

# Mineral Industry Surveys

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## MOLYBDENUM IN DECEMBER 2022

Domestic production of molybdenum in concentrate in December 2022 was 3% less compared with the output of the previous month and slightly more than that in December 2021 (fig. 1, table 1).

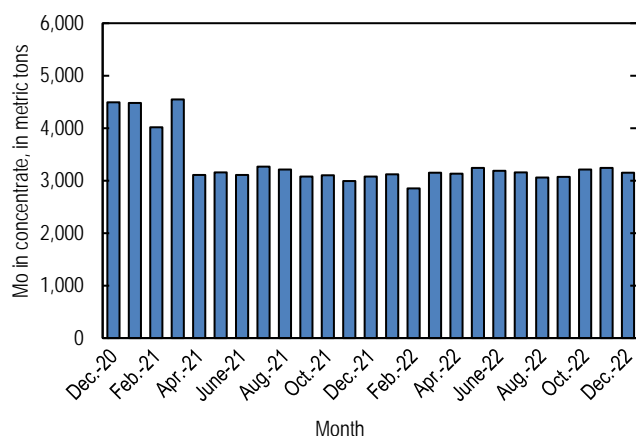


Figure 1. Monthly domestic production of molybdenum (Mo) in concentrate from December 2020 through December 2022 (may include revisions to previously published data).

## Prices

According to CRU Group, the monthly average price range for U.S. ferromolybdenum (FeMo) was \$25.244 to \$25.778 per pound of molybdenum content in December 2022 compared with \$21.589 to \$22.361 per pound of molybdenum content in November 2022. FeMo monthly average prices in Europe ranged from \$53.844 to \$54.844 per kilogram (\$24.423 to \$24.877 per pound) of molybdenum content in December 2022 compared with \$47.067 to \$48.067 per kilogram (\$21.349 to \$21.803 per pound) in November 2022.

U.S. molybdic oxide ( $\text{MoO}_3$ ) prices ranged from \$22.333 to \$22.678 per pound of molybdenum content in December 2022 compared with from \$18.944 to \$19.356 per pound of molybdenum content in November 2022 (fig. 2).

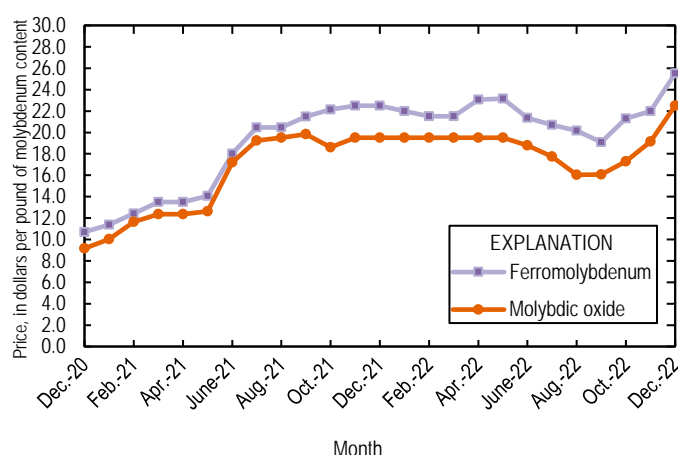


Figure 2. Average monthly prices for U.S. ferromolybdenum and molybdic oxide from December 2020 through December 2022. Source: CRU Group.

## Industry News

Greenland Resources Inc. (Toronto, Ontario, Canada) was in the final stage of permitting for its Malmbjerg molybdenum project in east Greenland. The company completed a NI 43-101 definitive feasibility study in April 2022 and the Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA) were both approved by the Government of Greenland on September 29, 2022. The company expected to submit both the EIA and SIA to commence the regulatory review process during November and December 2022. Greenland Resources outlined that during the approval process, both the EIA and SIA may lead to modifications based on feedback from regulators (Greenland Resources Inc., 2022).

The Malmbjerg molybdenum project has a twenty-year open pit mine life with average annual production in years 1–10 of 15,000 metric tons per year of contained molybdenum. According to Greenland Resources, their environmental mine design and process plant was designed to focus on reducing carbon dioxide and overall water usage (Greenland Resources Inc., undated).

## References Cited

Greenland Resources Inc., 2022, Greenland Resources provides Malmbjerg permitting update: Toronto, Ontario, Canada, Greenland Resources Inc., press release, December 12, 4 p. (Accessed February 6, 2023, at <https://greenlandresources.ca/data/news/PR-22-15-Greenland-Resources-Dec-12-2022.pdf>.)

Greenland Resources Inc., [undated], Malmbjerg: Toronto, Ontario, Canada, Greenland Resources Inc. (Accessed February 6, 2023, at <https://greenlandresources.ca/data/malmbjerg.html>.)

