

Mineral Industry Surveys

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COBALT IN FEBRUARY 2004

U.S. cobalt consumption during January through February 2004 was 10% higher than consumption during the first 2 months of 2003, according to the U.S. Geological Survey. The cobalt content of U.S. imports of cobalt metals and chemicals was 12% lower in January 2004 than that of imports in

December 2003. The cobalt content of U.S. exports of unwrought cobalt and chemicals was 33% lower in January 2004 than that of exports during December 2003. Trade data for February 2004 will be available in a subsequent issue.

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:				
February	252	160	167	579
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-February	511	315	335	1,160
January-December ⁴	3,060	1,950	2,010	7,010
2004:				
January	275 ^r	219 ^r	167	661 ^r
February	270	178	167	616
January-February	545	397	334	1,280

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- February ^r	January- December ²	February	January- February ³
Steel	66	366	29	58
Superalloys	525	3,170	273	559
Magnetic alloys	64	385	33	65
Other alloys ⁴	W	W	W	W
Cemented carbides ⁵	113	679	64	121
Chemical and ceramic uses ⁶	347	2,140	194	429
Miscellaneous and unspecified	46	273	23	45
Total	1,160	7,010	616	1,280

^rRevised. 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 month.

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			Total	U.S. Government, metal ⁵
	Metal ³	Oxide and other chemical compounds ⁴	Scrap		
2003:					
February	402	210	188	800	6,200
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	403 ^r	208 ^r	188	799	3,900
February	369	198	188	755	3,410

^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:								
January	384,000	\$6,640,000	65,200	\$1,020,000	66,300	\$234,000	449,000	449,000
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-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:								
Australia	19,000	67,500	--	--	--	--	19,000	19,000
Belgium	15,000	436,000	21,300	579,000	--	--	30,300	30,300
Canada	93,500	2,660,000	--	--	--	--	93,500	93,500
China	24,500	835,000	58,800	991,000	3,000	18,600	67,600	67,600
Finland	10,400	418,000	42,100	880,000	126,000	1,290,000	85,000	85,000
France	1,860	124,000	5,720	196,000	--	--	5,980	5,980
India	--	--	--	--	19,500	96,600	5,270	5,270
Japan	15,600	441,000	--	--	6,550	67,700	17,300	17,300
Korea, Republic of	232	13,400	--	--	--	--	232	232
Norway	136,000	4,690,000	--	--	--	--	136,000	136,000
Russia	128,000	5,180,000	--	--	--	--	128,000	128,000
South Africa	18,000	108,000	--	--	--	--	18,000	18,000
Sweden	1,550	38,400	--	--	--	--	1,550	1,550
Switzerland	178	7,660	--	--	--	--	178	178
United Kingdom	989	55,500	3,300	62,700	17,500	147,000	8,430	8,430
Zambia	60,000	2,060,000	--	--	--	--	60,000	60,000
Total	525,000	17,100,000	131,000	2,710,000	172,000	1,620,000	677,000	677,000

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:						
January	2,270	\$99,800	11,900	\$168,000	12,600	\$659,000
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-December	29,000	717,000	482,000	3,970,000	167,000	10,700,000
2004:						
January:						
Belgium	--	--	3,310	63,600	1,820	9,030
Canada	--	--	--	--	1,160	211,000
China	--	--	--	--	157	8,950
Czech Republic	--	--	--	--	2	3,090
France	--	--	10,600	116,000	2,480	239,000
Ireland	--	--	11,700	164,000	--	--
Japan	1,200	68,200	--	--	413	35,300
Russia	--	--	3,230	106,000	--	--
Tunisia	--	--	3,350	28,400	--	--
United Kingdom	1,050	32,000	16,700	136,000	5,410	300,000
Total	2,250	100,000	48,900	614,000	11,400	807,000

-- 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:								
January	151,000	\$2,800,000	39,200	\$475,000	17,100	\$82,000	183,000	183,000
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-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

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:				
January	76,900	\$2,700,000	817 ³	\$8,240 ³
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-December	1,010,000	31,300,000	617,000	5,560,000
2004, January	50,900	2,400,000	126,000	4,320,000

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.