

# Mineral Industry Surveys

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## COBALT IN OCTOBER 2013

U.S. cobalt consumption during January through October 2013 was slightly less than consumption during the same period in 2012. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals during January through October 2013 was 6% 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 October 2013 was slightly less than that exported during the same period in 2012.

## Prices

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

Type	Price range	Average price
U.S. spot <sup>1</sup>	13.00–14.70	13.87
LME cash mean <sup>2</sup>	12.05–12.43	12.26

<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>p</sup>				
October	331	182	181	694
November	329	174	163	666
December	311	176	181	668
January–October	3,120 <sup>r</sup>	1,810	1,810 <sup>r</sup>	6,740 <sup>r</sup>
January–December	3,760	2,160	2,160	8,070
2013:				
January	311	180	182	673
February	308	179	182	669
March	304	180	182	666
April	304	186	182	672
May	286	183	182	651
June	287	175	182	645
July	295	182	182	659
August	288	183	182	653
September	276	177	182	634
October	277	188	182	647
January–October	2,940	1,810	1,820	6,570

<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– October	January– December <sup>2,3</sup>	October	January– October
Steel	447	536	45	447
Superalloys	3,180 <sup>r</sup>	3,810	283	2,990
Magnetic alloys	209	252	21	211
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	645 <sup>r</sup>	774	64	645
Chemical and ceramic uses <sup>6</sup>	1,870	2,240	196	1,890
Miscellaneous and unspecified	383 <sup>r</sup>	460	38	383
Total	6,740 <sup>r</sup>	8,070	647	6,570

<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		Total
	Metal and scrap <sup>4</sup>	Oxide and other chemical compounds <sup>5</sup>	Total		U.S. warehouse	Non-U.S. warehouse	
2012:							
October	516	172	687	301	31	367	398
November	533	171	704	301	51	367	418
December	527	168	695	301	51	378	429
2013:							
January	520	180	700	301	48	387	435
February	541	170	711	301	44	386	430
March	565	168	733	301	44	407	451
April	556	171	727	301	46	392	438
May	550	167	718	301	46	369	415
June	558	162	720	301	46	418	464
July	553	164	716	301	46	436	482
August	551	164	715	301	46	497	543
September	558 <sup>r</sup>	197	754 <sup>r</sup>	301	46	488	534
October	555	204	759	301	46	487	533

<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; 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:								
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–October	7,520	229,000	2,050	45,000	1,560	18,600	9,550	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	861	22,500	187	4,060	120	1,310	1,030	3,640
May	581	15,300	191	4,000	124	1,300	759	4,400
June	525	14,100	262	5,910	118	1,350	757	5,160
July	887	24,600	224	5,060	147	1,580	1,100	6,250
August	729	20,800	212	4,860	234	2,680	963	7,220
September	680	19,800	197	4,430	91	1,380	858	8,070
October:								
Australia	78	2,040	--	--	--	--	78	387
Austria	1	39	--	--	--	--	1	10
Belgium	(7)	24	53	1,440	--	--	39	387
Brazil	20	527	--	--	6	77	22	294
Canada	19	539	9	261	--	--	25	273
China	84	2,350	30	631	17	250	112	1,810
Congo (Kinshasa)	--	--	20	381	--	--	14	55
Finland	59	1,930	54	1,310	69	811	122	868
France	3	128	--	--	--	--	3	34
Germany	1	22	--	--	--	--	1	11
Hong Kong	--	--	--	--	--	--	--	4
India	--	--	--	--	--	--	--	39
Ireland	--	--	--	--	--	--	--	1
Italy	1	17	--	--	--	--	1	3
Japan	116	2,950	--	--	--	--	116	679
Korea, Republic of	(7)	2	--	--	--	--	(7)	47
Madagascar	42	1,100	--	--	--	--	42	493
Morocco	10	282	--	--	--	--	10	141
Netherlands	--	--	--	--	--	--	--	5
Norway	72	1,990	--	--	--	--	72	1,130
Peru	--	--	--	--	--	--	--	1
Russia	100	2,670	--	--	--	--	100	797
South Africa	20	517	--	--	--	--	20	320
Sweden	--	--	--	--	--	--	--	6
Taiwan	--	--	--	--	--	--	--	20
Uganda	--	--	--	--	--	--	--	30
United Arab Emirates	--	--	--	--	--	--	--	3
United Kingdom	1	31	118	2,610	11	96	89	617
Zambia	22	563	--	--	--	--	22	502
Total	647	17,700	283	6,630	103	1,230	887	8,960
January–October	7,030	188,000	2,070	45,400	1,300	14,900	8,960	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:						
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–October	690	22,900	675	10,600	246	25,300
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	89	2,890	52	1,230	26	2,470
May	87	3,260	65	985	15	1,680
June	59	1,830	63	840	21	2,000
July	37	1,310	50	637	26	2,580
August	128	4,000	58	1,170	16	2,320
September	112	3,270	64	1,040	43	3,020
October:						
Belgium	11	346	--	--	--	--
Canada	52	1,460	--	--	2	775
China	--	--	--	--	2	325
Finland	(3)	31	--	--	--	--
France	(3)	13	8	173	2	138
Germany	2	172	--	--	4	679
India	--	--	4	70	--	--
Ireland	--	--	19	170	--	--
Japan	--	--	11	132	1	64
Korea, Republic of	--	--	3	33	--	--
Taiwan	--	--	3	64	--	--
United Kingdom	21	877	15	180	9	710
Total	87	2,900	63	821	20	2,690
January–October	815	25,900	561	8,630	213	22,200

-- 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)		
2012:								
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–October	2,870	90,900	364	2,130	149	2,900	3,170	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
May	343	9,570	3	92	24	225	351	1,560
June	264	7,090	52	713	2	34	302	1,860
July	265	7,110	20	520	1	13	279	2,140
August	346	7,770	53	118	39	359	393	2,530
September	250	7,060	35	83	39	332	285	2,820
October	283	7,710	16	324	38	334	303	3,120
January–October	2,880	78,700	268	3,000	204	1,810	3,120	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)
<b>2012:</b>				
October	198	\$10,900	1	\$36
November	180	9,400	1	35
December	231	11,300	--	--
January–October	1,410	85,500	34	393
January–December	1,820	106,000	35	428
<b>2013:</b>				
January	152	8,390	1	30
February	206	9,230	--	--
March	236	11,900	63	95
April	155	8,080	--	--
May	229	10,900	85	121
June	197	10,100	( <sup>3</sup> )	4
July	174	9,160	--	--
August	260	11,900	--	--
September	119	7,300	--	--
October	158	8,790	157	355
January–October	1,890	95,800	306	605

-- 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.