



Mineral Industry Surveys

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COBALT IN JUNE 2003

U.S. consumption of cobalt during January through June 2003 was nearly equal in amount to consumption during the first half of 2002, according to the U.S. Geological Survey. The cobalt content of U.S. imports of cobalt metals and chemicals was 19% lower in January through May 2003 than that of imports during the same period in 2002. The cobalt content of U.S. exports of unwrought cobalt and chemicals was 30% higher in January through May 2003 than that during the same period in 2002. Trade data for June 2003 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>
July 31	9.95-10.50
August 7	9.95-10.50
August 14	9.95-10.50
August 21	9.80-10.50
August 28	9.50-10.00

<u>Month</u>	<u>Average price</u>
June	10.10
July	10.14
August	10.09

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS¹

(Metric tons, contained cobalt)

Period	Metal ²	Oxide and other chemical compounds ³	Scrap	Total
2002:				
June ^r	221	113	223	557
July ^r	230	105	223	557
August ^r	239	113	223	574
September ^r	229	118	223	570
October ^r	228	101	223	552
November ^r	253	100	223	576
December ^r	226	100	222	548
January-June ^r	1,570	627	1,340	3,540
January-December ^{r,4}	2,980	1,260	2,670	6,920
2003:				
January	258	155	167	580
February	251	160	167	578
March	250	170	167	588
April	251	164	167	582
May	264 ^r	166	167	598 ^r
June	253	169	167	590
January-June	1,530	985	1,000	3,520

^rRevised.

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	2002		2003	
	January-June	January-December ²	June	January-June ³
Steel	223 ^r	418 ^r	29	187
Superalloys	1,720 ^r	3,300 ^r	267	1,590
Magnetic alloys	183 ^r	364 ^r	30	183
Other alloys ⁴	W	W	W	W
Cemented carbides ⁵	309 ^r	617 ^r	54	336
Chemical and ceramic uses ⁶	964 ^r	1,940 ^r	186	1,080
Miscellaneous and unspecified	136 ^r	272 ^r	23	137
Total	3,540 ^r	6,920 ^r	590	3,520

^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 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 usage, feed or nutritive additive, 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		
2002:					
June	366 ^r	224 ^r	188 ^r	778 ^r	7,100
July	375 ^r	217 ^r	188 ^r	779 ^r	6,950
August	421 ^r	224 ^r	188 ^r	834 ^r	6,890
September	434 ^r	211 ^r	188 ^r	832 ^r	6,860
October	412 ^r	208 ^r	188 ^r	808 ^r	6,800
November	403 ^r	203 ^r	188 ^r	794 ^r	6,740
December ⁶	456 ^r	222 ^r	188 ^r	867 ^r	6,680
2003:					
January	434	222	188	844	6,360 ^r
February	411	210	188	809	6,200
March	405	209	188	801	6,170 ^r
April	368	200	188	756	5,750
May	374	206	188	768	5,450
June	375	199	188	762	5,240

^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		
2002:								
May	731,000	\$12,500,000	155,000	\$2,310,000	176,000	\$801,000	893,000	4,260,000
June	560,000	10,200,000	82,600	1,330,000	163,000	831,000	669,000	4,930,000
July	569,000	9,910,000	102,000	1,730,000	253,000	1,090,000	713,000	5,640,000
August	309,000	5,510,000	81,600	1,400,000	188,000	886,000	421,000	6,060,000
September	599,000	9,120,000	115,000	1,690,000	235,000	815,000	744,000	6,810,000
October	574,000	9,710,000	106,000	1,480,000	274,000	942,000	725,000	7,530,000
November	321,000	5,550,000	77,000	1,040,000	195,000	657,000	430,000	7,960,000
December	415,000	6,480,000	90,600	1,220,000	147,000	587,000	520,000	8,480,000
January-December	6,840,000	114,000,000	1,300,000	20,000,000	2,580,000	10,500,000	8,480,000	XX
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:								
Australia	20,000	388,000	--	--	--	--	20,000	79,000
Austria	1,760	35,200	--	--	--	--	1,760	1,760
Belgium	23,000	450,000	140,000	2,740,000	--	--	124,000	428,000
Brazil	40,000	710,000	--	--	--	--	40,000	133,000
Canada	103,000	1,860,000	--	--	--	--	103,000	341,000
China	4,000	94,200	13,200	163,000	176	2,110	13,500	28,300
Congo (Kinshasa)	--	--	--	--	--	--	--	67,600
Finland	95,000	2,060,000	34,300	503,000	62,700	374,000	140,000	537,000
France	1,890	97,600	3,400	107,000	--	--	4,340	28,600
Germany	2,270	57,000	--	--	--	--	2,270	6,930
India	--	--	--	--	20,000	74,000	5,400	5,400
Ireland	--	--	--	--	--	--	--	6,160
Japan	2,520	55,200	--	--	8,100	76,300	4,540	46,500
Korea, Republic of	1,240	47,900	--	--	--	--	1,240	1,410
Luxembourg	--	--	--	--	--	--	--	4,580
Morocco	20,000	353,000	--	--	--	--	20,000	20,000
Norway	137,000	2,730,000	--	--	--	--	137,000	650,000
Philippines	--	--	--	--	17,300	136,000	6,360	17,100
Russia	53,500	1,010,000	--	--	--	--	53,500	621,000
South Africa	33,000	585,000	--	--	--	--	33,000	88,600
Sweden	987	21,600	--	--	--	--	987	17,900
Switzerland	1,010	52,300	--	--	--	--	1,010	3,640
Taiwan	--	--	--	--	--	--	--	120
Uganda	--	--	--	--	--	--	--	5,100
United Kingdom	115	6,470	46,200	700,000	19,000	102,000	38,100	117,000
Zambia	5,000	92,600	--	--	--	--	5,000	154,000
Total	546,000	10,700,000	237,000	4,210,000	127,000	764,000	755,000	3,410,000

