

Mineral Industry Surveys

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COBALT IN DECEMBER 2009

Preliminary data for 2009 indicate that U.S. cobalt consumption was 8% lower than that consumed during 2008, according to the U.S. Geological Survey. U.S. cobalt consumption during the quarter ending December 31, 2009, was slightly less than that consumed during the quarter ending September 30, 2009, and 6% less than that consumed during the quarter ending December 31, 2008.

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 32% lower during January through November 2009 than that during the same period in 2008. The

amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals during January through November 2009 was 14% lower than that during the same period in 2008.

Update

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

<u>Month</u>	<u>Price range</u>	<u>Average price</u>
December 2009	19.00-22.50	20.93

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS¹

(Metric tons, contained cobalt)

Period	Metal ²	Oxide and other chemical compounds ³	Scrap	Total
2008:				
December	303	176	148	628
January-December ⁴	3,850	2,190	1,920	7,960
Year ⁵	4,640	2,250	1,930	8,810
2009:				
January	283	180	149	612
February	295	181	143	619
March	288	180	146	614
April	282	178	146	607
May	267	177	148	593
June	278	195	143	616
July	277	185	143	605
August	276	187	145	608
September	289	188	151	628
October	279	182	157	618
November	270 ^r	183	156 ^r	609
December	273	178	157	608
January-December	3,360	2,200	1,780	7,340

¹Revised.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Includes metal powder.

⁴Data may include other cobalt materials.

⁵Data based on monthly reports.

⁶Includes annual reports.

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

(Metric tons, contained cobalt)

End use	2008		2009	
	January-December ²	Year ³	December	January-December ⁴
Steel	534	604	53	641
Superalloys	3,700	4,320	275	3,280
Magnetic alloys	291	368	22	268
Other alloys ⁵	W	226	W	W
Cemented carbides ⁶	827	827	52	629
Chemical and ceramic uses ⁷	2,350	2,410	183	2,250
Miscellaneous and unspecified	270	63	22	270
Total	7,960	8,810	608	7,340

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.

⁴Includes revisions to prior months' data.

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				U.S. Government, metal ⁵
	Metal ³	Oxide and other chemical compounds ⁴	Scrap	Total	
2008:					
December ⁶	272	193	69	535	473
Yearend ⁷	307	203	72	582	XX
2009:					
January	273	191	87	551	455
February	327	186	81	594	455
March	306	182	105	594	455
April	304	181	104	589	455
May	310	181	101	592	455
June	306	166	114	587	380
July	309	164	109	582	310
August	303	168	104	575	310
September	285	165	92	541	304
October	272	169	85	526	304
November	267	172	69 ^r	509 ^r	295
December	262	174	67	504	293

^rRevised. XX Not applicable.

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; uncommitted material only.

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 period ⁵	Cobalt content, year to date ^{5, 6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2008:								
November	685,000	\$43,600,000	148,000	\$4,710,000	234,000	\$2,610,000	862,000	10,100,000
December	490,000	23,200,000	96,900	3,460,000	33,400	422,000	570,000	10,700,000
January-November	7,940,000	595,000,000	1,010,000	59,900,000	4,670,000	49,500,000	10,100,000	XX
January-December	8,430,000	618,000,000	1,110,000	63,400,000	4,710,000	49,900,000	10,700,000	XX
2009:								
January	345,000	10,500,000	37,700	901,000	101,000	1,360,000	410,000	410,000
February	574,000	18,600,000	23,400	757,000	161,000	1,730,000	644,000	1,050,000
March	424,000	12,300,000	109,000	2,720,000	139,000	1,610,000	549,000	1,600,000
April	469,000	15,200,000	98,400	2,280,000	251,000	3,610,000	635,000	2,240,000
May	546,000	18,100,000	181,000	3,280,000	116,000	1,790,000	722,000	2,960,000
June	436,000	14,000,000	209,000	6,120,000	158,000	2,040,000	645,000	3,610,000
July	473,000	15,100,000	153,000	3,840,000	120,000	1,370,000	622,000	4,230,000
August	491,000	17,900,000	135,000	3,600,000	191,000	2,160,000	648,000	4,880,000
September	544,000	20,800,000	91,600	2,460,000	174,000	2,160,000	671,000	5,550,000
October	592,000	18,200,000	139,000	3,030,000	237,000	3,590,000	782,000	6,330,000
November:								
Australia	--	--	--	--	--	--	--	375,000
Belgium	2,320	75,300	24,000	753,000	--	--	19,600	469,000
Brazil	10,000	304,000	--	--	--	--	10,000	143,000
Canada	2,740	142,000	73,900	1,820,000	--	--	56,000	575,000
China	78,000	2,920,000	28,500	802,000	20,200	188,000	104,000	1,430,000
Congo (Kinshasa)	--	--	--	--	--	--	--	101,000
Finland	--	--	11,700	377,000	149,000	1,940,000	61,800	554,000
France	1,990	103,000	--	--	1,030	23,100	2,470	16,700
Germany	4,230	237,000	650	61,600	--	--	4,700	16,200
Hong Kong	--	--	--	--	--	--	--	9,720
India	1,610	37,700	--	--	38,300	304,000	12,000	57,300
Italy	--	--	--	--	--	--	--	1
Japan	49,300	1,810,000	--	--	--	--	49,300	255,000
Korea, Republic of	--	--	--	--	--	--	--	1,840
Mexico	--	--	--	--	--	--	--	2,880
Morocco	20,000	747,000	--	--	--	--	20,000	227,000
Norway	125,000	4,640,000	--	--	--	--	125,000	1,450,000
Peru	--	--	--	--	--	--	--	1,100
Philippines	--	--	--	--	--	--	--	120
Russia	61,400	2,260,000	--	--	--	--	61,400	760,000
South Africa	7,640	190,000	--	--	--	--	7,640	26,400
Spain	--	--	--	--	--	--	--	3,430
Sweden	384	19,000	--	--	--	--	384	998
Switzerland	1,140	83,100	--	--	--	--	1,140	1,870
Taiwan	2,460	53,800	--	--	--	--	2,460	12,000
Uganda	--	--	--	--	--	--	--	29,500
United Kingdom	3,000	147,000	27,900	841,000	6,590	183,000	25,700	187,000
Zambia	--	--	--	--	--	--	--	183,000
Total	371,000	13,800,000	167,000	4,660,000	215,000	2,640,000	563,000	6,890,000
January-November	5,260,000	175,000,000	1,340,000	33,700,000	1,860,000	24,100,000	6,890,000	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.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS BY COUNTRY¹

