

# Mineral Industry Surveys

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## MOLYBDENUM IN MAY 2023

Domestic production of molybdenum in concentrate in May 2023 was 4% more than the output in the previous month and 8% more than the output in May 2022 (fig. 1, table 1).

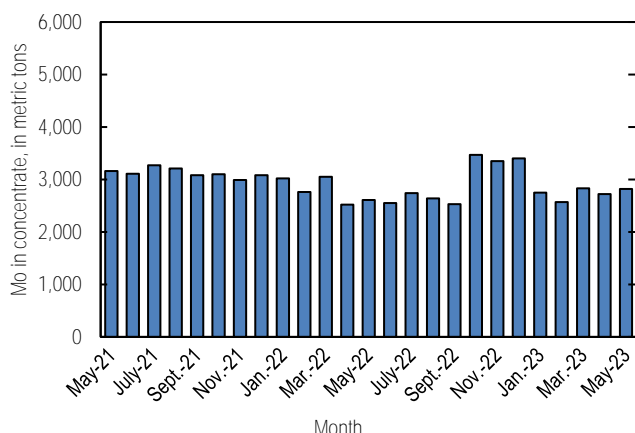


Figure 1. Monthly domestic production of molybdenum (Mo) in concentrate from May 2021 through May 2023 (may include revisions to previously published data).

## Prices

According to CRU Group, the monthly average price range for U.S. ferromolybdenum (FeMo) was \$24.500 to \$25.556 per pound of molybdenum content in May 2023 compared with \$27.469 to \$29.031 per pound of molybdenum content in April 2023. FeMo monthly average prices in Europe ranged from \$48.444 to \$52.667 per kilogram (\$21.974 to \$23.889 per pound) of molybdenum content in May 2023 compared with \$51.500 to \$54.500 per kilogram (\$23.360 to \$24.721 per pound) in April 2023. U.S. molybdic oxide ( $\text{MoO}_3$ ) prices ranged from \$21.000 to \$22.000 per pound of molybdenum content in May 2023 compared with the range \$27.063 to \$27.750 per pound of molybdenum content in April 2023 (fig. 2).

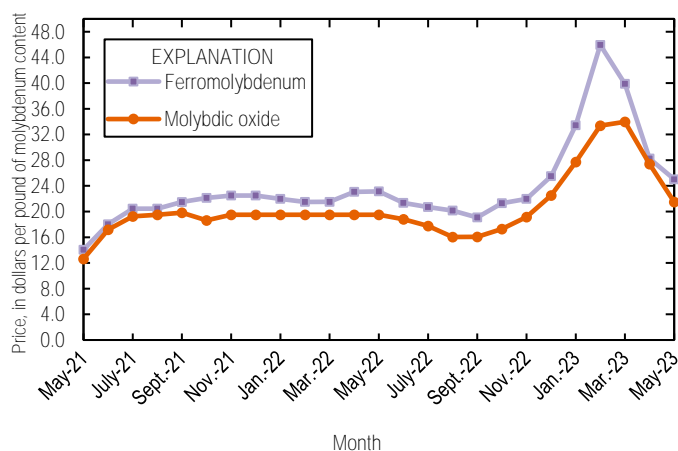


Figure 2. Average monthly prices for U.S. ferromolybdenum and molybdic oxide from May 2021 through May 2023. Source: CRU Group.

## Industry News

In May 2023, Rio Tinto plc (United Kingdom) subsidiary, Kennecott Utah Copper LLC, commenced its \$300 million project to rebuild its copper smelter in Salt Lake City, UT. An additional \$120 million would be used to upgrade the refinery tank house structure and update Kennecott's molybdenum flotation circuit with a fully automated system (Rio Tinto plc, 2023).

## Reference Cited

Rio Tinto plc, 2023, Rio Tinto invests to strengthen copper supply in US: London, United Kingdom, Rio Tinto plc news release, June 20. (Accessed June 23, 2023, at <https://www.riotinto.com/en/news/releases/2023/rio-tinto-invests-to-strengthen-copper-supply-in-us>.)