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.

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
2002:						
May	3,600	\$144,000	13,100	\$107,000	29,000	\$977,000
June	679	24,700	21,000	161,000	13,200	855,000
July	11,400	135,000	5,780	63,600	18,900	1,060,000
August	1,860	126,000	10,000	87,900	14,100 ³	811,000 ³
September	21,300	241,000	20,600	168,000	14,600	779,000
October	4,680	84,800	34,700	169,000	12,300	854,000
November	200	13,900	9,310	96,000	19,300	1,010,000
December	843	45,700	6,550	100,000	16,600	960,000
January-December	56,900	1,310,000	206,000	1,720,000	231,000	11,600,000
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:						
Australia	--	--	1,380	11,400	--	--
Belgium	--	--	14,500	197,000	810	35,000
Canada	--	--	--	--	2,560	347,000
China	--	--	--	--	9	5,570
France	--	--	12,900	127,000	1,480	58,800
Germany	--	--	--	--	506	97,300
India	--	--	--	--	99	2,060
Ireland	--	--	1,720	21,000	--	--
Japan	--	--	10,800	66,500	2,150	66,800
United Kingdom	1,510	46,000	13,700	136,000	12,800	604,000
Total	1,510	46,000	55,100	558,000	20,400	1,220,000

-- Zero.

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

²Customs 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.

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 ^{3,6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2002:								
May	77,700	\$1,800,000	57,600	\$656,000	36,300	\$185,000	128,000	790,000
June	233,000	4,800,000	71,400	663,000	29,800	208,000	292,000	1,080,000
July	69,700	1,680,000	62,800	1,150,000	12,200	52,700	118,000	1,200,000
August	132,000	3,180,000	71,100	765,000	16,600	75,100	188,000	1,390,000
September	110,000	2,380,000	46,600	511,000	12,700	59,500	146,000	1,530,000
October	99,400	2,900,000	84,700	926,000	5,970	24,600	162,000	1,700,000
November	173,000	3,520,000	47,000	741,000	61,700	233,000	221,000	1,920,000
December	110,000	1,730,000	44,100	606,000	95,000	244,000	165,000	2,080,000
January-December	1,600,000	34,800,000	558,000	7,040,000	329,000	1,430,000	2,080,000	XX
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 ^r	3,110,000 ^r	44,800	459,000	17,000	102,000	146,000	503,000
April	205,000 ^r	3,330,000 ^r	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

^rRevised. 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
2002:				
May	74,500	\$2,100,000	2,910 ³	\$49,200 ³
June	68,100	2,340,000	2,610 ³	25,700 ³
July	87,100	2,630,000	27,700 ³	110,000 ³
August	83,300	2,570,000	5,290 ³	70,600 ³
September	90,600	2,500,000	1,780 ³	20,700 ³
October	60,000	1,940,000	16,300 ³	87,800 ³
November	51,400	1,880,000	158 ³	5,450 ³
December	64,700	1,650,000	10,200 ³	61,000 ³
January-December	923,000	26,600,000	307,000	1,310,000
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 ^{r,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

^rRevised.

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.