

# Mineral Industry Surveys

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## COBALT IN SEPTEMBER 2022

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals in September 2022 was 23% more than that imported during August 2022. For the first 9 months of 2022, the amount of cobalt contained in imports was 11% more than that imported during the same period in 2021 (table 2). The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals in September 2022 was 16% less than that exported during August 2022 and during the first 9 months of 2022, the amount exported was 3% more than that exported during the same period in 2021 (table 4).

## Prices

During the past 2 years, London Metal Exchange (LME) stocks trended downward and cobalt prices fluctuated but generally trended upward through April or May 2022 before sharply declining (fig. 1, table 1). In September, the monthly average U.S. spot cobalt price increased by 5% from that in August 2022 and was 5% higher than that in September 2021.

The monthly average LME cash mean price increased by 4% from that in August 2022 and was unchanged from that in September 2021. 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>	25.00–26.60	25.90
LME cash mean <sup>2</sup>	23.25–23.26	23.25

<sup>1</sup>Source: S&P Global 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).

## Government and Industry News

In May, the Cobalt Institute released a study of the cobalt market, which indicated that in 2021 global cobalt demand was 22% higher than demand in 2020 and global cobalt supply was

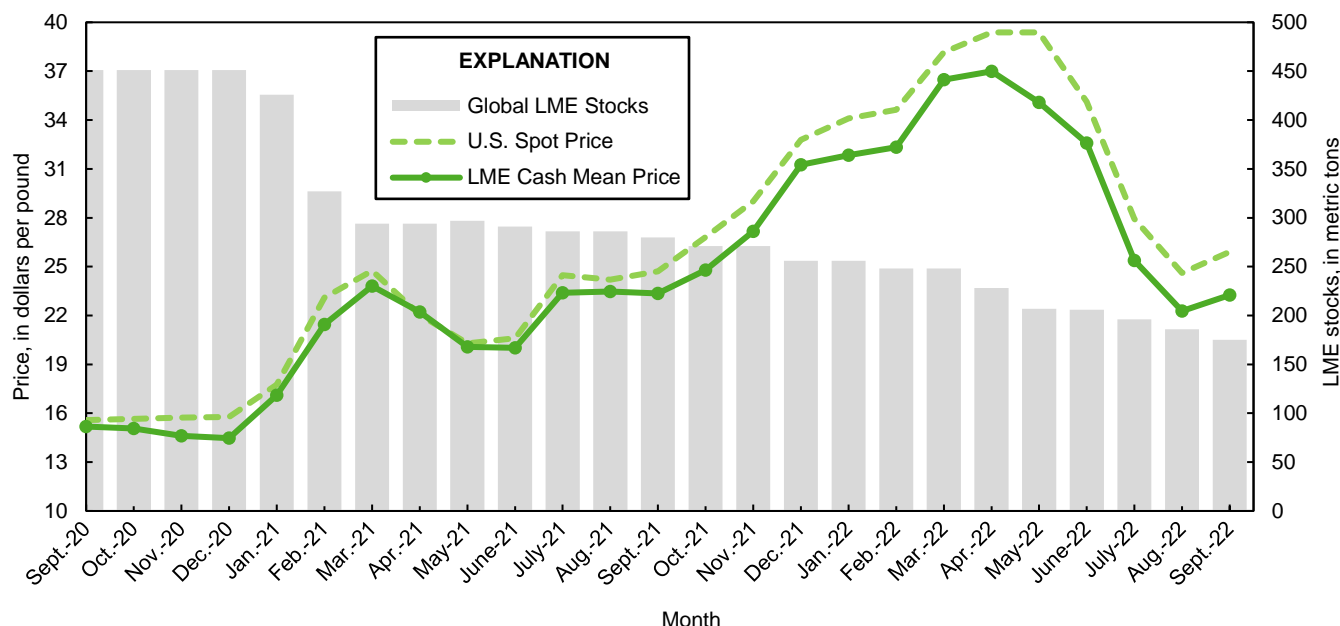


Figure 1. Global LME cobalt stocks, average U.S. spot cobalt prices, and average LME cash mean cobalt prices for September 2020 through September 2022. Sources: S&P Global Platts Metals Week and London Metal Exchange.

12% higher than supply in 2020. For more information from this study see Cobalt in May 2022.

