

# Mineral Industry Surveys

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**For information, contact**

Kim B. Shedd, Cobalt Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4974, Fax: (703) 648-7757  
E-mail: ksheddd@usgs.gov

Annie Hwang (Data)  
Telephone: (703) 648-7952  
Fax: (703) 648-7995  
E-mail: ahwang@usgs.gov

**Internet:** <http://minerals.usgs.gov/minerals>

## COBALT IN APRIL 2013

U.S. cobalt consumption during January through April 2013 was equal to consumption during the same period in 2012. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals during January through April 2013 was 13% less than that imported during the same period in 2012. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals during January through April 2013 was 7% more than that exported during the same period in 2012.

**Prices**

Prices for cobalt metal, in dollars per pound, in April 2013 are listed below.

Type	Price range	Average price
U.S. spot <sup>1</sup>	11.20–13.30	11.89
LME cash mean <sup>2</sup>	11.34–12.36	11.80

<sup>1</sup>Source: Platts Metals Daily, 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
2012: <sup>r, p</sup>				
April	329	178	175	683
May	295	180	195	670
June	298	182	186	666
July	329	177	183	689
August	312	187	166	665
September	297	185	191	672
October	331	182	181	694
November	329	174	163	666
December	311	176	181	668
January–April	1,260	714	711	2,680
January–December	3,760	2,160	2,160	8,070
2013:				
January	311 <sup>r</sup>	180	182	673 <sup>r</sup>
February	308 <sup>r</sup>	179 <sup>r</sup>	182	669 <sup>r</sup>
March	304 <sup>r</sup>	180 <sup>r</sup>	182	666 <sup>r</sup>
April	304	186	182	672
January–April	1,130	725	728	2,680

<sup>p</sup>Preliminary. <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	2012 <sup>p</sup>		2013	
	January–April	January–December <sup>2, 3</sup>	April	January–April
Steel	179	536	45	179
Superalloys	1,270 <sup>r</sup>	3,810 <sup>r</sup>	310	1,250
Magnetic alloys	84	252	21	85
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	257 <sup>r</sup>	774 <sup>r</sup>	65	258
Chemical and ceramic uses <sup>6</sup>	741 <sup>r</sup>	2,240 <sup>r</sup>	193	755
Miscellaneous and unspecified	153 <sup>r</sup>	460 <sup>r</sup>	38	153
Total	2,680 <sup>r</sup>	8,070 <sup>r</sup>	672	2,680

<sup>p</sup>Preliminary. <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 and scrap <sup>4</sup>	Oxide and other chemical compounds <sup>5</sup>	Total		U.S. warehouse	Non-U.S. warehouse	Total
2012:							
April	578 <sup>r</sup>	184 <sup>r</sup>	761 <sup>r</sup>	301	22	328	350
May	560 <sup>r</sup>	179 <sup>r</sup>	739 <sup>r</sup>	301	22	330	352
June	556 <sup>r</sup>	174 <sup>r</sup>	730 <sup>r</sup>	301	21	334	355
July	541 <sup>r</sup>	182 <sup>r</sup>	723 <sup>r</sup>	301	21	335	356
August	541 <sup>r</sup>	168 <sup>r</sup>	709 <sup>r</sup>	301	21	340	361
September	529 <sup>r</sup>	168 <sup>r</sup>	697 <sup>r</sup>	301	31	350	381
October	516 <sup>r</sup>	172 <sup>r</sup>	687 <sup>r</sup>	301	31	367	398
November	533 <sup>r</sup>	171 <sup>r</sup>	704 <sup>r</sup>	301	51	367	418
December	527 <sup>r</sup>	168 <sup>r</sup>	695 <sup>r</sup>	301	51	378	429
2013:							
January	520 <sup>r</sup>	180 <sup>r</sup>	700 <sup>r</sup>	301	48	387	435
February	541 <sup>r</sup>	170 <sup>r</sup>	711 <sup>r</sup>	301	44	386	430
March	565 <sup>r</sup>	168 <sup>r</sup>	733 <sup>r</sup>	301	44	407	451
April	556	171	727	301	46	392	438

