	16,400	230,000	10,400	415,000
China	473	18,900	--	--	--	--
France	--	--	--	--	5	9,630
Germany	2,150	15,900	5,800	134,000	291	18,900
Ireland	--	--	6,430	87,600	--	--
Japan	1,000	58,100	--	--	636	26,700
Taiwan	--	--	17,500	221,000	--	--
United Kingdom	537	17,200	87,900	587,000	8,290	364,000
Total	4,450	118,000	152,000	1,500,000	20,000	856,000
January-February	6,700	218,000	201,000	2,110,000	31,500	1,660,000

-- 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:								
February	143,000	\$2,820,000	23,700	\$336,000	54,200	\$316,000	173,000	357,000
March	110,000	3,110,000	44,800	459,000	17,000	102,000	146,000	503,000
April	205,000	3,330,000	66,000	936,000	146,000	672,000	288,000	791,000
May	220,000	3,600,000	14,200	340,000	27,800	158,000	237,000	1,030,000
June	232,000	4,770,000	18,600	238,000	9,710	54,600	248,000	1,280,000
July	191,000	6,570,000	43,000	845,000	41,800	294,000	232,000	1,510,000
August	187,000	4,270,000	17,400	338,000	56,600	324,000	213,000	1,720,000
September	227,000	3,980,000	15,200	191,000	10,000	57,100	240,000	1,960,000
October	184,000	2,890,000	9,310	166,000	118,000	603,000	219,000	2,180,000
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-February	294,000	5,630,000	63,000	811,000	71,200	398,000	357,000	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
January-February	398,000	13,700,000	117,000	5,180,000	141,000	1,220,000	516,000	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:				
February	55,600	\$1,540,000	4,020 ³	\$44,500 ³
March	124,000	3,740,000	100 ³	3,850 ³
April	71,900	2,210,000	2,680 ³	24,100 ³
May	56,100	2,060,000	53,000 ³	705,000 ³
June	100,000	2,940,000	238,000 ³	257,000 ³
July	69,200	2,240,000	33,100 ³	372,000 ³
August	65,500	2,720,000	73,700 ³	473,000 ³
September	89,600	3,090,000	32,100 ³	149,000 ³
October	116,000	3,150,000	74,400 ³	979,000 ³
November	97,000	2,440,000	29,000 ³	559,000 ³
December	83,300	2,470,000	76,000 ³	1,990,000 ³
January-February	132,000	4,240,000	4,840	52,700
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
January-February	145,000	6,080,000	421,000	7,610,000

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

²Free alongside ship (f.a.s.) value.

³All or part of these data have been referred to the U.S. Census Bureau for verification.

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