

# Mineral Industry Surveys

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## COBALT IN JULY 2011

Preliminary data indicate that U.S. cobalt consumption during January through July 2011 was 19% higher than that consumed during the first 7 months of 2010. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals during January through June 2011 was 3% 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 June 2011 was 26% more than that exported during the same period in 2010.

### Prices

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

<u>Type</u>	<u>Price range</u>	<u>Average price</u>
U.S. spot <sup>1</sup>	16.00–17.50	16.72
LME cash mean <sup>2</sup>	XX	15.88

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:				
July	247	171 <sup>r</sup>	180	597 <sup>r</sup>
August	256	174 <sup>r</sup>	163	593 <sup>r</sup>
September	262	184 <sup>r</sup>	160	606 <sup>r</sup>
October	266	177 <sup>r</sup>	155	598 <sup>r</sup>
November	298	179 <sup>r</sup>	165	642 <sup>r</sup>
December	222	187 <sup>r</sup>	204	614 <sup>r</sup>
January–July <sup>r</sup>	2,000	1,230	1,120	4,350
January–December <sup>4</sup>	3,300	2,130 <sup>r</sup>	1,970	7,400 <sup>r</sup>
2011:				
January	247	176 <sup>r</sup>	208	631 <sup>r</sup>
February	256	180 <sup>r</sup>	217	653 <sup>r</sup>
March	427 <sup>r</sup>	179 <sup>r</sup>	162 <sup>r</sup>	768 <sup>r</sup>
April	341 <sup>r</sup>	174 <sup>r</sup>	169 <sup>r</sup>	684 <sup>r</sup>
May	491 <sup>r</sup>	182 <sup>r</sup>	171 <sup>r</sup>	844 <sup>r</sup>
June	576 <sup>r</sup>	181 <sup>r</sup>	193 <sup>r</sup>	951 <sup>r</sup>
July	274	176	175	625
January–July	2,610	1,250	1,290	5,160

<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–July	January–December <sup>2</sup>	July	January–July <sup>3</sup>
Steel	312 <sup>r</sup>	535	45	312
Superalloys	2,000 <sup>r</sup>	3,350	290	2,790
Magnetic alloys	152 <sup>r</sup>	258	21	147
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	406 <sup>r</sup>	696	65	459
Chemical and ceramic uses <sup>6</sup>	1,260 <sup>r</sup>	2,190 <sup>r</sup>	181	1,290
Miscellaneous and unspecified	216 <sup>r</sup>	371	23	158
Total	4,350 <sup>r</sup>	7,400 <sup>r</sup>	625	5,160

<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		
	Metal <sup>4</sup>	Oxide and other chemical compounds <sup>5</sup>	Scrap	Total		U.S. warehouse	Non-U.S. warehouse	Total
2010:								
July	W	167	W	509	301	25	163	188
August	W	183	W	537	301	50	162	212
September	W	179	W	533	301	42	132	174
October	W	181	W	517	301	32	174	206
November	W	175	W	521	301	31	183	214
December <sup>7</sup>	W	161	W	554	301	23	255	278
2011:								
January	W	156	W	506 <sup>r</sup>	301	19	287	306
February	W	168	W	477 <sup>r</sup>	301	13	219	232
March	W	158	W	530 <sup>r</sup>	301	88	210	298
April	W	156	W	590 <sup>r</sup>	301	108	283	391
May	W	167	W	574 <sup>r</sup>	301	108	255	363
June	W	168	W	577 <sup>r</sup>	301	30	219	249
July	W	166	W	596	301	35	227	262

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data.

<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:								
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–June	4,390	180,000	1,010	29,600	1,990	20,300	5,740	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	575	22,000	284	6,880	117	1,490	815	4,630
June:								
Australia	35	1,360	--	--	--	--	35	451
Belgium	8	472	29	1,010	--	--	29	182
Brazil	25	963	--	--	8	85	28	157
Canada	10	622	115	2,060	--	--	93	471
China	194	6,990	15	428	--	--	205	1,180
Congo (Kinshasa)	20	724	--	--	--	--	20	179
Finland	28	1,420	28	773	130	1,870	98	513
France	1	80	--	--	--	--	1	7
Germany	--	--	1	55	--	--	(7)	5
India	4	131	--	--	--	--	4	159
Italy	--	--	--	--	--	--	--	4
Japan	10	368	--	--	--	--	10	149
Morocco	20	737	--	--	--	--	20	80
Norway	153	5,670	--	--	--	--	153	669
Russia	96	3,900	--	--	--	--	96	575
South Africa	16	749	--	--	--	--	16	43
Sweden	2	89	--	--	--	--	2	8
Uganda	--	--	--	--	--	--	--	6
United Kingdom	3	127	20	536	5	63	18	171
Zambia	90	3,440	--	--	--	--	90	539
Other	(7)	4	--	--	1	14	(7)	2
Total	715	27,800	207	4,860	144	2,030	918	5,550
January–June	4,290	167,000	1,150	30,300	1,280	15,600	5,550	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:						
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–June	47	2,260	483	7,770	99	8,060
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	52	1,990	87	1,200	16	1,820
June:						
Canada	31	1,210	1	6	7	980
China	--	--	--	--	1	228
France	--	--	--	--	(3)	3
Germany	--	--	--	--	4	334
Ireland	--	--	24	413	--	--
Israel	--	--	1	15	(3)	20
Japan	--	--	1	31	1	36
Korea, Republic of	--	--	4	70	--	--
Norway	12	437	--	--	--	--
Switzerland	--	--	(3)	7	--	--
United Kingdom	25	916	12	348	6	347
Total	68	2,570	43	891	20	1,950
January–June	323	12,200	420	6,900	119	12,900

-- 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:								
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–June	1,180	39,000	246	2,020	245	4,090	1,420	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
June	204	8,070	18	55	27	312	223	1,790
January–June	1,640	49,300	132	1,820	213	2,330	1,790	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:				
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–June	901	50,200	1,340	5,510
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
June	98	5,960	3	119
January–June	684	40,500	627	1,360

-- 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.