<sup>r</sup>Preliminary. <sup>1</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; 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)		
2012:								
April	1,010	\$31,200	353	\$7,610	187	\$2,040	1,320	4,160
May	839	25,700	118	2,490	172	2,130	987	5,150
June	579	18,500	269	5,420	180	2,450	843	5,990
July	624	18,300	93	2,420	164	1,910	749	6,740
August	840	24,000	194	4,730	235	2,690	1,070	7,810
September	671	18,900	112	2,420	124	1,470	796	8,600
October	774	22,200	208	4,940	78	798	948	9,550
November	622	18,700	144	3,410	144	1,500	770	10,300
December	611	16,700	124	2,750	98	881	732	11,100
January–April	3,190	101,000	1,050	22,600	612	7,130	4,160	XX
January–December	8,750	264,000	2,320	51,200	1,810	20,900	11,100	XX
2013:								
January	684	17,300	149	3,260	85	793	816	816
February	758	18,500	141	2,690	163	2,310	917	1,730
March	677	17,400	225	4,490	117	923	873	2,610
April:								
Australia	106	2,540	--	--	--	--	106	203
Austria	3	160	--	--	--	--	3	6
Belgium	(7)	4	48	1,180	--	--	35	132
Brazil	75	1,820	--	--	3	36	76	223
Canada	28	998	--	--	--	--	28	94
China	154	3,680	(7)	3	6	46	156	570
Congo (Kinshasa)	--	--	11	340	--	--	8	8
Finland	2	101	15	366	39	713	29	296
France	1	57	--	--	--	--	1	13
Germany	4	174	--	--	5	32	6	7
India	6	107	--	--	20	200	11	18
Ireland	--	--	--	--	--	--	--	(7)
Italy	1	53	--	--	--	--	1	1
Japan	53	1,410	--	--	--	--	53	244
Korea, Republic of	--	--	16	165	--	--	12	22
Madagascar	63	1,640	--	--	--	--	63	209
Morocco	20	492	--	--	--	--	20	70
Netherlands	--	--	--	--	19	95	5	5
Norway	104	2,810	--	--	--	--	104	558
Russia	102	2,530	--	--	--	--	102	356
South Africa	51	1,710	--	--	--	--	51	123
Sweden	--	--	--	--	--	--	--	2
Taiwan	1	24	--	--	19	108	6	15
United Kingdom	(7)	26	97	2,010	9	76	72	259
Zambia	85	2,140	--	--	--	--	85	208
Total	861	22,500	187	4,060	120	1,310	1,030	3,640
January–April	2,980	75,800	702	14,500	485	5,340	3,640	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)
2012:						
April	81	\$2,770	41	\$733	22	\$2,670
May	59	1,870	86	1,060	19	2,610
June	91	3,230	38	433	27	2,820
July	67	2,090	97	1,530	28	3,020
August	67	1,990	59	884	26	2,570
September	55	1,780	55	690	24	2,480
October	56	1,990	54	777	21	2,410
November	89	2,620	88	1,470	20	1,750
December	76	2,140	57	751	13	1,360
January–April	295	9,910	286	5,230	102	9,380
January–December	856	27,600	820	12,800	279	28,400
2013:						
January	87	2,650	43	565	15	1,560
February	80	2,300	58	709	15	1,910
March	50	1,470	45	635	17	1,960
April:						
Austria	--	--	--	--	(3)	12
Belgium	5	165	17	842	--	--
Canada	49	1,330	--	--	9	808
China	--	--	2	8	2	307
Finland	(3)	19	--	--	--	--
France	1	32	--	--	1	88
Germany	1	61	2	22	4	554
Hong Kong	--	--	--	--	1	31
Ireland	--	--	21	225	--	--
Japan	--	--	7	74	(3)	18
Korea, Republic of	--	--	2	38	--	--
Mexico	--	--	1	10	--	--
Singapore	--	--	1	4	--	--
Switzerland	--	--	--	--	(3)	4
Taiwan	--	--	--	--	(3)	29
United Kingdom	32	1,290	(3)	5	9	618
Total	89	2,890	52	1,230	26	2,470
January–April	305	9,310	198	3,140	73	7,900

-- 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>
		Value <sup>4</sup>		Value <sup>4</sup>		Value <sup>4</sup>		
	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)		
2012:								
April	258	\$8,400	33	\$159	1	\$10	281	1,130
May	353	10,700	70	323	20	1,750	408	1,540
June	229	8,210	18	65	3	32	243	1,780
July	215	7,350	73	245	22	198	273	2,050
August	345	10,000	80	490	1	10	403	2,460
September	392	10,600	36	229	19	158	423	2,880
October	279	9,010	(7)	9	40	320	289	3,170
November	265	7,410	(7)	12	58	526	279	3,450
December	287	8,090	33	397	20	154	316	3,760
January–April	1,050	35,000	87	770	44	439	1,130	XX
January–December	3,420	106,000	397	2,540	226	3,580	3,760	XX
2013:								
January	276	8,200	32	108	--	--	299	299
February	252	6,850	6	81	20	164	261	560
March	319	9,270	48	875	23	189	360	919
April	281	8,050	3	88	19	162	288	1,210
January–April	1,130	32,400	89	1,150	61	515	1,210	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>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)
2012:				
April	141	\$8,330	2	\$48
May	132	8,800	3	58
June	110	7,250	(3)	16
July	190	10,300	1	42
August	152	8,910	1	39
September	117	7,570	--	--
October	198	10,900	1	36
November	180	9,400	1	35
December	231	11,300	--	--
January–April	512	31,800	27	203
January–December	1,820	106,000	35	428
2013:				
January	152	8,390	1	30
February	206	9,230	--	--
March	236	11,900	63	95
April	155	8,080	--	--
January–April	749	37,600	64	125

-- 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.