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TABLE 1  
U.S. SALIENT MOLYBDENUM CONCENTRATE  
STATISTICS<sup>1,2</sup>

(Metric tons, contained molybdenum)

Period	Production	Shipments <sup>3,4</sup>
2021:		
January	4,480	4,450
February	4,020	4,010
March	4,550	4,580
April	3,110	3,120
May	3,160	3,080
June	3,110	3,140
July	3,270	3,210
August	3,210	3,290
September	3,080	3,100
October	3,100	3,060
November	2,990	2,950
December	3,080	3,090
January–December	41,100	41,100
2022:		
January	3,120	3,080
February	2,850	2,850
March	3,150	3,180
April	3,130	3,150
May	3,240	3,250
June	3,190	3,170
July	3,160	3,130
August	3,060	3,100
September	3,070	3,090
October	3,210 <sup>r</sup>	3,130 <sup>r</sup>
November	3,240 <sup>r</sup>	3,240 <sup>r</sup>
December	3,150	3,100
January–December	37,600	37,500

<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 data from Freeport-McMoRan Inc., 2021–2022. Adjusted by USGS to reflect estimated monthly data.

<sup>3</sup>As reported by producers.

<sup>4</sup>Shipments include sales to domestic customers, sales for export, and transfers to other company plants.

TABLE 2  
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES  
(including roasted concentrate), BY COUNTRY OR LOCALITY<sup>1</sup>

(Kilograms, contained molybdenum)

Country or locality	2021			2022	
	January– December	December	November	December	January– December
Argentina	33,200	22,200	--	--	87,000
Belgium	5,900,000	119,000 <sup>r</sup>	186,000	161,000	2,070,000
Brazil	136,000	4,620	39,800	34,000	229,000
Cambodia	29,900	--	--	--	5,000
Canada	782,000	--	19,600	36,300	408,000
Chile	1,230,000	156,000	--	--	98,400
China	1,510,000	--	182,000	135,000	402,000
Germany	--	--	--	--	5,700
Hong Kong	--	--	--	--	1,680
India	757,000	34,000 <sup>r</sup>	22,200	69,400	529,000
Italy	--	--	114	--	114
Japan	4,340,000	392,000 <sup>r</sup>	151,000	299,000	3,500,000
Korea, Republic of	1,480,000	118,000 <sup>r</sup>	93,800	--	681,000
Latvia	--	--	--	--	1,140
Lithuania	1,900	--	--	--	--
Mexico	3,350,000	74,700	178,000	174,000	1,970,000
Netherlands	27,700,000	2,560,000 <sup>r</sup>	2,790,000	2,730,000	28,500,000
South Africa	3,810	--	--	--	11,800
Taiwan	3,130	--	--	--	3,400
Thailand	--	--	5,310	--	12,400
United Kingdom	8,250,000	508,000	72,600	781,000	6,740,000
Vietnam	369,000	32,800 <sup>r</sup>	242,000	103,000	1,130,000
Total	55,900,000	4,020,000 <sup>r</sup>	3,980,000	4,520,000	46,400,000

<sup>r</sup>Revised. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 3  
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY OR LOCALITY<sup>1</sup>

(Kilograms, contained molybdenum)

Country or locality	2021		2022	
	January– December	December	November	January– December
Argentina	--	--	85	--
Australia	2,790	--	--	--
Canada	217,000	6,350	3,990	--
Denmark	1,350	--	--	--
Mexico	282,000	500	10,000	--
Total	504,000	6,850	14,100	--

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS<sup>1</sup>

(Kilograms, unless otherwise specified)

Material	2021			2022					
	January–December			December			January–December		
	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)
Ore and concentrates, roasted	5,130,000	3,200,000	\$89,700	182,000	112,000	\$5,660	3,240,000	2,000,000	\$74,600
Ore and concentrates, other	25,200,000	12,300,000	362,000	1,900,000	924,000	34,200	28,800,000	13,700,000	511,000
Molybdenum chemicals:									
Oxides and hydroxides	3,770,000	NA	88,800	370,000	NA	8,890	3,660,000	NA	106,000
Molybdates of ammonium	1,610,000	907,000	32,400	19,400	10,900	570	1,360,000	773,000	33,700
Molybdates (all others)	182,000	72,100	2,540	46,100	18,200	794	360,000	144,000	5,980
Molybdenum orange	128,000	NA	1,010	14,700	NA	126	160,000	NA	1,170
Ferromolybdenum	12,300,000	8,390,000	280,000	286,000	186,000	8,460	10,600,000	7,260,000	311,000
Molybdenum powders	216,000	201,000	9,900	1,000	1,000	95	238,000	232,000	13,400
Molybdenum unwrought	426,000	425,000	14,700	55,900	55,800	2,980	330,000	329,000	14,800
Molybdenum waste and scrap	2,030,000	1,810,000	62,600	152,000	121,000	5,410	1,910,000	1,540,000	67,900
Molybdenum wire	17,900	NA	2,010	1,440	NA	182	15,800	NA	1,950
Molybdenum other	190,000	NA	18,900	14,400	NA	1,990	192,000	NA	24,800
Total	51,200,000	XX	964,000	3,050,000	XX	69,300	50,900,000	XX	1,170,000

NA Not available. 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>Customs value.

Source: U.S. Census Bureau.