

# Mineral Industry Surveys

---

## For information, contact

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

Annie Hwang (Data)  
Telephone: (703) 648-7952  
Fax: (703) 648-7975  
Email: ahwang@usgs.gov

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

## COBALT IN SEPTEMBER 2016

U.S. cobalt consumption during January through September 2016 was slightly more than consumption during the same period in 2015. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals in January through September 2016 was essentially unchanged from revised imports during the same period in 2015. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals in January through September 2016 was 7% more than revised exports during the same period in 2015.

## Prices

In September, the monthly average U.S. spot cobalt price increased for the third consecutive month. The monthly average LME cash mean price increased for the fifth consecutive month. The following listed prices are for cobalt metal in September, in dollars per pound.

Type	Price range	Average price
U.S. spot <sup>1</sup>	11.90–12.80	12.42
LME cash mean <sup>2</sup>	11.45–12.53	12.07

<sup>1</sup>Source: Platts Metals Week, 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).

*List services and Web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to <http://minerals.usgs.gov/minerals/>.*

TABLE 1  
REPORTED CONSUMPTION AND STOCKS OF COBALT MATERIALS<sup>1</sup>

(Metric tons, contained cobalt)

Period	Consumption, U.S. industry <sup>p, 2</sup>	Stocks, end of period				
		U.S. industry <sup>p, 2</sup>	U.S. Government <sup>3, 4</sup>	LME <sup>3, 5</sup>		Total
				U.S. warehouse	Non-U.S. warehouse	
2015:						
September	684	1,060	301	110	448	558
October	711	1,060	301	110	448	558
November	712	1,030	301	125	441	566
December	701	1,050	301	165	465	630
January–September	6,330 <sup>r</sup>	1,060 <sup>r</sup>	301	110	448	558
January–December <sup>6</sup>	8,450	1,050	301	165	465	630
Year <sup>7</sup>	8,780	1,080	301	165	465	630
2016:						
January	720	1,060	301	169	450	619
February	713	1,050	301	169	445	614
March	705	1,070	301	193	458	651
April	718	1,050	301	197	457	654
May	734	1,050	301	186	451	637
June	712	1,030	301	190	455	645
July	708	1,020	301	190	454	644
August	693	1,040	301	190	440	630
September	698	1,030	301	190	435	625
January–September	6,400	1,030	301	190	435	625

<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>Data for cobalt metal, metal powder, oxide and other chemical compounds, and scrap reported by U.S. cobalt processors and consumers. Includes estimates.

<sup>3</sup>Cobalt metal.

<sup>4</sup>Data from Defense Logistics Agency Strategic Materials.

<sup>5</sup>London Metal Exchange.

<sup>6</sup>U.S. industry data based on monthly reports.

<sup>7</sup>U.S. industry data include annual reports.

TABLE 2  
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY<sup>1</sup>

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> (metric tons)	Cobalt content, year to date <sup>5,6</sup> (metric tons)
	Gross weight (metric tons)	Value <sup>4</sup> (thousands)	Gross weight (metric tons)	Value <sup>4</sup> (thousands)	Gross weight (metric tons)	Value <sup>4</sup> (thousands)		
2015:								
September	661	\$19,900	154	\$3,620	111	\$982	804	8,960
October	623	17,900	149	3,340	284	1,930	811	9,770
November	650	17,500	110	2,500	259	1,400	799	10,600
December	714	17,900	112	2,410	142	1,550	841	11,400
January–September	7,310 <sup>r</sup>	214,000	1,380	31,900	1,950 <sup>r</sup>	21,400	8,960 <sup>r</sup>	XX
January–December	9,290	267,000	1,750	40,200	2,630	26,300	11,400	XX
2016:								
January	612	14,200	100	1,980	104	1,340	720	720
February	1,050	23,100	171	3,010	106	1,160	1,210	1,930
March	720	17,500	173	3,260	170	1,860	903	2,830
April	701	18,400	190	3,680	194	1,790	899	3,730
May	643	15,500	145	2,790	347	3,390	857	4,590
June	920	22,100	147	2,750	221	2,270	1,100	5,690
July	767	18,900	106	2,310	241	1,990	918	6,600
August	1,240	30,100	243	4,690	225	2,230	1,480	8,090
September:								
Australia	--	--	--	--	--	--	--	291
Austria	(7)	4	--	--	--	--	(7)	1
Belgium	2	42	81	1,850	5	53	61	354
Brazil	4	106	--	--	(7)	2	4	35
Canada	117	3,070	--	--	--	--	117	999
China	37	855	52	995	26	351	84	573
Croatia	(7)	8	--	--	--	--	(7)	(7)
Finland	34	888	35	654	25	186	65	767
France	3	45	--	--	--	--	3	28
Germany	2	125	--	--	--	--	2	67
India	--	--	--	--	15	22	4	10
Ireland	(7)	5	--	--	--	--	(7)	1
Italy	--	--	(7)	2	--	--	(7)	(7)
Japan	138	3,290	--	--	--	--	138	1,220
Korea, Republic of	--	--	--	--	--	--	--	1
Kuwait	--	--	--	--	--	--	--	5
Macao	20	506	--	--	--	--	20	40
Madagascar	126	3,100	--	--	--	--	126	816
Morocco	20	516	--	--	--	--	20	222
Netherlands	--	--	--	--	--	--	--	10
New Caledonia	--	--	--	--	--	--	--	18
Norway	20	492	--	--	--	--	20	1,810
Peru	--	--	--	--	4	82	2	5
Philippines	--	--	4	131	--	--	3	3
Russia	21	537	--	--	--	--	21	555
Singapore	--	--	--	--	--	--	--	29
Slovakia	--	--	--	--	--	--	--	13
South Africa	11	150	--	--	--	--	11	160
Taiwan	--	--	--	--	--	--	--	2
United Kingdom	9	401	50	1,020	20	118	51	396
Zambia	160	3,690	--	--	--	--	160	565
Total	724	17,800	223	4,650	95	814	912	9,000
January–September	7,370	178,000	1,500	29,100	1,700	16,800	9,000	XX