In June, the U.S. Geological Survey (USGS) announced the joint publication with the Idaho Geological Survey of a modern geological map for the Blackbird cobalt-copper-gold district in Lemhi County, ID. For more information on this map and a cobalt project under development in the Blackbird district see Cobalt in June 2022.

In July, PolyMet Mining Corp. entered into an agreement with Teck American Inc. (a subsidiary of Teck Resources Ltd.

of Canada) to form a joint venture for the companies' projects in Minnesota's Duluth Complex. For more information on the joint venture see Cobalt in July 2022.

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TABLE 1  
REPORTED STOCKS OF COBALT METAL, END OF PERIOD

(Metric tons, contained cobalt)

Period	U.S. Government <sup>2</sup>	LME <sup>1</sup>		Total
		U.S. warehouse	Non-U.S. warehouse	
2021:				
September	302	50	230	280
October	302	50	221	271
November	302	50	221	271
December	302	50	206	256
2022:				
January	302	50	206	256
February	302	54	194	248
March	302	54	194	248
April	302	54	174	228
May	302	39	168	207
June	302	39	167	206
July	302	39	157	196
August	302	39	147	186
September	302	34	141	175

<sup>1</sup>London Metal Exchange.

<sup>2</sup>Data from Defense Logistics Agency Strategic Materials.

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

Period and country or locality of origin	Metals <sup>4</sup>		Oxides and hydroxides		Salts and compounds <sup>5</sup>		Total cobalt content for the period <sup>2</sup> (metric tons)	Cobalt content, year to date <sup>2,3</sup> (metric tons)
	Gross weight (metric tons)	Value <sup>6</sup> (thousands)	Gross weight (metric tons)	Value <sup>6</sup> (thousands)	Gross weight (metric tons)	Value <sup>6</sup> (thousands)		
2021:								
September	577	\$28,500	174	\$6,590	199	\$3,070	766	7,460
October	722	35,200	168	6,040	269	3,710	926	8,380
November	475	25,500	267	10,100	230	3,310	736	9,120
December	440	25,500	169	6,410	410	5,070	679	9,800
January–September	5,580	237,000	1,620	52,200	2,410 <sup>r</sup>	28,300 <sup>r</sup>	7,460	XX
January–December	7,210	323,000	2,220	74,700	3,320	40,400	9,800	XX
2022:								
January	754	44,600	84	3,540	148	2,860	859	859
February	440	24,800	161	7,460	382	3,790	667	1,530
March	648	42,400	256	11,400	1,040	6,200	1,110	2,640
April	343	24,000	193	10,100	487	4,040	624	3,260
May	900	68,900	211	10,800	1,290	6,910	1,410	4,670
June	504	38,300	160	8,640	992	5,750	890	5,560
July	685	50,500	193	10,500	1,430	7,190	1,210	6,770
August	530	36,900	134	6,130	153	2,010	671	7,440
September:								
Australia	--	--	--	--	--	--	--	48
Belgium	3	197	29	1,510	--	--	24	175
Brazil	--	--	--	--	49	478	12	194
Canada	86	4,630	--	--	(7)	3	87	898
China	11	237	11	187	--	--	19	127
Finland	42	3,210	74	3,290	119	2,840	147	1,900
Germany	33	2,860	--	--	(7)	3	33	133
Hong Kong	--	--	--	--	--	--	--	49
India	--	--	--	--	88	340	24	24
Italy	--	--	1	27	--	--	1	5
Japan	102	7,050	--	--	--	--	102	910
Korea, Republic of	(7)	3	51	627	--	--	37	68
Madagascar	11	637	--	--	--	--	11	231
Mexico	--	--	--	--	--	--	--	30
Morocco	40	2,040	--	--	--	--	40	135
Netherlands	--	--	5	215	--	--	4	17
Norway	236	12,800	--	--	--	--	236	2,110
Russia	10	481	--	--	--	--	10	373
South Africa	--	--	--	--	--	--	--	121
Spain	--	--	8	319	--	--	6	6
Taiwan	--	--	4	261	13	198	6	176
Turkey	--	--	--	--	--	--	--	24
United Kingdom	4	390	17	684	40	546	30	452
Zambia	--	--	--	--	--	--	--	46
Other	(7)	39	--	--	--	--	(7)	9
Total	578	34,600	200	7,120	310	4,410	827	8,270
January–September	5,380	365,000	1,590	75,700	6,240	43,200	8,270	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>Estimated from gross weights.

