

# Mineral Industry Surveys

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## COBALT IN DECEMBER 2014

On the basis of preliminary data, U.S. cobalt consumption in 2014 was slightly higher than consumption in 2013. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals in 2014 was 9% more than that imported in 2013. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals in 2014 was 17% more than that exported in 2013.

**Prices**

Prices for cobalt metal, in dollars per pound, in December 2014 are listed below.

Type	Price range	Average price
U.S. spot <sup>1</sup>	13.80–14.80	14.42
LME cash mean <sup>2</sup>	13.72–14.51	14.09

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

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

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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
2013: <sup>p</sup>				
December	286	164	180	629
January–December <sup>4</sup>	3,450	2,060	2,160	7,670
Year <sup>5</sup>	3,810	2,110	2,160	8,090
2014:				
January	302	170	180	652
February	298	170	180	648
March	319	170	180	668
April	284	169	180	633
May	294	168	180	642
June	293	173	180	646
July	295	177	180	652
August	295	173	180	648
September	295	178	180	654
October	274	189	178	641
November	265 <sup>r</sup>	192	178	636
December	270	W	W	665
January–December <sup>4</sup>	3,490	W	W	7,780

<sup>p</sup>Preliminary. W Withheld to avoid disclosing company proprietary data; included with "January–December."

<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>Based on monthly reports.

<sup>5</sup>Includes annual reports.

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

(Metric tons, contained cobalt)

End use	2013 <sup>p</sup>		2014	
	January–December <sup>2</sup>	Year <sup>3</sup>	December	January–December <sup>2,4</sup>
Steel	536	547	45	536
Superalloys	3,540	3,770	276	3,560
Magnetic alloys	296	303	24	294
Other alloys <sup>5</sup>	W	W	W	W
Cemented carbides <sup>6</sup>	705	705	60	720
Chemical and ceramic uses <sup>7</sup>	2,150	2,210	223	2,230
Miscellaneous and unspecified	443	558	37	443
Total	7,670	8,090	665	7,780

<sup>p</sup>Preliminary. 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>Includes annual reports.

<sup>4</sup>May include revisions to previously published data.

<sup>5</sup>Includes nonferrous alloys, welding materials, and wear-resistant alloys.

<sup>6</sup>Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

<sup>7</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>p,2</sup>			U.S. Government, metal <sup>6</sup>	LME, <sup>3</sup> metal		Total
	Metal and scrap <sup>4</sup>	Oxide and other chemical compounds <sup>5</sup>	Total		U.S. warehouse	Non-U.S. warehouse	
2013:							
December <sup>7</sup>	561	228	789	301	41	519	560
Yearend <sup>8</sup>	573	239	812	301	41	519	560
2014:							
January	638	161	798	301	41	517	558
February	651	162	813	301	36	548	584
March	635	160	795	301	36	530	566
April	634	160	794	301	34	514	548
May	629	161	790	301	22	517	539
June	617	160	777	301	20	527	547
July	616	160	776	301 <sup>e</sup>	19	523	542
August	603	160	764	301 <sup>e</sup>	19	497	516
September	576	160	736	301	19	484	503
October	571	258	830	301 <sup>e</sup>	9	482	491
November	588	258	846	301 <sup>e</sup>	9	480	489
December	611	258	869	301	9	480	489

<sup>e</sup>Estimated. <sup>p</sup>Preliminary.

<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.

<sup>7</sup>U.S. industry data based on monthly reports.

