

# Mineral Industry Surveys

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## COBALT IN JULY 2006

Preliminary data for 2005 and 2006 indicate that U.S. cobalt consumption during January through July 2006 was 3% higher than that consumed during the first 7 months of 2005, according to the U.S. Geological Survey.

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 9% higher in January through June 2006 than that imported during the same period in 2005. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals was 22% higher in January through June 2006 than that exported during the same period in 2005.

**Update**

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

<u>Date</u>	<u>Price range</u>
August 3	15.00-16.00
August 10	16.75-17.50
August 17	17.50-18.25
August 24	19.25-20.00
August 31	19.50-20.25
September 7	19.50-20.25

TABLE 1  
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS<sup>1</sup>

(Metric tons, contained cobalt)

Period	Metal <sup>2</sup>	Oxide and other chemical compounds <sup>3</sup>	Scrap	Total
2005:				
July	261	147	177	585
August	276	151	201	628
September	263	159	201	623
October	266	154	201	621
November	259	147	201	606
December	248	148	201	597
January-July <sup>r</sup>	1,860	1,100	1,340	4,300
January-December <sup>4</sup>	3,170	1,860	2,340	7,380
2006:				
January	324	149	173	646
February	317	151	166	633 <sup>r</sup>
March	321	153	171	645
April	299	146	174	619 <sup>r</sup>
May	320	161	175	655
June	302 <sup>r</sup>	156 <sup>r</sup>	175	633 <sup>r</sup>
July	298	146	175	618
January-July	2,180	1,060	1,210	4,450

<sup>r</sup>Revised.

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

<sup>2</sup>Includes metal powder.

<sup>3</sup>Data may include other cobalt materials.

<sup>4</sup>Data based on monthly reports.

TABLE 2  
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE<sup>1</sup>

(Metric tons, contained cobalt)

End use	2005		2006	
	January- July	January- December <sup>2</sup>	July	January- July <sup>3</sup>
Steel	348 <sup>r</sup>	598	57	400
Superalloys	1,910	3,300	298	2,130
Magnetic alloys	132 <sup>r</sup>	235	22	171
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	444 <sup>r</sup>	762	58	425
Chemical and ceramic uses <sup>6</sup>	1,310 <sup>r</sup>	2,210	161	1,170
Miscellaneous and unspecified	158	271	23	159
Total	4,300 <sup>r</sup>	7,380	618	4,450

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

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

<sup>2</sup>Data based on monthly reports.

<sup>3</sup>Includes revisions to prior months' data.

<sup>4</sup>Includes nonferrous alloys, welding materials, and wear-resistant alloys.

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

<sup>6</sup>Includes 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 MATERIALS<sup>1</sup>

(Metric tons, contained cobalt)

Period	Industry <sup>2</sup>			Total	U.S. Government, metal <sup>5</sup>
	Metal <sup>3</sup>	Oxide and other chemical compounds <sup>4</sup>	Scrap		
2005:					
July	370	201	87	658	1,930
August	341	191	102	634	1,870
September	353	187	98	638	1,810
October	340	180	94	615	1,670
November	326	182	91	599	1,560
December	330	179	87	596	1,550
2006:					
January	311 <sup>r</sup>	187	80	578 <sup>r</sup>	1,520
February	321	183	81	585 <sup>r</sup>	1,500
March	335	176	84	595 <sup>r</sup>	1,480
April	339 <sup>r</sup>	173	74	586	1,480
May	334	183	74	592	1,480
June	340 <sup>r</sup>	170 <sup>r</sup>	74	584 <sup>r</sup>	1,480
July	326	169	74	569	1,470

<sup>r</sup>Revised.

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

<sup>2</sup>Stocks reported by cobalt processors and consumers.

<sup>3</sup>Includes metal powder.

<sup>4</sup>Data may include other cobalt materials.

