

Mineral Industry Surveys

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COBALT IN OCTOBER 2004

U.S. cobalt consumption during January through October 2004 was slightly higher than that consumed during the first 10 months of 2003, according to the U.S. Geological Survey.

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 4% higher during January through September 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 4% higher during January through September 2004 than that of exports during the same period in 2003. Trade data for October 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>
December 9	18.00-19.00
December 16	18.50-19.50

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:				
October	226	164	167	557
November	240	154	167	561
December	216	155	167	538
January-October ^r	2,300	1,620	1,680	5,600
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 ^r	161	162	557 ^r
September	232 ^r	163 ^r	162	558 ^r
October	304	154	162	620
January-October	2,390	1,700	1,670	5,760

^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.

⁵Includes annual reports.

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

(Metric tons, contained cobalt)

End use	2003			2004	
	January- October	January- December ²	Year ³	October	January October ⁴
Steel	361 ^r	431	565	37	367
Superalloys	2,520 ^r	3,030	3,400	314	2,560
Magnetic alloys	276 ^r	330	339	31	286
Other alloys ⁵	W	W	632	W	W
Cemented carbides ⁶	551 ^r	662	662	58	583
Chemical and ceramic uses ⁷	1,660 ^r	1,970	1,980	157	1,730
Miscellaneous and unspecified	227	271	63	23	225
Total	5,600 ^r	6,700	7,640	620	5,760

^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.

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:					
October	351	195	104	650	4,760
November	324	195	104	623	4,640
December ⁶	342	194	104	641	4,290
Year ⁷	380	214	105	699	4,290
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 ^r	2,700
October	308	217	104	629	2,700

^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.

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:								
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-September	4,990,000	95,100,000	1,030,000	17,100,000	996,000	5,800,000	6,010,000	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:								
Australia	41,000	1,730,000	--	--	--	--	41,000	288,000
Belgium	59,300	2,350,000	33,500	1,300,000	--	--	83,400	784,000
Brazil	--	--	--	--	--	--	--	6,360
Bulgaria	3,450	68,900	--	--	--	--	3,450	3,450
Canada	67,800	3,420,000	--	--	--	--	67,800	893,000
China	16,100	775,000	12,100	406,000	72,300	870,000	47,100	511,000
Colombia	--	--	--	--	--	--	--	694
Congo (Kinshasa)	--	--	--	--	--	--	--	544
Finland	30,300	1,570,000	23,100	876,000	30,800	747,000	60,500	645,000
France	5,670	465,000	1,660	112,000	--	--	6,860	66,700
Germany	50	2,390	--	--	--	--	50	34,700
India	--	--	--	--	18,000	204,000	4,860	31,600
Italy	--	--	--	--	--	--	--	387
Japan	13,100	887,000	--	--	7,860	149,000	15,000	131,000
Korea, Republic of	8,540	116,000	--	--	--	--	8,540	16,000
Mexico	--	--	--	--	--	--	--	629
Netherlands	--	--	--	--	--	--	--	14
Norway	163,000	8,410,000	--	--	--	--	163,000	1,030,000
Philippines	--	--	--	--	46,000	182,000	12,500	18,300
Russia	144,000	7,370,000	--	--	--	--	144,000	1,110,000
South Africa	2,250	113,000	--	--	--	--	2,250	109,000
Spain	--	--	--	--	--	--	--	1,120
Sweden	--	--	--	--	--	--	--	4,700
Switzerland	--	--	--	--	--	--	--	4,700
Taiwan	--	--	1,000	50,500	3,000	36,900	1,470	29,200
United Kingdom	1,250	53,500	29,500	1,030,000	17,900	240,000	27,100	148,000
Zambia	109,000	5,300,000	--	--	--	--	109,000	407,000
Total	666,000	32,600,000	101,000	3,770,000	196,000	2,430,000	799,000	6,280,000
January-September	5,160,000	223,000,000	985,000	34,000,000	1,300,000	16,300,000	6,280,000	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:						
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-September	15,900	483,000	312,000	2,730,000	131,000	8,240,000
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:						
Austria	--	--	20,100	137,000	--	--
Belgium	--	--	--	--	87	6,210
Canada	--	--	--	--	2,350	410,000
Congo (Kinshasa)	6,660	67,500	--	--	--	--
Czech Republic	--	--	--	--	2	3,250
France	--	--	--	--	3	3,800
Germany	--	--	--	--	153	16,300
Ireland	--	--	14,500	206,000	--	--
Japan	600	34,800	--	--	636	25,200
Mexico	--	--	3,730	37,800	--	--
Singapore	53	3,760	--	--	--	--
United Kingdom	--	--	1,080	29,600	6,760	338,000
Zambia	--	--	--	--	19,500	953,000
Total	7,310	106,000	39,400	411,000	29,500	1,760,000
January-September	61,600	2,450,000	830,000	9,100,000	152,000	10,000,000

-- 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:								
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-September	1,670,000	35,300,000	282,000	4,160,000	381,000	2,060,000	1,960,000	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
January-September	1,730,000	64,600,000	275,000	12,300,000	472,000	4,610,000	2,050,000	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:				
September	89,600	\$3,090,000	32,100	\$149,000
October	116,000	3,150,000	74,400	979,000
November	97,000	2,440,000	29,000	559,000
December	83,300	2,470,000	76,000	1,990,000
January-September	709,000	23,200,000	437,000	2,040,000
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
January-September	836,000	33,500,000	844,000	20,200,000

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.