

# Mineral Industry Surveys

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### **COBALT IN JULY 2016**

U.S. cobalt consumption during January through July 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 July 2016 was 8% less than 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 July 2016 was slightly more than revised exports during the same period in 2015.

#### Prices

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

Туре	Price range	Average price
U.S. spot <sup>1</sup>	10.85-12.50	11.54
LME cash mean <sup>2</sup>	10.93-11.88	11.38

<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).

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#### TABLE 1 REPORTED CONSUMPTION AND STOCKS OF COBALT MATERIALS $^{\rm 1}$

		Stocks, end of period						
				*	LME <sup>3, 5</sup>			
	Consumption,	U.S.	U.S.	U.S.	Non-U.S.			
Period	U.S. industry <sup>p, 2</sup>	industry <sup>p, 2</sup>	Government <sup>3, 4</sup>	warehouse	warehouse	Total		
2015:								
July	714	1,070	301	23	423	446		
August	696	1,070	301	110	418	528		
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–July	4,950 <sup>r</sup>	1,070 <sup>r</sup>	301	23	423	446		
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		
January–July	5,010	1,020	301	190	454	644		

#### (Metric tons, contained cobalt)

<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  $^{\rm I}$ 

	Metals <sup>2</sup>		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt	Cobalt content,
		Gross		·	Gross	1	content for	year to
Period and country	weight	Value <sup>4</sup>	weight	Value <sup>4</sup>	weight	Value <sup>4</sup>	the period <sup>5</sup>	date <sup>5, 6</sup>
of origin	(metric tons)	(thousands)	(metric tons)	(thousands)	(metric tons)	(thousands)	(metric tons)	(metric tons)
2015:								
July	845	\$24,900	110	\$2,590	107	\$1,110	958	7,150
August	843	25,000	144	3,440	182	1,750	1,000	8,160
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–July	5,800 <sup>r</sup>	169,000	1,080	24,900	1,650	18,700	7,150	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	104	1,160	1,210	1,930
March	720	17,500	171	3,260	170	1,100	903	2,830
April	720	18,400	190	3,680	194	1,300	899	3,730
May		15,500	145	2,790	347	3,390	857	4,590
June	920	22,100	145	2,750	221	2,270	1,100	4,590 5,690
July:	920	22,100	147	2,750	221	2,270	1,100	5,090
Australia								290
Austria	_							
			47	1,030	37	216	 47	1 258
Belgium	3	116						
Brazil	14	278			1	18	15	29
Canada	92	2,250	9	270			98	751
China	32	916	(7)	5	37	546	46	418
Finland	34	858	11	208	117	1,060	78	579
France	- 3	136					3	23
Germany	16	852					16	58
India								6
Ireland	(7)	3					(7)	(7)
Italy								(7)
Japan	206	4,620					206	972
Korea, Republic of								1
Kuwait								5
Macao								20
Madagascar	42	942					42	627
Morocco	20	452					20	182
Netherlands					18	19	5	10
New Caledonia	8	64					8	18
Norway	215	5,590					215	1,170
Peru								3
Russia	55	1,140					55	436
Singapore								29
Slovakia					27	96	7	13
South Africa	18	286					18	134
Taiwan			(7)	4			(7)	2
United Kingdom	9	389	39	786	4	35	38	293
Zambia								280
Total	767	18,900	106	2,310	241	1,990	918	6,600
January–July	5,410	130,000	1,030	19,800	1,380	13,800	6,600	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.

 $^7Less$  than  $^{1\!/_2}$  unit.

TABLE 3 U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY  $^{\rm 1}$ 

					Wrought cobalt and			
	Unwrought cobalt alloys		Cobalt wast	e and scrap	cobalt articles			
	Gross		Gross		Gross			
Period and country	weight	Value <sup>2</sup>	weight	Value <sup>2</sup>	weight	Value <sup>2</sup>		
of origin	(metric tons)	(thousands)	(metric tons)	(thousands)	(metric tons)	(thousands)		
2015:	· · ·							
July	37	\$1,360	80	\$1,190	22	\$2,180		
August	102	3,490	82	1,410	13	1,380		
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–July	613	20,300	494	6,950	120	13,700		
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:	_							
Australia	5	98						
Austria	(3)	3			2	83		
Belgium	16	426	8	299	1	27		
Canada	18	407			2	644		
China	(3)	19			(3)	125		
France			2	20				
Germany			10	153	(3)	194		
India					(3)	14		
Ireland			32	516	1	78		
Japan	(3)	3	16	131	1	130		
Korea, Republic of			1	10				
Mexico			(3)	5	(3)	22		
Singapore			2	32				
Switzerland					(3)	9		
Taiwan			3	64				
United Kingdom	31	1,410	1	6	(3)	36		
Total	70	2,360	74	1,230	6	1,360		
January–July	574	18,200	440	6,490	71	10,900		

<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 <sup>1</sup>/<sub>2</sub> unit.

 TABLE 4

 U.S. EXPORTS OF COBALT MATERIALS<sup>1</sup>

	Unwrought cob	alt, powders,						Cobalt
	matte, waste and $\operatorname{scrap}^2$		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt	content,
	Gross		Gross		Gross		content for	year to
	weight	Value <sup>4</sup>	weight	Value <sup>4</sup>	weight	Value <sup>4</sup>	the period <sup>5</sup>	date <sup>5, 6</sup>
Period	(metric tons)	(thousands)	(metric tons)	(thousands)	(metric tons)	(thousands)	(metric tons)	(metric tons)
2015:								
July	295	\$6,810	32	\$584	6	\$30	319	\$2,370
August	295	5,870	8	334			300	2,670
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–July	2,230 <sup>r</sup>	57,600 <sup>r</sup>	167	1,910	103	862	2,370 <sup>r</sup>	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
January–July	2,260	45,800	99	703	234	1,140	2,390	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>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.

## TABLE 5 U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES $^1$

	Wrought cobalt a		Cobalt ore and concentrates		
Period	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	
2015:	(incure tons)	(thousands)	(metric tons)	(uiousaiius)	
July	170	\$9,540	3	\$18	
August	176	9,840			
September	166	9,080			
October	144	8,880			
November	122	7,460	1	11	
December	143	7,730			
January–July	1,130	65,400 <sup>r</sup>	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	
January–July	901	57,700	(3)	4	

<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>Free alongside ship (f.a.s.) value.

<sup>3</sup>Less than <sup>1</sup>/<sub>2</sub> unit.