

# Mineral Industry Surveys

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## COBALT IN SEPTEMBER 2012

Preliminary data indicate that U.S. cobalt consumption during January through September 2012 was 11% less than consumption during the same period in 2011. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals from January through September 2012 was 9% more than that imported during the same period in 2011. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals from January through September 2012 was 12% more than that exported during the same period in 2011.

## Prices

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

Type	Price range	Average price
U.S. spot <sup>1</sup>	13.40–14.75	14.20
LME cash mean <sup>2</sup>	XX	13.16

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>p, 1</sup>

(Metric tons, contained cobalt)

Period	Metal <sup>2</sup>	Oxide and other chemical compounds <sup>3</sup>	Scrap	Total
2011:				
September	278 <sup>r</sup>	179	180	637 <sup>r</sup>
October	304 <sup>r</sup>	185	160	649 <sup>r</sup>
November	193 <sup>r</sup>	175	250	618 <sup>r</sup>
December	271 <sup>r</sup>	179	164	614 <sup>r</sup>
January–September <sup>r</sup>	3,200	1,630	1,630	6,460
January–December <sup>4</sup>	3,960 <sup>r</sup>	2,170	2,200	8,340 <sup>r</sup>
2012:				
January	281	179	168	629
February	286	179	175	639 <sup>r</sup>
March	257	180	193	630
April	295	179	176	650
May	261 <sup>r</sup>	181	195	637 <sup>r</sup>
June	264 <sup>r</sup>	183	187	633 <sup>r</sup>
July	295 <sup>r</sup>	178	183	656 <sup>r</sup>
August	278 <sup>r</sup>	188	166	632 <sup>r</sup>
September	288	185	166	639
January–September	2,500	1,630	1,610	5,740

<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.

<sup>4</sup>Data based on monthly reports.

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

(Metric tons, contained cobalt)

End use	2011		2012	
	January–September	January–December <sup>2, 3</sup>	September	January–September <sup>3</sup>
Steel	402 <sup>r</sup>	536	45	402
Superalloys	3,390 <sup>r</sup>	4,250	292	2,660
Magnetic alloys	189	252	21	189
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	581 <sup>r</sup>	773 <sup>r</sup>	66	595
Chemical and ceramic uses <sup>6</sup>	1,690 <sup>r</sup>	2,260	192	1,690
Miscellaneous and unspecified	203	271	23	203
Total	6,460 <sup>r</sup>	8,340 <sup>r</sup>	639	5,740

<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>b, 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	
2011:							
September	542	171	712	301	33	264	297
October	525	165	690	301	30	293	323
November	521	172	692	301	40	279	319
December	519	193	712	301	43	261	304
2012:							
January	521	185	706	301	26	285	311
February	498	180	678	301	20	273	293
March	536	181	717	301	27	318	345
April	542	182	724	301	22	328	350
May	524 <sup>r</sup>	178	702 <sup>r</sup>	301	22	330	352
June	519 <sup>r</sup>	173	692 <sup>r</sup>	301	21	334	355
July	504 <sup>r</sup>	181	685 <sup>r</sup>	301	21	335	356
August	504 <sup>r</sup>	167	671 <sup>r</sup>	301	21	340	361
September	496	167	663	301	31	350	381

<sup>b</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>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)		
2011:								
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	632	19,900	294	5,610	105	1,220	878	10,600
January–September	6,040	230,000	1,770	44,700	1,800	21,300	7,900	XX
January–December	8,020	296,000	2,590	61,200	2,190	25,300	10,600	XX
2012:								
January	636	20,100	175	3,260	90	662	785	785
February	812	25,500	201	4,470	186	2,670	1,040	1,820
March	740	24,600	325	7,240	149	1,750	1,020	2,840
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:								
Australia	23	535	--	--	--	--	23	536
Austria	--	--	--	--	--	--	--	11
Belgium	22	455	21	524	--	--	37	391
Brazil	40	1,090	--	--	5	37	41	474
Canada	27	928	--	--	--	--	27	781
China	265	7,080	15	320	15	257	282	1,620
Congo (Kinshasa)	10	254	--	--	--	--	10	72
Finland	24	1,010	--	--	61	680	46	963
France	(7)	24	--	--	17	70	5	23
Germany	(7)	15	4	63	--	--	3	6
India	--	--	--	--	4	31	1	126
Japan	73	2,110	--	--	--	--	73	435
Korea, Republic of	--	--	--	--	--	--	--	47
Morocco	--	--	--	--	--	--	--	130
Netherlands	--	--	--	--	--	--	--	9
Norway	78	2,160	--	--	--	--	78	662
Peru	--	--	--	--	6	126	3	7
Philippines	--	--	--	--	--	--	--	13
Russia	51	1,400	--	--	--	--	51	824
South Africa	36	1,260	--	--	--	--	36	321
Sweden	--	--	--	--	--	--	--	7
Taiwan	--	--	--	--	--	--	--	14
Uganda	--	--	--	--	--	--	--	18
United Kingdom	1	51	73	1,520	17	267	60	312
Zambia	21	560	--	--	--	--	21	797
Other	--	--	--	--	--	--	--	2
<b>Total</b>	<b>671</b>	<b>18,900</b>	<b>112</b>	<b>2,420</b>	<b>124</b>	<b>1,470</b>	<b>796</b>	<b>8,600</b>
January–September	6,750	207,000	1,840	40,100	1,490	17,800	8,600	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)
2011:						
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	81	2,560	44	669	18	2,070
January–September	544	20,200	568	9,350	184	20,000
January–December	754	27,300	730	12,100	247	27,000
2012:						
January	82	2,680	67	1,080	36	1,900
February	73	2,500	54	1,110	22	2,200
March	59	1,950	124	2,310	21	2,610
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:						
Austria	(3)	13	1	21	--	--
Belgium	5	178	--	--	--	--
Canada	42	1,190	8	104	6	883
China	--	--	--	--	1	76
Finland	1	157	--	--	--	--
France	1	40	--	--	3	170
Germany	(3)	46	--	--	6	572
Ireland	--	--	26	277	--	--
Japan	--	--	(3)	3	2	265
Korea, Republic of	--	--	2	14	--	--
Mexico	--	--	(3)	3	--	--
Netherlands	--	--	6	145	--	--
Sweden	5	153	--	--	--	--
Taiwan	--	--	11	122	(3)	8
United Kingdom	--	--	--	--	7	503
Total	55	1,780	55	690	24	2,480
January–September	634	20,900	621	9,830	225	22,900

-- 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)		
2011:								
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–September	2,360	73,600	186	2,160	325	3,600	2,570	XX
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
February	238	8,380	3	81	23	225	246	510
March	325	10,800	16	347	1	22	337	847
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
January–September	2,590	81,900	364	2,120	109	2,580	2,880	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.

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)
2011:				
September	111	\$6,670	--	--
October	117	7,370	38	\$42
November	99	5,920	--	--
December	123	7,780	--	--
January–September	1,020	60,800	668	1,530
January–December	1,360	81,800	707	1,570
2012:				
January	118	7,190	(3)	4
February	125	8,450	5	68
March	127	7,850	20	83
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	--	--
January–September	1,210	74,600	33	357

-- 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.