<sup>5</sup>Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY<sup>1</sup>

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

Period and country of origin	Metals <sup>2</sup>		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt content for the month <sup>5</sup>	Cobalt content, year to date <sup>5,6</sup>
	Quantity	Value <sup>4</sup>	Quantity	Value <sup>4</sup>	Quantity	Value <sup>4</sup>		
2005:								
June	904,000	\$30,100,000	91,600	\$2,620,000	187,000	\$2,050,000	1,030,000	5,620,000
July	712,000	22,600,000	119,000	2,920,000	120,000	1,130,000	835,000	6,450,000
August	829,000	23,900,000	82,500	2,210,000	150,000	1,690,000	946,000	7,400,000
September	846,000	26,800,000	113,000	2,770,000	167,000	1,400,000	980,000	8,380,000
October	846,000	26,500,000	111,000	2,610,000	237,000	2,640,000	1,010,000	9,390,000
November	971,000	28,300,000	116,000	2,790,000	158,000	1,840,000	1,120,000	10,500,000
December	379,000	11,000,000	108,000	2,380,000	271,000	2,850,000	555,000	11,100,000
January-June	4,770,000	173,000,000	660,000	19,500,000	1,090,000	13,200,000	5,620,000	XX
January-December	9,350,000	312,000,000	1,310,000	35,100,000	2,200,000	24,800,000	11,100,000	XX
2006:								
January	906,000	25,000,000	79,300	1,890,000	245,000	2,830,000	1,060,000	1,060,000
February	571,000	15,600,000	102,000	2,200,000	317,000	3,720,000	775,000	1,830,000
March	1,160,000	30,300,000	115,000	2,620,000	196,000	2,230,000	1,320,000	3,150,000
April	942,000	26,500,000	121,000	2,850,000	165,000	1,640,000	1,090,000	4,240,000
May	640,000	19,300,000	102,000	2,360,000	195,000	2,450,000	790,000	5,030,000
June:								
Australia	6,000	194,000	--	--	--	--	6,000	243,000
Belgium	12,800	549,000	14,800	394,000	--	--	23,400	264,000
Brazil	27,000	831,000	--	--	11,100	161,000	31,600	146,000
Canada	68,700	1,900,000	--	--	--	--	68,700	520,000
China	40,500	1,240,000	--	--	3,000	30,600	41,500	690,000
Congo (Kinshasa)	--	--	--	--	--	--	--	9,980
Cote d'Ivoire	--	--	--	--	--	--	--	2,590
Finland	9,840	428,000	14,900	378,000	81,500	964,000	51,400	430,000
France	1,450	71,900	2,640	126,000	--	--	3,350	23,500
Germany	310	39,600	788	40,800	--	--	877	14,300
India	--	--	--	--	18,000	101,000	4,860	76,700
Italy	130	11,200	1	2,380	--	--	131	131
Japan	10,800	411,000	160	10,600	--	--	10,900	91,200
Korea, Republic of	300	3,400	--	--	--	--	300	907
Kyrgyzstan	--	--	--	--	--	--	--	736
Morocco	20,000	616,000	--	--	--	--	20,000	160,000
Norway	230,000	7,060,000	--	--	--	--	230,000	1,280,000
Philippines	--	--	--	--	12,500	232,000	4,730	19,500
Russia	377,000	11,000,000	--	--	--	--	377,000	1,420,000
South Africa	500	16,600	--	--	145,000	741,000	35,200	58,200
Sweden	--	--	--	--	--	--	--	2,180
Taiwan	--	--	--	--	--	--	--	360
Uganda	--	--	--	--	--	--	--	59,400
United Kingdom	804	38,800	9,500	264,000	7,620	77,000	9,500	125,000
Zambia	163,000	5,080,000	--	--	--	--	163,000	473,000
Total	969,000	29,500,000	42,700	1,220,000	278,000	2,310,000	1,080,000	6,110,000
January-June	5,190,000	146,000,000	562,000	13,100,000	1,400,000	15,200,000	6,110,000	XX

XX Not applicable. -- Zero.

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

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

<sup>3</sup>Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

<sup>4</sup>Customs value.

<sup>5</sup>Estimated from gross weights.

<sup>6</sup>May 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<sup>1</sup>

(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 <sup>2</sup>	Quantity	Value <sup>2</sup>	Quantity	Value <sup>2</sup>
2005:						
June	500	\$33,000	120,000	\$1,060,000	20,500	\$1,540,000
July	1,990	95,700	17,100	276,000	27,300	1,730,000
August	675	42,800	91,800	856,000	12,400	1,060,000
September	23,500	711,000	42,700	495,000	18,300	1,150,000
October	10,700	372,000	88,200	594,000	18,700	1,520,000
November	10,100	410,000	100,000	1,090,000	36,900	2,190,000
December	35,200	350,000	53,600	363,000	21,700	1,510,000
January-June	19,000	705,000	421,000	4,200,000	121,000	8,520,000
January-December	101,000	2,690,000	815,000	7,880,000	256,000	17,700,000
2006:						
January	385	14,000	59,800	1,090,000	14,600	1,140,000
February	1,380	53,700	68,200	441,000	12,700	1,080,000
March	1,570	74,900	55,200	731,000	25,100	1,940,000
April	1,050	60,800	29,000	421,000	26,700	1,820,000
May	864	78,800	26,800	450,000	23,600	1,690,000
June:						
Canada	70	9,250	3,470	34,200	2,240	432,000
China	--	--	--	--	330	26,900
France	--	--	--	--	2,060	218,000
Germany	--	--	9,150	138,000	5,630	204,000
Ireland	--	--	9,890	159,000	--	--
Japan	--	--	165	2,610	2,370	111,000
Mexico	--	--	894	16,600	--	--
Netherlands	--	--	--	--	2,420	143,000
Taiwan	--	--	--	--	16	4,540
Tunisia	--	--	3,250	43,800	--	--
United Kingdom	163	10,100	122,000	1,380,000	8,240	541,000
Total	233	19,300	149,000	1,780,000	23,300	1,680,000
January-June	5,490	301,000	388,000	4,910,000	126,000	9,350,000

