

# Mineral Industry Surveys

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## COBALT IN JANUARY 2012

Preliminary data indicate that U.S. cobalt consumption in January 2012 was slightly higher than consumption during December 2011. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 4% less in 2011 than that imported in 2010. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals was 29% more in 2011 than that of 2010. Trade data for January 2012 are published in this issue.

## Prices

Prices for cobalt metal, in dollars per pound, in January 2012 are listed below.

Type	Price range	Average price
U.S. spot <sup>1</sup>	14.00–16.90	15.49
LME cash mean <sup>2</sup>	XX	14.95

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
2011:				
January	243 <sup>r</sup>	176	209	628 <sup>r</sup>
February	251 <sup>r</sup>	180	219	650 <sup>r</sup>
March	422 <sup>r</sup>	179	164	765 <sup>r</sup>
April	337 <sup>r</sup>	174	170	681 <sup>r</sup>
May	486 <sup>r</sup>	182	173	842 <sup>r</sup>
June	572 <sup>r</sup>	181	194	948 <sup>r</sup>
July	269 <sup>r</sup>	176	177	622 <sup>r</sup>
August	303 <sup>r</sup>	178	170	651 <sup>r</sup>
September	294 <sup>r</sup>	176	183	653 <sup>r</sup>
October	300 <sup>r</sup>	182	163 <sup>r</sup>	645 <sup>r</sup>
November	189 <sup>r</sup>	173	253 <sup>r</sup>	614 <sup>r</sup>
December	267 <sup>r</sup>	176	167 <sup>r</sup>	610 <sup>r</sup>
January–December	3,930 <sup>r</sup>	2,130	2,240 <sup>r</sup>	8,310 <sup>r</sup>
2012, January	276	176	167	619

<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.

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

(Metric tons, contained cobalt)

End use	2011		2012 January
	January	January– December <sup>2,3</sup>	
Steel	45 <sup>r</sup>	536 <sup>r</sup>	45
Superalloys	291 <sup>r</sup>	4,250 <sup>r</sup>	283
Magnetic alloys	21 <sup>r</sup>	252	21
Other alloys <sup>4</sup>	W	W	W
Cemented carbides <sup>5</sup>	66 <sup>r</sup>	786	65
Chemical and ceramic uses <sup>6</sup>	183 <sup>r</sup>	2,220	183
Miscellaneous and unspecified	22 <sup>r</sup>	271	22
Total	628 <sup>r</sup>	8,310	619

<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	
2011:								
January	W	158	W	530 <sup>r</sup>	301	19	287	306
February	W	169	W	501 <sup>r</sup>	301	13	219	232
March	W	160	W	554 <sup>r</sup>	301	88	210	298
April	W	158	W	614 <sup>r</sup>	301	108	283	391
May	W	169	W	597 <sup>r</sup>	301	108	255	363
June	W	170	W	601 <sup>r</sup>	301	30	219	249
July	W	168	W	620 <sup>r</sup>	301	35	227	262
August	W	165	W	643 <sup>r</sup>	301	35	262	297
September	W	170	W	627 <sup>r</sup>	301	33	264	297
October	W	165 <sup>r</sup>	W	593 <sup>r</sup>	301	30	293	323
November	W	171	W	596 <sup>r</sup>	301	40	279	319
December	W	192	W	615 <sup>r</sup>	301	43	261	304
2012, January	W	184	W	609	301	26	285	311

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Total U.S. industry."

<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; uncommitted material only.