<sup>3</sup>May include revisions to previously published data.

<sup>4</sup>Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder; may include intermediate products of cobalt metallurgy.

<sup>5</sup>Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

<sup>6</sup>Customs value.

<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 OR LOCALITY<sup>1</sup>

Period and country or locality 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)
2021:						
September	11	\$476	99	\$1,590	34	\$4,790
October	20	1,110	160	2,300	27	4,470
November	17	838	188	2,710	24	4,150
December	30	1,460	135	1,200	32	4,710
January–September	143	6,390 <sup>†</sup>	1,070	13,600	231 <sup>†</sup>	32,100 <sup>†</sup>
January–December	210	9,800	1,560	19,800	315	45,500
2022:						
January	51	2,440	163	1,840	53	5,770
February	19	1,020	79	1,390	16	3,060
March	6	326	189	2,980	44	4,830
April	21	1,240	192	2,830	27	3,200
May	24	1,400	175	2,340	42	4,720
June	25	1,690	155	2,070	44	4,980
July	29	1,760	99	2,060	38	4,080
August	33	1,730	152	2,530	27	3,940
September:						
Belgium	--	--	6	238	--	--
Canada	(3)	56	30	388	2	711
China	--	--	7	11	2	627
France	--	--	42	295	8	614
Ireland	--	--	37	165	(3)	46
Japan	--	--	12	367	(3)	7
Tunisia	--	--	8	70	(3)	46
United Kingdom	34	1,730	58	1,300	17	1,460
Other	--	--	1	18	3	694
Total	35	1,780	200	2,850	33	4,210
January–September	242	13,400	1,400	20,900	323	38,800

<sup>†</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>5</sup>		Total cobalt content for the period <sup>3</sup> (metric tons)	Cobalt content, year to date <sup>3,4</sup> (metric tons)
	Gross weight (metric tons)	Value <sup>6</sup> (thousands)	Gross weight (metric tons)	Value <sup>6</sup> (thousands)	Gross weight (metric tons)	Value <sup>6</sup> (thousands)		
2021:								
September	339	\$11,500	1	\$32	--	--	340	3,680
October	493	15,600	2	85	(7)	\$10	494	4,170
November	424	10,400	2	101	--	--	426	4,600
December	333	10,000	2	96	--	--	335	4,930
January–September	3,650	103,000	36	783 <sup>7</sup>	9	122	3,680	XX
January–December	4,900	139,000	43	1,060	9	133	4,930	XX
2022:								
January	454	14,400	2	83	--	--	456	456
February	293	11,600	1	50	--	--	293	749
March	597	16,600	3	94	--	--	599	1,350
April	378	13,200	1	44	(7)	5	379	1,730
May	493	17,600	7	304	--	--	498	2,220
June	400	12,200	2	79	(7)	6	402	2,630
July	381	14,600	3	145	--	--	384	3,010
August	410	12,000	7	297	(7)	4	415	3,430
September	344	12,200	7	298	--	--	349	3,780
January–September	3,750	124,000	33	1,390	1	16	3,780	XX

<sup>1</sup>Revised. XX Not applicable. -- Zero.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

<sup>4</sup>Estimated from gross weights.

<sup>5</sup>May include revisions to previously published data.

<sup>6</sup>Cobalt acetates and cobalt chlorides.

<sup>7</sup>Free alongside ship (f.a.s.) value.

<sup>8</sup>Less than ½ unit.

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)
2021:				
September	121	\$10,900	(3)	\$8
October	274	22,500	--	--
November	139	13,400	--	--
December	217	18,600	(3)	4
January–September	1,190 <sup>r</sup>	116,000 <sup>r</sup>	2	22
January–December	1,820	170,000	2	26
2022:				
January	139	15,400	--	--
February	103	13,300	--	--
March	105	15,300	--	--
April	204	19,200	(3)	4
May	143	16,600	--	--
June	164	16,400	--	--
July	201	23,000	--	--
August	114	18,500	--	--
September	185	25,500	(3)	8
January–September	1,360	163,000	(3)	12

<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 ½ unit.

Source: U.S. Census Bureau.