

# Mineral Industry Surveys

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## COBALT IN JUNE 2011

Preliminary data indicate that U.S. cobalt consumption during the first half of 2011 was 21% higher than that consumed during the first half of 2010. U.S. cobalt consumption during the quarter ending June 30, 2011, was 21% higher than that consumed during the quarter ending March 31, 2011.

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals during January through May 2011 was 9% less than that imported during the same period in 2010. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals during January through May 2011 was 28% more than that exported during the same period in 2010.

### Prices

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

<u>Type</u>	<u>Price range</u>	<u>Average price</u>
U.S. spot <sup>1</sup>	16.50-20.20	18.90
LME cash mean <sup>2</sup>	XX	16.32

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:				
June	285	177 <sup>r</sup>	160	622 <sup>r</sup>
July	247	167 <sup>r</sup>	180	593 <sup>r</sup>
August	256	170 <sup>r</sup>	163	589 <sup>r</sup>
September	262	180 <sup>r</sup>	160	602 <sup>r</sup>
October	266	172 <sup>r</sup>	155	594 <sup>r</sup>
November	298	175 <sup>r</sup>	165	638 <sup>r</sup>
December	222	183 <sup>r</sup>	204	610
January–June <sup>r</sup>	1,750	1,030 <sup>r</sup>	945	3,730 <sup>r</sup>
January–December <sup>4</sup>	3,300	2,080 <sup>r</sup>	1,970	7,350 <sup>r</sup>
2011:				
January	247	173 <sup>r</sup>	208	628 <sup>r</sup>
February	256	176 <sup>r</sup>	217	649 <sup>r</sup>
March	429 <sup>r</sup>	176 <sup>r</sup>	160 <sup>r</sup>	764 <sup>r</sup>
April	350 <sup>r</sup>	170 <sup>r</sup>	160 <sup>r</sup>	680 <sup>r</sup>
May	502 <sup>r</sup>	178 <sup>r</sup>	160 <sup>r</sup>	841 <sup>r</sup>
June	606	177	160	943
January–June	2,390	1,050	1,060	4,510

<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–June	January–December <sup>2</sup>	June	January–June <sup>3</sup>
Steel	268 <sup>r</sup>	535	45	268
Superalloys	1,740 <sup>r</sup>	3,350	607	2,500
Magnetic alloys	130 <sup>r</sup>	258	21	126
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	348 <sup>r</sup>	696	65	394
Chemical and ceramic uses <sup>6</sup>	1,060 <sup>r</sup>	2,140 <sup>r</sup>	183	1,080
Miscellaneous and unspecified	185 <sup>r</sup>	371	23	135
Total	3,730 <sup>r</sup>	7,350 <sup>r</sup>	943	4,510

<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 previously published 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	U.S. Industry <sup>2</sup>				U.S. Government, metal <sup>6</sup>	LME <sup>3</sup> , metal		Total
	Metal <sup>4</sup>	Oxide and other chemical compounds <sup>5</sup>	Scrap	Total		U.S. warehouse	Non-U.S. warehouse	
2010:								
June	292	168	51	511	301	20	132	152
July	278	167	64	509	301	25	163	188
August	281	183	73	537	301	50	162	212
September	282	179	72	533	301	42	132	174
October	258	181	79	517	301	32	174	206
November	263	175	83	521	301	31	183	214
December <sup>7</sup>	313	161	79	554	301	23	255	278
2011:								
January	298 <sup>r</sup>	156	49	503 <sup>r</sup>	301	19	287	306
February	267 <sup>r</sup>	168	39	474 <sup>r</sup>	301	13	219	232
March	302 <sup>r</sup>	158	39 <sup>r</sup>	499 <sup>r</sup>	301	88	210	298
April	348 <sup>r</sup>	156	39 <sup>r</sup>	543 <sup>r</sup>	301	108	283	391
May	326 <sup>r</sup>	167	39 <sup>r</sup>	532 <sup>r</sup>	301	108	255	363
June	321	168	39	528	301	30	219	249

<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>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>
	Quantity	Value <sup>4</sup> (thousands)	Quantity	Value <sup>4</sup> (thousands)	Quantity	Value <sup>4</sup> (thousands)		
2010:								
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–May	3,880	157,000	857	24,700	1,820	18,200	5,070	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	812	31,500	158	4,670	219	3,020	1,000	2,030
March	876	35,400	113	3,630	280	2,560	1,050	3,080
April	502	20,400	189	3,930	280	3,990	735	3,820
May:								
Australia	--	--	--	--	--	--	--	416
Belgium	14	692	101	3,260	--	--	86	153
Brazil	55	1,880	--	--	5	85	56	129
Canada	12	637	133	2,100	--	--	108	378
China	91	3,460	11	334	3	64	101	976
Congo (Kinshasa)	30	989	--	--	--	--	30	159
Finland	22	1,190	10	313	52	666	47	416
France	3	164	--	--	--	--	3	5
Germany	--	--	1	55	--	--	(7)	4
India	10	370	--	--	40	400	21	155
Italy	--	--	--	--	--	--	--	4
Japan	37	1,520	--	--	--	--	37	139
Morocco	--	--	--	--	--	--	--	60
Norway	91	3,450	--	--	--	--	91	515
Russia	78	2,900	--	--	--	--	78	480
South Africa	--	--	--	--	--	--	--	27
Sweden	(7)	13	--	--	--	--	(7)	6
Uganda	--	--	--	--	--	--	--	6
United Kingdom	1	84	28	817	17	272	27	152
Zambia	130	4,640	--	--	--	--	130	449
Other	(7)	7	--	--	--	--	(7)	2
Total	575	22,000	284	6,880	117	1,490	815	4,630
January–May	3,580	139,000	947	25,400	1,140	13,500	4,630	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 previously published data.

<sup>7</sup>Less than ½ unit.

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:						
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–May	47	2,240	400	6,430	82	6,600
January–December	202	8,890	819	12,900	202	19,100
2011:						
January	40	1,540	61	686	14	1,840
February	64	2,420	35	657	26	2,240
March	56	2,140	74	1,430	23	2,600
April	44	1,520	119	2,040	21	2,410
May:						
Austria	(3)	6	3	45	--	--
Canada	51	1,920	--	--	3	630
China	--	--	--	--	(3)	21
Finland	(3)	41	--	--	--	--
France	--	--	--	--	3	281
Germany	(3)	20	26	235	4	552
Hong Kong	--	--	--	--	(3)	4
Ireland	(3)	2	11	200	--	--
Japan	--	--	23	342	1	30
Mexico	--	--	1	10	--	--
Tunisia	--	--	1	14	--	--
United Kingdom	--	--	23	357	4	305
Total	52	1,990	87	1,200	16	1,820
January–May	255	9,610	376	6,010	99	10,900

-- 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:								
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–May	992	32,900	243	1,900	208	3,690	1,220	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
March	414	9,120	40	184	34	405	451	944
April	228	7,950	49	958	42	417	273	1,220
May	340	9,470	(7)	17	25	300	346	1,560
January–May	1,440	41,200	114	1,770	186	2,020	1,560	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 previously published data.

<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:				
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–May	726	40,400	1,200	5,130
January–December	1,680	96,200	2,610	13,000
2011:				
January	103	6,360	20	50
February	121	7,040	--	--
March	123	7,400	--	--
April	124	7,200	600	1,050
May	115	6,560	4	141
January–May	586	34,600	624	1,240

-- 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.