

# Mineral Industry Surveys

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## COBALT IN MARCH 2011

Preliminary data indicate that U.S. cobalt consumption during the quarter ending March 31, 2011, was 10% higher than consumption during the quarter ending December 31, 2010, and 7% higher than that consumed during the quarter ending March 31, 2010, according to the U.S. Geological Survey. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals during January through February 2011 was 4% lower than that imported during the first 2 months of 2010. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals during January through February 2011 was 4% higher than that exported during the same period in 2010.

**Prices**

Prices for cobalt metal, in dollars per pound, in March 2011 are listed below.

<u>Type</u>	<u>Price range</u>	<u>Average price</u>
U.S. spot <sup>1</sup>	18.50-23.00	20.48
LME cash mean <sup>2</sup>	XX	17.33

XX Not applicable.

<sup>1</sup>Source: Platts Metals Week, minimum 99.8% cobalt cathode.

<sup>2</sup>London Metal Exchange, mean of the cash buyer price and the cash seller and settlement price, minimum 99.3% cobalt briquettes, cathode, ingot, or rounds (converted from dollars per metric ton and rounded to the nearest cent).

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
2010:				
March	303 <sup>r</sup>	172 <sup>r</sup>	162 <sup>r</sup>	636 <sup>r</sup>
April	296 <sup>r</sup>	170	158 <sup>r</sup>	624 <sup>r</sup>
May	259	176	163 <sup>r</sup>	598 <sup>r</sup>
June	280 <sup>r</sup>	179	161 <sup>r</sup>	620 <sup>r</sup>
July	242 <sup>r</sup>	168	181 <sup>r</sup>	591 <sup>r</sup>
August	251 <sup>r</sup>	172	164 <sup>r</sup>	586 <sup>r</sup>
September	257 <sup>r</sup>	181	162 <sup>r</sup>	599 <sup>r</sup>
October	261	174	157 <sup>r</sup>	591 <sup>r</sup>
November	293	176	166 <sup>r</sup>	635 <sup>r</sup>
December	217	185	205 <sup>r</sup>	608 <sup>r</sup>
January–March	887 <sup>r</sup>	512	470 <sup>r</sup>	1,870 <sup>r</sup>
January–December <sup>4</sup>	3,240	2,090	1,990 <sup>r</sup>	7,320 <sup>r</sup>
2011:				
January	235 <sup>r</sup>	174 <sup>r</sup>	209 <sup>r</sup>	617 <sup>r</sup>
February	243 <sup>r</sup>	177	218 <sup>r</sup>	638 <sup>r</sup>
March	416	177	161	754
January–March	893	528	588	2,010

<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	2010		2011	
	January– March	January– December <sup>2</sup>	March	January– March <sup>3</sup>
Steel	144	576	48	144
Superalloys	901 <sup>r</sup>	3,410 <sup>r</sup>	426	1,030
Magnetic alloys	65	254	20	61
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	165 <sup>r</sup>	660	55	165
Chemical and ceramic uses <sup>6</sup>	528 <sup>r</sup>	2,150	182	543
Miscellaneous and unspecified	68	270	23	68
Total	1,870 <sup>r</sup>	7,320 <sup>r</sup>	754	2,010

<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>May include revisions to data from previous month(s).