(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
2008:						
November	44	\$6,220	59,700	\$875,000	26,200	\$2,930,000
December	21,000	1,030,000	60,400	836,000	48,800	2,450,000
January-November	93,600	5,320,000	1,050,000	21,900,000	296,000	27,900,000
January-December	115,000	6,340,000	1,110,000	22,700,000	345,000	30,400,000
2009:						
January	29,300	694,000	68,900	992,000	9,430	1,470,000
February	59,500	2,360,000	31,500	490,000	20,600	2,190,000
March	40,300	1,030,000	57,800	865,000	20,100	1,800,000
April	109,000	1,870,000	79,100	969,000	10,400	1,220,000
May	93,800	2,650,000	31,500	438,000	33,200	2,020,000
June	23,600	646,000	35,400	546,000	9,130	1,200,000
July	368	40,800	102,000	1,310,000	6,810	899,000
August	29,000	789,000	28,600	360,000	7,260	1,050,000
September	84	10,400	31,800	506,000	19,400	1,040,000
October	586	41,300	46,300	694,000	6,930	1,090,000
November:						
Austria	69	3,410	--	--	--	--
Canada	--	--	--	--	664	158,000
China	--	--	--	--	23	5,770
Germany	--	--	15,500	41,500	2,560	471,000
India	--	--	2,910	48,000	--	--
Ireland	--	--	13,200	189,000	--	--
Japan	--	--	4,810	74,300	310	25,900
Mexico	--	--	1,670	13,100	--	--
Tunisia	--	--	3,410	71,300	--	--
United Kingdom	91	12,500	14,000	196,000	1,550	157,000
Total	160	15,900	55,500	633,000	5,100	818,000
January-November	386,000	10,100,000	569,000	7,800,000	148,000	14,800,000

-- Zero.

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

²Customs value.

Source: U.S. Census Bureau.

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 period ⁵	Cobalt content, year to date ^{5, 6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2008:								
November	156,000	\$7,090,000	22,800	\$334,000	56,200	\$356,000	186,000	2,640,000
December	174,000	10,900,000	31,800	929,000	43,600	658,000	207,000	2,850,000
January-November	2,210,000	101,000,000	499,000	18,500,000	303,000	5,660,000	2,640,000	XX
January-December	2,380,000	112,000,000	531,000	19,400,000	346,000	6,320,000	2,850,000	XX
2009:								
January	222,000	12,600,000	49,900	1,120,000	28,100	12,300	264,000	264,000
February	138,000	5,180,000	19,500	357,000	23,600	176,000	158,000	423,000
March	166,000	7,080,000	25,600	412,000	24,600	577,000	190,000	613,000
April	164,000	5,560,000	15,300	337,000	5,800	83,300	176,000	789,000
May	261,000	7,070,000	15,000	506,000	33,600	155,000	280,000	1,070,000
June	222,000	6,130,000	11,300	158,000	8,750	69,500	232,000	1,300,000
July	118,000	4,080,000	24,000	746,000	13,800	381,000	139,000	1,440,000
August	195,000	6,500,000	18,600	622,000	57,800	1,410,000	222,000	1,660,000
September	135,000	5,220,000	5,630	90,000	319,000	2,120,000	216,000	1,880,000
October	182,000	6,930,000	6,230	158,000	69,100	2,640,000	203,000	2,080,000
November	171,000	5,500,000	25,800	676,000	18,000	170,000	194,000	2,280,000
January-November	1,970,000	71,800,000	217,000	5,180,000	602,000	7,800,000	2,280,000	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.

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
2008:				
November	146,000	\$10,500,000	17,000	\$436,000
December	91,200	6,230,000	2,000	106,000
January-November	1,270,000	97,600,000	638,000	28,400,000
January-December	1,370,000	104,000,000	640,000	28,500,000
2009:				
January	90,300	5,710,000	5,710	10,500
February	118,000	6,500,000	41,500	54,100
March	148,000	8,680,000	--	--
April	82,800	5,620,000	30,500	454,000
May	114,000	6,890,000	125,000	305,000
June	71,900	4,350,000	50,500	262,000
July	134,000	8,370,000	1,240,000	1,520,000
August	136,000	6,760,000	177,000	623,000
September	97,200	6,280,000	22,400	871,000
October	116,000	6,780,000	48,100	448,000
November	114,000	6,050,000	128,000	724,000
January-November	1,220,000	72,000,000	1,870,000	5,270,000

-- Zero.

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.