

# Mineral Industry Surveys

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## MOLYBDENUM IN MARCH 2021

Domestic production of molybdenum concentrate in March 2021 was 13% more than the output of the previous month and essentially unchanged compared with that of March 2020 (fig. 1, table 1). Molybdenum concentrate production continued at two U.S. operations, accounting for 25% of total U.S. molybdenum concentrate production in the first quarter of 2021. Molybdenum concentrate production at byproduct mines continued at seven U.S. operations, accounting for 75% of total U.S. molybdenum concentrate production in the first quarter of 2021.

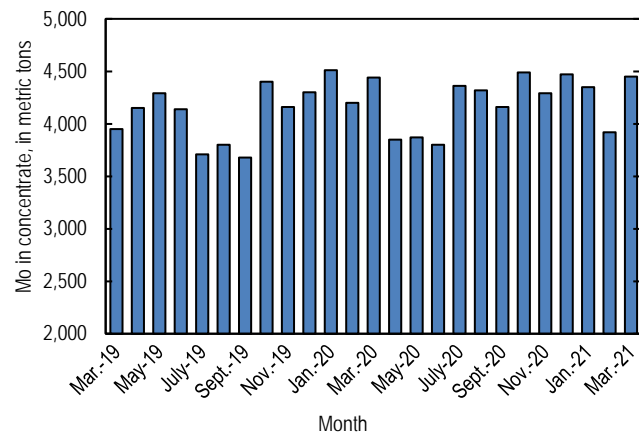


Figure 1. Monthly domestic production of molybdenum (Mo) in concentrate from March 2019 through March 2021 (may include revisions to previously published data).

According to CRU Group (2021), the March 2021 monthly average price range for U.S. ferromolybdenum (FeMo) was \$13.000 to \$14.000 per pound of molybdenum content, compared with \$12.144 to \$12.719 per pound in February 2021. FeMo monthly average prices in Europe ranged from \$27.922 to \$28.589 per kilogram (\$12.665 to \$12.968 per pound) of

molybdenum content in March 2021 compared with \$27.425 to \$28.150 per kilogram (\$12.440 to \$12.769 per pound) in February 2021. U.S. molybdic oxide (MoO<sub>3</sub>) prices ranged from \$12.000 to \$12.700 per pound of molybdenum content in March 2021 compared with \$11.344 to \$11.950 per pound in February 2021 (fig. 2).

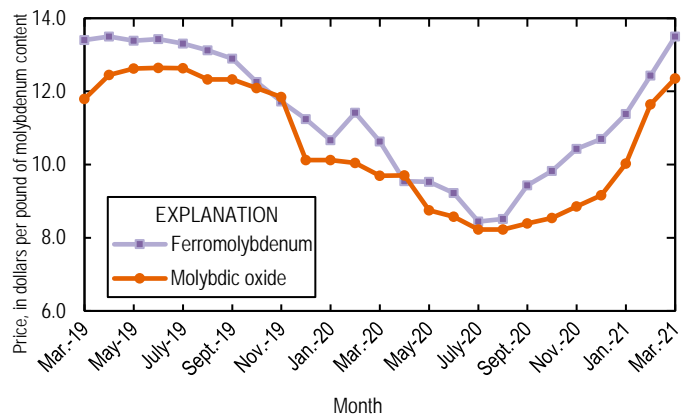


Figure 2. Average monthly prices for U.S. ferromolybdenum and molybdic oxide from March 2019 through March 2021. Source: CRU Group.

**Reference Cited**

CRU Group, 2021, Molybdenum prices: London, United Kingdom, CRU Group, May 3. (Accessed June 8, 2021, via <http://www.crugroup.com/>.)

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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>
2020:		
January	4,510	4,480
February	4,200	4,220
March	4,440	4,440
April	3,850	3,840
May	3,870	3,880
June	3,800	3,800
July	4,360	4,360
August	4,320	4,300
September	4,160	4,190
October	4,490	4,480
November	4,290	4,300
December	4,470	4,480
January–December	50,800	50,800
2021:		
January	4,350	4,320
February	3,920	3,920
March	4,450	4,470
January–March	12,700	12,700

<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., 2020–2021. 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. CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS<sup>e,1</sup>

(Kilograms, contained molybdenum)

End use	Molybdc oxides	Ferro molybdenum <sup>2</sup>	Ammonium and sodium molybdate	Molybdenum scrap	Other	Total
2021:						
February:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	9,000	--	--	--	9,000
Stainless and heat-resisting	150,000	46,000	--	(3)	W	196,000
Full alloy	245,000	76,000	--	--	W	321,000
Tool	W	W	--	--	--	W
Total	395,000	131,000	--	(3)	W	526,000
Cast irons (gray, malleable, and ductile iron)	--	W	--	--	--	W
Superalloys	--	--	--	(3)	62,000	62,000
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	200	W	--	--	--	200
Mill products made from metal powder <sup>4</sup>	--	--	--	--	W	W
Cemented carbides and related products <sup>5</sup>	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	(3)
Catalysts	W	--	(3)	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	8,200	8,200
Other	190,000	58,000	400	(3)	290,000	538,000
Grand total	585,000	189,000	400	(3)	360,000	1,130,000
Stocks, February 28, 2021	492,000	580,000	2,900	(6)	(6)	1,800,000
March:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	8,500	--	--	--	8,500
Stainless and heat-resisting	160,000	47,000	--	(3)	W	207,000
Full alloy	240,000	78,000	--	--	W	318,000
Tool	W	W	--	--	--	W
Total	400,000	134,000	--	(3)	W	534,000
Cast irons (gray, malleable, and ductile iron)	--	W	--	--	--	W
Superalloys	--	--	--	(3)	59,000	59,000
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	200	W	--	--	--	200
Mill products made from metal powder <sup>4</sup>	--	--	--	--	W	W
Cemented carbides and related products <sup>5</sup>	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	(3)
Catalysts	W	--	(3)	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	9,400	9,400
Other	180,000	62,000	600	(3)	300,000	543,000
Grand total	580,000	196,000	600	(3)	368,000	1,140,000
Stocks, March 31, 2021	490,000	540,000	3,000	(6)	(6)	1,700,000