<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	U.S. Industry <sup>2</sup>				U.S. Government, metal <sup>6</sup>	LME <sup>3</sup> , metal		
	Metal <sup>4</sup>	Oxide and other chemical compounds <sup>5</sup>	Scrap	Total		U.S.	Non-U.S.	Total
						warehouse	warehouse	
2010:								
March	325 <sup>r</sup>	175 <sup>r</sup>	70 <sup>r</sup>	570 <sup>r</sup>	301	--	--	--
April	324 <sup>r</sup>	181 <sup>r</sup>	66 <sup>r</sup>	571 <sup>r</sup>	301	--	38	38
May	318 <sup>r</sup>	174 <sup>r</sup>	70 <sup>r</sup>	562 <sup>r</sup>	301	--	113	113
June	307 <sup>r</sup>	168 <sup>r</sup>	74 <sup>r</sup>	550 <sup>r</sup>	301	20	132	152
July	293 <sup>r</sup>	167 <sup>r</sup>	88 <sup>r</sup>	547 <sup>r</sup>	301	25	163	188
August	296 <sup>r</sup>	184 <sup>r</sup>	96 <sup>r</sup>	575 <sup>r</sup>	301	50	162	212
September	296 <sup>r</sup>	180 <sup>r</sup>	96 <sup>r</sup>	571 <sup>r</sup>	301	42	132	174
October	272 <sup>r</sup>	181 <sup>r</sup>	102 <sup>r</sup>	555 <sup>r</sup>	301	32	174	206
November	277 <sup>r</sup>	176 <sup>r</sup>	106 <sup>r</sup>	559 <sup>r</sup>	301	31	183	214
December <sup>7</sup>	327 <sup>r</sup>	161 <sup>r</sup>	103 <sup>r</sup>	591 <sup>r</sup>	301	23	255	278
2011:								
January	314 <sup>r</sup>	156 <sup>r</sup>	73 <sup>r</sup>	543 <sup>r</sup>	301	19	287	306
February	284 <sup>r</sup>	168 <sup>r</sup>	63 <sup>r</sup>	514 <sup>r</sup>	301	13	219	232
March	318	159	65	542	301	88	210	298

<sup>r</sup>Revised. -- Zero.

<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>London Metal Exchange.

<sup>4</sup>Includes metal powder.

<sup>5</sup>Data may include other cobalt materials.

<sup>6</sup>Data from Defense Logistics Agency, DLA Strategic Materials (formerly Defense National Stockpile Center); uncommitted material only.

<sup>7</sup>Data based on monthly reports.

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

(Metric tons, 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>
		Value <sup>4</sup>		Value <sup>4</sup>		Value <sup>4</sup>		
	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)		
2010:								
February	1,050	\$39,500	97	\$2,610	394	\$3,610	1,240	2,130
March	606	27,500	168	4,640	513	5,640	902	3,030
April	836	32,300	159	4,650	304	2,250	1,040	4,070
May	726	31,800	260	7,790	273	3,490	1,000	5,070
June	504	23,100	155	4,900	172	2,130	668	5,740
July	896	35,900	128	3,430	107	1,410	1,020	6,760
August	800	30,800	227	6,940	61	705	982	7,740
September	571	22,600	138	3,820	175	2,250	729	8,470
October	671	26,100	148	4,410	94	1,090	808	9,280
November	790	31,300	224	7,830	147	1,820	998	10,300
December	632	22,600	137	4,650	166	1,330	776	11,100
January–February	1,710	65,600	270	7,660	726	6,830	2,130	XX
January–December	8,750	350,000	2,010	60,700	2,740	28,900	11,100	XX
2011:								
January	812	29,700	202	6,300	242	2,480	1,030	1,030
February:								
Australia	94	3,680	--	--	--	--	94	213
Belgium	14	724	12	428	--	--	22	44
Brazil	38	1,490	--	--	4	85	39	40
Canada	3	44	41	1,150	--	--	32	68
China	238	9,010	15	429	--	--	249	601
Congo (Kinshasa)	20	736	--	--	--	--	20	90
Finland	18	871	39	1,110	178	2,500	112	205
Germany	2	84	1	50	--	--	2	3
India	10	386	--	--	18	165	15	76
Italy	1	51	--	--	--	--	1	4
Japan	11	483	2	48	--	--	13	32
Morocco	40	1,510	--	--	--	--	40	40
Norway	124	4,380	--	--	--	--	124	216
Russia	110	4,380	--	--	--	--	110	185
South Africa	--	--	--	--	--	--	--	4
Uganda	6	247	--	--	--	--	6	6
United Kingdom	1	48	50	1,460	19	278	43	73
Zambia	81	3,240	--	--	--	--	81	131
Other	1	91	--	--	--	--	1	3
Total	812	31,500	158	4,670	219	3,020	1,000	2,030
January–February	1,620	61,200	361	11,000	461	5,500	2,030	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 data from previous month(s).