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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>
2022:		
January	3,020	3,100
February	2,760	2,760
March	3,050	3,080
April	2,520	2,540
May	2,610	2,620
June	2,550	2,530
July	2,740	2,700
August	2,640	2,680
September	2,530	2,550
October	3,470	3,390
November	3,350	3,360
December	3,400	3,350
January–December	34,600	34,700
2023:		
January	2,750	2,610
February	2,570	2,570
March	2,830	2,900
April	2,720	2,710
May	2,820	2,840
January–May	13,700	13,600

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

<sup>2</sup>Includes annual or quarterly published data from Freeport-McMoran Inc. (2022–2023) that has been 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	2022			2023		
	January– December	May	January– May	April	May	January– May
Argentina	87,000	--	75,700	--	--	--
Belgium	2,130,000	42,500	1,070,000 <sup>r</sup>	--	27,100	136,000
Brazil	229,000	10,300	74,500	48,800	25,800	149,000
Cambodia	5,000	3,400	5,000	--	--	--
Canada	408,000	--	182,000	112,000	40,200	473,000
Chile	98,400	--	98,400	139,000	141,000	564,000
China	402,000	--	--	18,000	--	197,000
Germany	5,700	--	5,700	--	--	--
Hong Kong	1,680	--	1,680	--	--	--
India	499,000	46,300	226,000 <sup>r</sup>	24,100	42,000	150,000
Italy	114	--	--	--	--	--
Japan	3,460,000	433,000 <sup>r</sup>	1,530,000 <sup>r</sup>	260,000	317,000	1,560,000
Korea, Republic of	681,000	72,800 <sup>r</sup>	221,000 <sup>r</sup>	--	80,900	368,000
Latvia	1,140	1,140	1,140	--	--	--
Mexico	1,970,000	133,000	928,000	--	--	92,900
Netherlands	28,300,000	1,800,000 <sup>r</sup>	10,600,000 <sup>r</sup>	3,140,000	1,100,000	11,800,000
Singapore	--	--	--	--	33,000	33,000
South Africa	11,800	--	--	--	--	--
Taiwan	3,400	2,550	2,550	--	--	--
Thailand	12,400	--	--	2,170	--	14,900
United Kingdom	6,740,000	673,000	3,270,000	577,000	379,000	3,230,000
Vietnam	1,130,000	82,800	318,000 <sup>r</sup>	33,700	66,700	276,000
Total	46,200,000	3,300,000 <sup>r</sup>	18,600,000 <sup>r</sup>	4,360,000	2,260,000	19,000,000

<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	2022			2023		
	January– December	May	January– May	April	May	January– May
Argentina	547	462	462	--	--	--
Australia	2,560	--	1,700	--	--	1,060
Canada	93,400	2,860	50,900	43,700	1,670	83,900
Denmark	880	--	440	--	--	583
India	--	--	--	--	--	17,700
Mexico	92,600	20,000	31,500	30,000	20,000	93,500
Total	190,000	23,300	85,000	73,700	21,700	197,000

-- 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	2022			2023					
	January–December			May			January–May		
	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	3,240,000	2,000,000	\$74,600	149,000	93,500	\$4,380	1,040,000	650,000	\$39,700
Ore and concentrates, other	28,800,000	13,700,000	511,000	2,560,000	1,270,000	76,300	15,000,000	7,420,000	416,000
Molybdenum chemicals:									
Oxides and hydroxides	3,660,000	NA	106,000	331,000	NA	12,000	2,410,000	NA	103,000
Molybdates of ammonium	1,360,000	773,000	33,700	145,000	81,500	4,230	811,000	458,000	28,400
Molybdates (all others)	360,000	144,000	5,980	7,800	3,090	6	119,000	47,200	2,330
Molybdenum orange	174,000	NA	1,260	40,900	NA	277	150,000	NA	853
Ferromolybdenum	10,600,000	7,260,000	311,000	866,000	600,000	31,100	4,640,000	3,210,000	178,000
Molybdenum powders	238,000	232,000	13,400	477	470	71	19,000	15,500	1,750
Molybdenum unwrought	318,000	317,000	14,300	20,600	20,500	1,090	233,000	232,000	15,000
Molybdenum waste and scrap	1,910,000	1,540,000	68,000	144,000	126,000	9,480	819,000	706,000	1,170
Molybdenum wire	15,800	NA	1,950	866	NA	231	6,350	NA	44,400
Molybdenum other	192,000	NA	24,700	25,200	NA	4,090	96,600	NA	14,300
Total	50,900,000	XX	1,160,000	4,290,000	XX	143,000	25,400,000	XX	845,000

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.