-- Zero.

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

<sup>2</sup>Customs value.

Source: U.S. Census Bureau.

TABLE 6  
U.S. EXPORTS OF COBALT MATERIALS<sup>1</sup>

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

Period	Unwrought cobalt, powders, matte, waste and scrap <sup>2</sup>		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt content for the month <sup>5</sup>	Cobalt content, year to date <sup>5, 6</sup>
	Quantity	Value <sup>4</sup>	Quantity	Value <sup>4</sup>	Quantity	Value <sup>4</sup>		
2005:								
June	170,000	\$5,710,000	107,000	\$1,860,000	26,300	\$217,000	254,000	1,250,000
July	174,000	5,280,000	39,700	818,000	75,200	621,000	221,000	1,470,000
August	170,000	5,560,000	25,500	581,000	18,900	137,000	193,000	1,660,000
September	108,000	4,050,000	154,000	1,780,000	30,400	229,000	226,000	1,890,000
October	147,000	6,240,000	68,000	1,610,000	18,400	119,000	201,000	2,090,000
November	103,000	4,030,000	57,700	1,480,000	88,900	390,000	166,000	2,260,000
December	90,100	3,130,000	110,000	2,410,000	49,200	275,000	181,000	2,440,000
January-June	880,000	32,300,000	375,000	8,440,000	423,000	2,050,000	1,250,000	XX
January-December	1,670,000	60,600,000	829,000	17,100,000	704,000	3,820,000	2,440,000	XX
2006:								
January	96,100	3,850,000	108,000	2,610,000	51,500	317,000	187,000	187,000
February	96,200	3,960,000	91,800	2,170,000	43,400	308,000	173,000	359,000
March	232,000	9,530,000	93,800	2,030,000	76,300	518,000	318,000	678,000
April	326,000	12,700,000	123,000	2,710,000	19,900	177,000	419,000	1,100,000
May	134,000	4,780,000	83,300	2,060,000	79,800	461,000	213,000	1,310,000
June	157,000	3,980,000	66,000	1,680,000	50,300	111,000	217,000	1,530,000
January-June	1,040,000	38,800,000	566,000	13,300,000	321,000	1,890,000	1,530,000	XX

XX Not applicable.

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

<sup>2</sup>May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

<sup>3</sup>Cobalt acetates and cobalt chlorides.

<sup>4</sup>Free alongside ship (f.a.s.) value.

<sup>5</sup>Estimated from gross weights.

<sup>6</sup>Year 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 CONCENTRATES<sup>1</sup>

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

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value <sup>2</sup>	Quantity	Value <sup>2</sup>
2005:				
June	230,000	\$9,230,000	36,200	\$1,200,000
July	224,000	8,410,000	--	--
August	213,000	7,950,000	242,000	1,870,000
September	147,000	6,370,000	139,000	1,720,000
October	222,000	8,360,000	41,800	1,050,000
November	216,000	8,370,000	--	--
December	204,000	8,800,000	69,200	562,000
January-June	1,110,000	43,600,000	237,000	6,920,000
January-December	2,340,000	91,800,000	729,000	12,100,000
2006:				
January	188,000	7,160,000	5,150	129,000
February	157,000	7,530,000	6,390	139,000
March	219,000	8,340,000	28,000	893,000
April	183,000	8,250,000	69,200	1,170,000
May	115,000	5,260,000	19,700	493,000
June	112,000	6,110,000	31,800	423,000
January-June	974,000	42,600,000	160,000	3,250,000

-- Zero.

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

<sup>2</sup>Free alongside ship (f.a.s.) value.

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