Source: U.S. Census Bureau.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS BY COUNTRY<sup>1</sup>

(Metric tons, 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> (thousands)	Quantity	Value <sup>2</sup> (thousands)	Quantity	Value <sup>2</sup> (thousands)
2010:						
February	23	\$1,130	85	\$1,340	10	\$815
March	2	128	95	1,900	47	2,800
April	20	860	46	642	12	1,180
May	1	79	79	1,080	7	1,040
June	(3)	22	83	1,340	16	1,460
July	22	925	62	1,010	17	1,640
August	12	537	94	1,180	17	1,780
September	1	60	25	461	16	1,750
October	56	2,200	36	669	29	2,670
November	38	1,760	64	920	13	1,650
December	26	1,150	56	872	13	1,570
January–February	24	1,170	180	2,810	16	1,590
January–December	202	8,890	819	12,900	202	19,100
2011:						
January	40	1,540	61	686	14	1,840
February:						
Austria	--	--	4	75	--	--
Canada	43	1,470	--	--	3	645
China	--	--	--	--	1	223
Finland	(3)	36	--	--	--	--
France	--	--	--	--	4	296
Germany	1	96	1	32	8	521
Ireland	--	--	13	390	--	--
Japan	--	--	--	--	1	36
Mexico	--	--	(3)	6	--	--
Netherlands	--	--	--	--	(3)	9
Taiwan	--	--	8	69	(3)	6
Tunisia	--	--	7	75	--	--
United Kingdom	19	816	(3)	9	8	506
Total	64	2,420	35	657	26	2,240
January–February	104	3,960	96	1,340	40	4,080

-- 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.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.

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

(Metric tons, 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> (thousands)	Quantity	Value <sup>4</sup> (thousands)	Quantity	Value <sup>4</sup> (thousands)		
2010:								
February	211	\$6,990	12	\$444	43	\$825	230	474
March	210	7,490	58	562	34	380	260	734
April	216	6,340	87	296	39	535	287	1,020
May	173	6,040	11	349	61	609	196	1,220
June	190	6,120	3	113	37	399	202	1,420
July	198	7,440	6	164	30	326	209	1,630
August	235	7,150	2	51	1	17	236	1,860
September	254	6,090	(7)	14	49	512	266	2,130
October	222	6,510	3	87	41	764	234	2,360
November	143	4,530	1	32	34	387	152	2,520
December	113	4,300	(7)	12	37	412	122	2,640
January–February	394	13,000	87	697	74	2,160	474	XX
January–December	2,350	75,000	258	2,380	436	6,510	2,640	XX
2011:								
January	238	7,810	19	422	53	549	264	264
February	217	6,840	6	187	32	350	229	493
January–February	455	14,600	25	609	86	898	493	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>May include revisions to data from previous month(s).

<sup>7</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 7  
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE,  
AND CONCENTRATES<sup>1</sup>

(Metric tons, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value <sup>2</sup> (thousands)	Quantity	Value <sup>2</sup> (thousands)
2010:				
February	142	\$7,080	890	\$1,900
March	147	8,090	22	263
April	162	9,490	(3)	8
May	135	8,310	20	914
June	174	9,800	135	378
July	106	6,510	226	503
August	126	7,140	64	2,180
September	134	7,870	675	1,630
October	148	8,190	31	2,150
November	139	8,250	4	229
December	125	8,050	277	801
January-February	282	14,500	1,160	3,950
January-December	1,680	96,200	2,610	13,000
2011:				
January	103	6,360	20	50
February	121	7,040	--	--
January-February	224	13,400	20	50

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

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

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.