<sup>r</sup>Revised. 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 3  
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY<sup>1</sup>

Period and country of origin	Unwrought cobalt alloys		Cobalt waste and scrap		Wrought cobalt and cobalt articles	
	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)
2015:						
September	108	\$3,920	66	\$873	24	\$1,850
October	95	2,960	53	903	11	1,390
November	95	2,980	58	1,020	20	2,040
December	236	5,990	59	940	24	1,450
January–September	823 <sup>r</sup>	27,700 <sup>r</sup>	642	9,230	156	16,900
January–December	1,250	39,700	812	12,100	211	21,800
2016:						
January	82	2,600	43	698	10	1,590
February	109	3,460	58	793	13	1,550
March	91	2,750	82	1,150	11	1,440
April	67	2,080	43	619	9	1,540
May	75	2,860	64	896	7	1,310
June	78	2,090	77	1,090	15	2,150
July	70	2,360	74	1,230	6	1,360
August	60	1,770	115	1,600	15	1,700
September:						
Austria	--	--	--	--	(3)	5
Belgium	12	320	--	--	--	--
Brazil	(3)	2	--	--	--	--
Canada	(3)	3	5	57	2	688
China	(3)	11	--	--	1	195
Finland	(3)	9	--	--	--	--
France	--	--	--	--	(3)	218
Germany	--	--	5	55	2	221
India	--	--	--	--	(3)	2
Ireland	--	--	28	341	(3)	81
Japan	--	--	7	50	(3)	51
Korea	--	--	1	6	--	--
Mexico	--	--	(3)	8	(3)	6
Singapore	--	--	1	14	--	--
Switzerland	--	--	--	--	(3)	12
Taiwan	--	--	7	101	--	--
Tunisia	--	--	11	121	--	--
United Kingdom	12	696	49	657	14	739
Total	24	1,040	114	1,410	21	2,220
January–September	658	21,000	669	9,500	106	14,900

<sup>r</sup>Revised. -- 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 4  
U.S. EXPORTS OF COBALT MATERIALS<sup>1</sup>

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> (metric tons)	Cobalt content, year to date <sup>5,6</sup> (metric tons)
	Gross weight (metric tons)	Value <sup>4</sup> (thousands)	Gross weight (metric tons)	Value <sup>4</sup> (thousands)	Gross weight (metric tons)	Value <sup>4</sup> (thousands)		
2015:								
September	262	\$5,480	1	\$28	29	\$182	269	2,940
October	224	5,190	15	354	26	189	241	3,180
November	315	5,830	1	57	4	16	317	3,500
December	322	7,020	--	--	19	150	327	3,830
January–September	2,780	69,000	176	2,280	132	1,040	2,940	XX
January–December	3,640	87,000	192	2,690	180	1,400	3,830	XX
2016:								
January	305	5,930	7	118	10	43	312	312
February	336	6,600	4	45	33	107	347	659
March	289	6,850	72	236	19	132	345	1,000
April	399	7,530	2	51	29	130	408	1,410
May	317	7,170	4	39	75	371	337	1,750
June	303	6,100	10	214	68	356	327	2,080
July	311	5,570	--	--	--	--	311	2,390
August	458	8,030	21	256	39	202	483	2,870
September	275	5,480	6	130	8	66	281	3,150
January–September	2,990	59,300	127	1,090	281	1,410	3,150	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.

Source: U.S. Census Bureau.

TABLE 5  
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE,  
AND CONCENTRATES<sup>1</sup>

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)
2015:				
September	166	\$9,080	--	--
October	144	8,880	--	--
November	122	7,460	1	\$11
December	143	7,730	--	--
January–September	1,480	84,400	4	24
January–December	1,890	108,000	6	35
2016:				
January	117	6,880	--	--
February	128	7,360	--	--
March	163	9,110	--	--
April	140	8,190	--	--
May	109	8,370	--	--
June	137	9,970	--	--
July	106	7,830	(3)	4
August	80	6,520	2	59
September	93	7,780	(3)	3
January–September	1,070	72,000	2	65

-- 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.