

# Mineral Industry Surveys

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## COBALT IN OCTOBER 2009

Preliminary data for 2009 indicate that U.S. cobalt consumption during January through October 2009 was 8% lower than that consumed during the first 10 months of 2008, according to the U.S. Geological Survey.

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 33% lower during January through September 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 September 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>
October 2009	16.00-22.00	18.18

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
2008:				
October	318	182	170	671
November	320	178	147	644
December	303	176	148	628
January-October <sup>r</sup>	3,230	1,840	1,620	6,690
January-December <sup>4</sup>	3,850	2,190	1,920	7,960
Year <sup>5</sup>	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	279 <sup>r</sup>	187	143	608
September	297	188	143	628
October	302	182	143	627
January-October	2,850	1,830	1,450	6,130

<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.

<sup>5</sup>Includes annual reports.

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

(Metric tons, contained cobalt)

End use	2008			2009	
	January-October	January-December <sup>2</sup>	Year <sup>3</sup>	October	January-October <sup>4</sup>
Steel	446 <sup>r</sup>	534	604	53	534
Superalloys	3,110 <sup>r</sup>	3,700	4,320	290	2,740
Magnetic alloys	244	291	368	22	224
Other alloys <sup>5</sup>	W	W	226	W	W
Cemented carbides <sup>6</sup>	694	827	827	52	524
Chemical and ceramic uses <sup>7</sup>	1,980 <sup>r</sup>	2,350	2,410	187	1,880
Miscellaneous and unspecified	225	270	63	22	225
Total	6,690 <sup>r</sup>	7,960	8,810	627	6,130

<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 annual reports.

<sup>4</sup>Includes revisions to prior months' data.

<sup>5</sup>Includes nonferrous alloys, welding materials, and wear-resistant alloys.

<sup>6</sup>Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

<sup>7</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		
2008:					
October	277	189	50	516	497
November	287	188	61	535	497
December <sup>6</sup>	272	193	69	535	473
Yearend <sup>7</sup>	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	109	580 <sup>r</sup>	310
September	285 <sup>r</sup>	165	109	559 <sup>r</sup>	304
October	277	169	109	555	304

<sup>r</sup>Revised. 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>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; uncommitted material only.

<sup>6</sup>Data based on monthly reports.

<sup>7</sup>Includes annual reports.

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 period <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>		
2008:								
September	799,000	\$51,000,000	77,100	\$4,210,000	536,000	\$4,180,000	1,010,000	8,340,000
October	791,000	53,000,000	80,600	4,020,000	248,000	2,200,000	922,000	9,260,000
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-September	6,460,000	499,000,000	785,000	51,200,000	4,190,000	44,700,000	8,340,000	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:								
Australia	44,500	1,530,000	--	--	--	--	44,500	375,000
Belgium	16,900	1,050,000	35,800	1,000,000	5,000	53,000	44,000	412,000
Brazil	23,000	778,000	--	--	--	--	23,000	133,000
Canada	565	30,200	17,700	312,000	--	--	13,300	452,000
China	188,000	7,040,000	13,800	414,000	8,000	94,000	200,000	1,140,000
Congo (Kinshasa)	--	--	--	--	--	--	--	101,000
Finland	--	--	4,480	118,000	94,200	1,470,000	42,600	432,000
France	310	21,300	--	--	--	--	310	10,900
Germany	1,870	211,000	--	--	--	--	1,870	8,680
Hong Kong	--	--	--	--	--	--	--	9,720
India	--	--	--	--	58,000	442,000	15,700	40,000
Italy	--	--	--	--	--	--	--	1
Japan	26,300	1,050,000	--	--	--	--	26,300	187,000
Korea, Republic of	--	--	--	--	--	--	--	1,840
Mexico	--	--	--	--	--	--	--	2,880
Morocco	6,000	171,000	--	--	--	--	6,000	180,000
Norway	145,000	5,490,000	--	--	--	--	145,000	1,040,000
Peru	--	--	--	--	--	--	--	234
Philippines	--	--	--	--	--	--	--	120
Russia	91,500	3,400,000	--	--	--	--	91,500	628,000
South Africa	--	--	--	--	--	--	--	16,800
Spain	--	--	--	--	--	--	--	3,430
Sweden	--	--	--	--	--	--	--	500
Taiwan	--	--	--	--	--	--	--	9,500
Uganda	--	--	--	--	--	--	--	29,500
United Kingdom	49	2,130	19,900	613,000	8,390	101,000	16,500	149,000
Zambia	--	--	--	--	--	--	--	183,000
Total	544,000	20,800,000	91,600	2,460,000	174,000	2,160,000	671,000	5,550,000
January-September	4,300,000	143,000,000	1,040,000	26,000,000	1,410,000	17,800,000	5,550,000	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.

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>
2008:						
September	214	\$40,700	34,800	\$613,000	27,600	\$2,900,000
October	20,600	1,150,000	85,000	1,330,000	33,900	2,390,000
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-September	73,000	4,160,000	908,000	19,700,000	236,000	22,600,000
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:						
Belgium	--	--	--	--	100	7,950
Brazil	--	--	2,280	21,300	--	--
Canada	--	--	173	3,050	14,900	482,000
China	--	--	--	--	1,130	175,000
France	--	--	--	--	88	61,000
Germany	29	2,990	3,990	92,400	810	97,600
Ireland	--	--	17,000	250,000	--	--
Japan	--	--	4,150	63,100	--	--
Mexico	--	--	737	5,760	--	--
Tunisia	--	--	1,270	27,700	--	--
United Kingdom	55	7,450	2,230	42,300	2,340	218,000
Total	84	10,400	31,800	506,000	19,400	1,040,000
January-September	385,000	10,100,000	467,000	6,470,000	136,000	12,900,000

-- 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 period <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>		
2008:								
September	197,000	\$8,740,000	52,600	\$1,530,000	14,600	\$208,000	239,000	2,190,000
October	227,000	6,780,000	36,300	1,060,000	36,300	496,000	262,000	2,460,000
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-September	1,830,000	86,800,000	440,000	17,100,000	210,000	4,810,000	2,190,000	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
January-September	1,620,000	59,400,000	185,000	4,340,000	515,000	4,980,000	1,880,000	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.

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>
2008:				
September	98,200	\$8,120,000	147,000	\$4,360,000
October	133,000	9,580,000	158,000	843,000
November	146,000	10,500,000	17,000	436,000
December	91,200	6,230,000	2,000	106,000
January-September	996,000	77,500,000	463,000	27,200,000
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
January-September	992,000	59,200,000	1,690,000	4,100,000

-- 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.