

# Mineral Industry Surveys

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**For information, contact:**

Kim B. Shedd, Cobalt Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4974, Fax: (703) 648-7757  
E-mail: ksheddd@usgs.gov

Jo-Ann S. Sterling (Data)  
Telephone: (703) 648-7953  
Fax: (703) 648-7975  
E-mail: jsterlin@usgs.gov

**Internet:** <http://minerals.usgs.gov/minerals>

## COBALT IN APRIL 2006

Preliminary data for 2005 and 2006 indicate that U.S. cobalt consumption during January through April 2006 was nearly equal to that during the first 4 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 18% higher in January through March 2006 than that during the same period in 2005. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals was 29% higher in January through March 2006 than that during the same period in 2005.

Platts Metals Week, are listed below.

<u>Date</u>	<u>Price range</u>
May 11	15.75-16.15
May 18	15.75-16.15
May 25	15.75-16.15
June 1	15.00-15.80
June 8	14.90-15.40

<u>Month</u>	<u>Average price</u>
May	15.93

**Update**

Prices for electrolytic cobalt, in dollars per pound from

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:				
April	268	151	187	605
May	256	154	198	608
June	254	176	194	624
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-April <sup>f</sup>	1,090	628	767	2,490
January-December <sup>4</sup>	3,170	1,860	2,340	7,380
2006:				
January	312 <sup>r</sup>	149	185	647 <sup>r</sup>
February	298 <sup>r</sup>	151	185	635 <sup>r</sup>
March	307 <sup>r</sup>	153 <sup>r</sup>	185	646 <sup>r</sup>
April	285	146	185	617
January-April	1,200	600	742	2,540

<sup>f</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- April	January- December <sup>2</sup>	April	January- April <sup>3</sup>
Steel	198	598	57	230
Superalloys	1,120	3,300	291	1,220
Magnetic alloys	77	235	24	98
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	259	762	62	249
Chemical and ceramic uses <sup>6</sup>	742 <sup>r</sup>	2,210	161	659
Miscellaneous and unspecified	90	271	23	91
Total	2,490	7,380	617	2,540

<sup>f</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:					
April	341	208	95	644	2,220
May	351	199	89	639	2,180
June	347	186	79	611	2,070
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	310	187	70	566	1,520
February	321 <sup>r</sup>	183	70 <sup>r</sup>	573 <sup>r</sup>	1,500
March	335 <sup>r</sup>	176	70 <sup>r</sup>	581 <sup>r</sup>	1,480
April	338	175	70	582	1,480

<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:								
March	544,000	\$21,000,000	183,000	\$5,640,000	215,000	\$2,690,000	747,000	2,680,000
April	818,000	29,800,000	75,100	1,950,000	98,600	1,230,000	907,000	3,590,000
May	885,000	29,900,000	87,600	2,570,000	173,000	1,660,000	1,000,000	4,580,000
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-March	2,160,000	83,500,000	406,000	12,300,000	635,000	8,280,000	2,680,000	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:								
Australia	100,000	2,570,000	--	--	--	--	100,000	176,000
Belgium	5,670	188,000	42,500	1,010,000	13,500	123,000	39,900	177,000
Brazil	27,000	719,000	--	--	--	--	27,000	67,000
Canada	100,000	2,360,000	--	--	--	--	100,000	259,000
China	137,000	3,690,000	10,000	163,000	23,400	277,000	155,000	425,000
Congo (Kinshasa)	--	--	--	--	--	--	--	9,980
Cote d'Ivoire	--	--	--	--	--	--	--	2,590
Finland	3,900	156,000	15,400	325,000	101,000	1,080,000	52,500	229,000
France	986	72,300	5,500	255,000	--	--	4,950	9,900
Germany	8,570	202,000	--	--	--	--	8,570	9,120
India	--	--	--	--	16,900	93,500	4,560	29,000
Japan	23,700	832,000	--	--	--	--	23,700	54,600
Korea, Republic of	270	13,500	--	--	--	--	270	330
Kyrgyzstan	--	--	--	--	--	--	--	736
Morocco	20,000	494,000	--	--	--	--	20,000	80,000
Norway	359,000	9,420,000	--	--	--	--	359,000	735,000
Philippines	--	--	--	--	9,850	222,000	4,530	9,480
Russia	341,000	8,550,000	--	--	--	--	341,000	585,000
South Africa	500	15,200	--	--	--	--	500	22,000
Sweden	170	5,000	--	--	--	--	170	1,270
Uganda	19,800	486,000	--	--	--	--	19,800	19,800
United Kingdom	1,810	62,500	41,200	864,000	31,800	441,000	43,200	93,600
Zambia	14,300	462,000	--	--	--	--	14,300	155,000
Total	1,160,000	30,300,000	115,000	2,620,000	196,000	2,230,000	1,320,000	3,150,000
January-March	2,640,000	70,900,000	296,000	6,710,000	759,000	8,780,000	3,150,000	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:						
March	1,100	\$52,200	82,000	\$887,000	15,800	\$1,100,000
April	1,080	65,100	47,400	571,000	31,700	2,030,000
May	11,100	348,000	75,400	845,000	21,300	1,550,000
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-March	6,290	259,000	178,000	1,730,000	47,000	3,400,000
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:						
Austria	200	13,100	--	--	--	--
Belgium	399	16,400	--	--	--	--
Canada	--	--	13,000	67,600	2,250	474,000
China	--	--	--	--	300	26,900
France	--	--	6,780	116,000	2,510	262,000
Germany	290	4,720	2,230	28,200	3,440	182,000
Ireland	--	--	22,600	364,000	--	--
Japan	200	11,500	--	--	2,560	88,500
Mexico	--	--	1,490	22,900	--	--
Taiwan	--	--	151	2,460	21	4,750
Thailand	--	--	4,280	55,100	--	--
Tunisia	--	--	3,330	52,200	--	--
United Kingdom	485	29,200	1,350	23,200	14,000	904,000
Total	1,570	74,900	55,200	731,000	25,100	1,940,000
January-March	3,340	143,000	183,000	2,260,000	52,300	4,160,000

-- 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:								
March	107,000	\$4,650,000	57,500	\$1,260,000	145,000	\$489,000	183,000	525,000
April	154,000	6,380,000	36,900	862,000	36,500	380,000	189,000	714,000
May	207,000	5,980,000	93,500	2,250,000	36,600	205,000	283,000	998,000
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-March	349,000	14,200,000	137,000	3,460,000	323,000	1,250,000	525,000	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
January-February	424,000	17,300,000	294,000	6,810,000	171,000	1,140,000	678,000	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:				
March	147,000	\$6,540,000	40,700	\$556,000
April	184,000	6,530,000	33,000	818,000
May	129,000	6,080,000	49,200	1,300,000
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-March	566,000	21,700,000	118,000	3,610,000
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
January-March	564,000	23,000,000	39,500	1,160,000

-- 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.