**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:								
December	632	\$22,600	137	\$4,650	166	\$1,330	776	11,100
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	715	27,800	207	4,860	144	2,030	918	5,550
July	305	12,200	281	5,430	247	2,890	586	6,140
August	804	28,600	118	3,030	143	1,600	932	7,070
September	637	22,000	222	5,980	131	1,270	835	7,900
October	773	27,900	288	6,100	161	1,370	1,030	8,930
November	577	18,700	235	4,750	124	1,330	784	9,710
December:								
Australia	49	1,440	--	--	--	--	49	792
Belgium	3	90	60	1,740	--	--	46	438
Brazil	84	2,390	--	--	4	69	86	405
Canada	26	877	154	1,840	--	--	137	1,100
China	104	3,220	34	821	1	19	129	2,110
Congo (Kinshasa)	10	276	--	--	--	--	10	283
Finland	15	714	28	761	32	500	50	917
France	(7)	34	--	--	--	--	(7)	15
Germany	(7)	14	--	--	1	12	1	10
India	27	861	--	--	60	543	43	298
Japan	13	453	--	--	--	--	13	221
Morocco	20	587	--	--	--	--	20	200
Norway	87	2,790	--	--	--	--	87	1,140
Russia	114	3,670	--	--	--	--	114	1,020
South Africa	--	--	--	--	--	--	--	173
Sweden	--	--	--	--	--	--	--	8
Uganda	--	--	--	--	--	--	--	81
United Kingdom	19	721	18	441	5	54	33	325
Zambia	60	1,790	--	--	--	--	60	1,040
Other	--	--	--	--	1	23	(7)	12
Total	632	19,900	294	5,610	105	1,220	878	10,600
January–December	8,020	296,000	2,590	61,200	2,190	25,300	10,600	XX
2012, January:								
Australia	138	3,930	--	--	--	--	138	138
Belgium	4	110	12	329	--	--	12	12
Brazil	36	1,070	--	--	4	50	37	37
Canada	12	574	105	1,520	--	--	87	87
China	87	2,560	40	973	2	17	116	116
Congo (Kinshasa)	20	555	--	--	--	--	20	20
Finland	25	977	17	403	13	96	41	41
France	1	58	--	--	17	81	5	5
Germany	(7)	21	--	--	--	--	(7)	(7)
India	11	365	--	--	20	200	17	17
Japan	35	1,200	--	--	--	--	35	35
Morocco	20	583	--	--	--	--	20	20
Norway	50	1,530	--	--	--	--	50	50
Russia	73	2,240	--	--	--	--	73	73

See footnotes at end of table.

TABLE 4—Continued  
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)		
2012, January—Continued:								
South Africa	17	\$672	--	--	--	--	17	17
Sweden	2	87	--	--	--	--	2	2
Taiwan	3	82	--	--	--	--	3	3
Uganda	18	466	--	--	--	--	18	18
United Kingdom	17	999	1	\$39	35	\$220	26	26
Zambia	69	2,020	--	--	--	--	69	69
Total	636	20,100	175	3,260	90	662	785	785

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:						
December	26	\$1,150	56	\$872	13	\$1,570
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	68	2,570	43	891	20	1,950
July	50	1,670	53	938	24	2,230
August	77	2,880	55	996	16	2,400
September	94	3,500	40	519	25	2,530
October	67	2,390	71	1,240	26	2,510
November	63	2,110	47	817	19	2,420
December:						
Canada	79	2,450	9	109	4	799
China	--	--	--	--	1	118
France	(3)	5	3	39	3	164
Germany	1	43	--	--	3	440
Ireland	--	--	15	239	--	--
Italy	(3)	2	--	--	--	--
Japan	(3)	18	1	13	1	50
Mexico	--	--	2	30	--	--
New Zealand	--	--	(3)	5	--	--
Singapore	--	--	--	--	(3)	4
Sweden	--	--	--	--	(3)	4
Taiwan	--	--	--	--	(3)	8
United Kingdom	1	37	13	236	7	487
Total	81	2,560	44	669	18	2,070
January–December	754	27,300	730	12,100	247	27,000
2012, January:						
Austria	(3)	6	1	24	--	--
Belgium	--	--	6	194	--	--
Canada	59	1,770	--	--	2	685
China	--	--	--	--	27	521
France	--	--	4	101	2	156
Germany	1	84	--	--	2	261
Ireland	--	--	17	282	--	--
Japan	4	76	14	164	1	39
Korea, Republic of	--	--	4	16	--	--
Mexico	--	--	1	10	--	--
Switzerland	--	--	--	--	1	32
Taiwan	--	--	2	39	(3)	2
United Kingdom	19	743	17	252	3	208
Total	82	2,680	67	1,080	36	1,900

-- 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:								
December	113	\$4,300	(7)	\$12	37	\$412	122	2,640
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
July	282	9,380	47	120	65	736	332	2,120
August	194	7,440	(7)	20	33	368	202	2,320
September	246	7,550	6	199	14	160	253	2,570
October	225	8,300	71	229	38	413	285	2,860
November	249	6,860	55	246	38	555	298	3,160
December	220	7,460	21	63	2	25	236	3,390
January–December	3,060	96,300	332	2,700	403	4,590	3,390	XX
2012, January	234	7,450	35	183	19	182	264	264

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:				
December	125	\$8,050	277	\$801
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
July	128	7,340	40	163
August	98	6,260	2	4
September	111	6,670	--	--
October	117	7,370	38	42
November	99	5,920	--	--
December	123	7,780	--	--
January–December	1,360	81,800	707	1,570
2012, January	118	7,190	(3)	4

-- 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.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.