<sup>e</sup>Estimated. W Withheld to avoid disclosing company proprietary data; included in "Miscellaneous and unspecified uses: Other" category. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown. Includes U.S. Geological Survey estimates.

<sup>2</sup>Includes calcium molybdate.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included in "Other, Miscellaneous and unspecified uses: Other" category.

<sup>4</sup>Includes ingot, wire, rod, and sheet.

<sup>5</sup>Includes construction, mining, oil and gas, and metalworking machinery.

<sup>6</sup>Withheld to avoid disclosing company proprietary data; included in "Total."

TABLE 3  
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES  
(including roasted concentrate), BY COUNTRY OR LOCALITY<sup>1</sup>

(Kilograms, contained molybdenum)

Country or locality	2020			2021		
	January– December	March	January– March	February	March	January– March
Belgium	9,540,000	463,000	2,400,000	1,210,000	784,000	2,570,000
Brazil	25,600	--	1,420	--	38,500	38,500
Cambodia	1,440	--	1,440	--	21,000	21,000
Canada	1,130,000	160,000	485,000	55,800	91,700	214,000
Chile	2,080,000	--	--	--	--	267,000
China	3,520,000	250,000	252,000	495,000	260,000	869,000
Estonia	305,000	158,000	305,000	--	--	--
Germany	285	--	--	--	--	--
India	915,000	60,800	134,000	93,200	124,000	302,000
Japan	3,030,000	498,000	1,060,000	345,000	292,000	871,000
Korea, Republic of	4,880,000	518,000	1,320,000	212,000	49,200	501,000
Mexico	4,250,000	357,000	1,430,000	861,000	993,000	2,310,000
Netherlands	24,600,000	3,740,000	6,570,000	1,700,000	1,950,000	7,720,000
South Africa	300	--	--	1,110	--	1,110
Thailand	714,000	235,000	558,000	--	--	--
Turkey	1,400	--	363	--	--	--
United Kingdom	5,100,000	938,000	1,950,000	489,000	1,630,000	2,300,000
Vietnam	381,000	6,840	42,900	9,250	35,200	57,300
Total	60,400,000	7,390,000	16,500,000	5,470,000	6,270,000	18,100,000

-- 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. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY OR LOCALITY<sup>1</sup>

(Kilograms, contained molybdenum)

Country or locality	2020			2021		
	January– December	March	January– March	February	March	January– March
Australia	1,070	--	697	620	697	1,320
Canada	381,000	63,700	129,000	11,500	12,600	45,400
Denmark	948	--	474	--	--	474
Mexico	170,000	80,000	102,000	20,200	14,900	35,300
Total	554,000	144,000	232,000	32,300	28,100	82,500

-- 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 5  
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS<sup>1</sup>

(Kilograms, unless otherwise specified)

Material	January–December 2020			2021					
	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	March			January–March		
				Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)
Ore and concentrates, roasted	7,310,000	4,490,000	\$81,900	529,000	330,000	\$7,280	1,680,000	1,060,000	\$21,900
Ore and concentrates, other	22,300,000	10,600,000	210,000	3,790,000	1,910,000	38,700	6,320,000	3,170,000	61,400
Molybdenum chemicals:									
Oxides and hydroxides	3,450,000	NA	54,100	238,000	NA	4,520	875,000	NA	15,200
Molybdates of ammonium	947,000	533,000	12,900	103,000	58,300	1,760	405,000	228,000	6,080
Molybdates (all others)	109,000	44,500	1,120	NA	NA	NA	34,400	13,600	353
Molybdenum orange	138,000	NA	1,270	4,290	NA	21	13,900	NA	82
Ferromolybdenum	6,820,000	4,630,000	99,400	797,000	547,000	13,400	2,940,000	2,030,000	47,800
Molybdenum powders	201,000	184,000	6,830	23,900	20,700	891	48,300	45,000	1,560
Molybdenum unwrought	415,000	413,000	11,900	86,000	85,600	2,830	120,000	120,000	3,670
Molybdenum waste and scrap	1,130,000	1,100,000	31,000	143,000	141,000	3,950	300,000	298,000	7,680
Molybdenum wire	16,500	NA	1,620	1,110	NA	184	4,260	NA	577
Molybdenum other	174,000	NA	14,900	16,600	NA	1,460	40,900	NA	3,640
Total	43,000,000	XX	527,000	5,730,000	XX	75,000	12,800,000	XX	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.