<sup>8</sup>U.S. industry data include annual 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)		
2013:								
December	729	\$19,900	148	\$3,600	27	\$380	845	10,500
January–December	8,230	222,000	2,420	53,600	1,390	16,000	10,500	XX
2014:								
January	708	19,000	183	4,130	83	730	864	864
February	465	12,500	192	4,150	124	1,410	648	1,510
March	1,250	34,800	259	6,010	224	2,280	1,510	3,020
April	857	26,400	258	6,330	298	3,020	1,140	4,160
May	894	27,100	255	6,280	220	1,920	1,150	5,300
June	698	21,100	251	5,650	102	1,020	911	6,210
July	577	17,100	179	4,070	94	1,050	735	6,950
August	858	25,900	191	4,900	133	1,150	1,030	7,980
September	767	24,000	233	5,650	197	2,880	1,010	8,990
October	681	21,500	176	4,670	132	1,600	853	9,840
November	764	24,200	96	2,270	61	804	853	10,700
December:								
Australia	27	768	--	--	--	--	27	975
Austria	--	--	--	--	--	--	--	3
Belgium	--	--	36	984	--	--	26	431
Brazil	--	--	--	--	3	44	1	115
Canada	5	280	--	--	--	--	5	120
China	100	3,490	20	488	--	--	115	1,760
Congo (Kinshasa)	--	--	--	--	--	--	--	140
Finland	44	1,470	20	460	131	1,250	98	1,110
France	1	60	--	--	--	--	1	28
Germany	4	217	--	--	1	7	4	35
India	--	--	--	--	19	170	5	43
Ireland	--	--	--	--	--	--	--	(7)
Italy	--	--	--	--	--	--	--	6
Japan	40	1,250	--	--	--	--	40	1,120
Korea, Republic of	(7)	2	--	--	--	--	(7)	1
Madagascar	21	639	--	--	--	--	21	589
Mexico	--	--	--	--	--	--	--	11
Morocco	20	597	--	--	--	--	20	117
Netherlands	--	--	--	--	--	--	--	1
Norway	78	2,330	--	--	--	--	78	1,910
Peru	--	--	--	--	--	--	--	1
Philippines	--	--	--	--	--	--	--	7
Russia	117	3,400	--	--	--	--	117	930
South Africa	31	866	--	--	--	--	31	389
Spain	--	--	--	--	--	--	--	1
Sweden	2	59	--	--	--	--	2	19
Switzerland	(7)	4	--	--	--	--	(7)	(7)
Taiwan	--	--	--	--	--	--	--	36
United Kingdom	14	577	71	1,690	10	130	68	818
Zambia	--	--	--	--	--	--	--	634
Total	505	16,000	147	3,620	164	1,600	660	11,400
January–December	9,020	270,000	2,420	57,700	1,830	19,500	11,400	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)
2013:						
December	59	\$1,630	104	\$1,940	21	\$2,420
January–December	967	30,300	698	10,900	254	26,800
2014:						
January	86	2,640	69	1,040	20	1,990
February	63	1,870	54	723	24	2,310
March	54	1,730	151	2,320	19	2,040
April	73	2,640	95	1,340	15	2,140
May	88	2,710	123	2,290	12	1,940
June	51	1,630	61	734	17	1,540
July	55	1,750	111	1,910	13	1,820
August	85	3,420	82	1,210	50	2,160
September	48	1,610	92	1,440	9	1,440
October	83	2,720	94	1,420	12	1,670
November	123	3,980	107	1,480	15	1,200
December:						
Austria	--	--	--	--	(3)	30
Belgium	15	520	--	--	--	--
Canada	218	6,170	7	88	6	1,080
China	--	--	5	98	5	475
Finland	(3)	9	--	--	--	--
France	--	--	11	229	(3)	25
Germany	--	--	--	--	2	227
Ireland	--	--	30	310	--	--
Italy	--	--	--	--	(3)	20
Japan	--	--	16	214	(3)	18
Korea, Republic of	--	--	4	48	--	--
Singapore	(3)	5	6	109	(3)	10
Sweden	--	--	--	--	(3)	18
Switzerland	--	--	--	--	(3)	14
Taiwan	--	--	--	--	(3)	25
United Kingdom	(3)	7	12	202	3	286
Total	233	6,710	92	1,300	17	2,230
January–December	1,040	33,400	1,130	17,200	224	22,500

-- 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)		
2013:								
December	305	\$8,440	31	\$600	20	\$169	332	3,850
January–December	3,500	97,000	409	4,250	243	2,150	3,850	XX
2014:								
January	245	7,200	(7)	13	58	486	260	260
February	359	10,500	15	251	21	105	375	635
March	345	9,570	72	1,070	43	349	407	1,040
April	399	10,800	62	851	20	180	448	1,490
May	505	9,600	27	538	--	--	524	2,010
June	379	9,360	51	529	1	9	415	2,430
July	309	7,930	4	149	10	1,970	314	2,740
August	310	8,590	207	1,390	(7)	34	459	3,200
September	305	8,160	35	137	--	--	330	3,530
October	235	5,610	28	320	1	14	255	3,790
November	297	6,680	29	344	24	221	323	4,110
December	385	8,330	7	127	6	58	392	4,500
January–December	4,070	102,000	536	5,720	184	3,420	4,500	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)
2013:				
December	153	\$8,950	150	\$330
January–December	2,190	114,000	456	935
2014:				
January	109	6,630	(3)	26
February	152	9,370	1	5
March	184	9,860	(3)	4
April	150	9,020	281	365
May	126	8,060	(3)	4
June	160	9,190	165	688
July	170	9,740	6	61
August	164	9,700	--	--
September	143	8,540	103	136
October	143	9,100	1	7
November	135	7,540	17	90
December	156	9,140	140	228
January–December	1,790	106,000	714	1,610

-- 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.