

Mineral Industry Surveys

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MOLYBDENUM IN NOVEMBER 2020

Domestic production of molybdenum in concentrate in November 2020 was slightly less than the output of the previous month and was 4% more than that of November 2019. Total production during the first 11 months of 2020 was 25% more than total production during the same period in 2019 (fig. 1, table 1). This large increase in production in 2020 was mainly the result of one byproduct mine in Utah increasing its production.

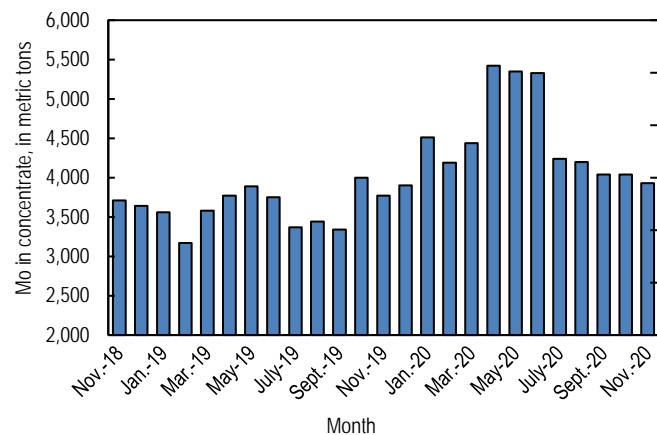


Figure 1. Monthly domestic production of molybdenum (Mo) in concentrate from November 2018 through November 2020 (may include revisions to previously published data).

According to CRU Group (2021), the November 2020 monthly average price range for U.S. ferromolybdenum (FeMo) was \$10.325 to \$10.525 per pound of molybdenum content, compared with \$9.656 to \$10.000 per pound in October 2020. FeMo monthly averages in Europe ranged from \$22.725 to \$23.050 per kilogram (\$10.308 to \$10.455 per pound) of molybdenum content in November 2020 compared with

\$21.289 to \$21.867 per kilogram (\$9.657 to \$9.919 per pound) in October 2020. U.S. molybdenum oxide (MoO₃) prices ranged from \$8.719 to \$8.988 per pound of molybdenum content in November 2020 compared with \$8.433 to \$8.650 per pound in October 2020 (fig. 2).

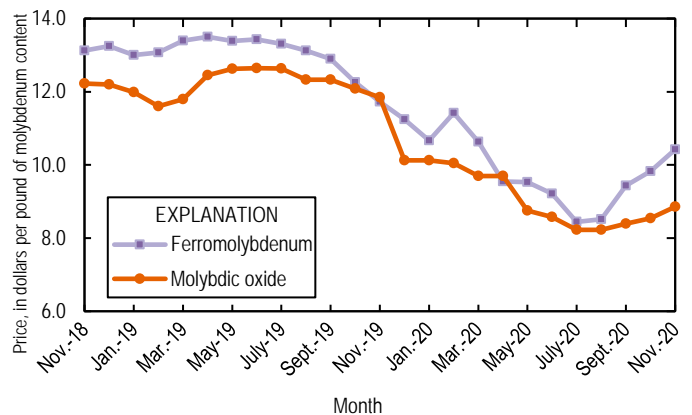


Figure 2. Average monthly prices for U.S. ferromolybdenum and molybdenic oxide from November 2018 through November 2020. Source: CRU Group.

Reference Cited

CRU Group, 2021, Molybdenum prices: London, United Kingdom, CRU Group, January 4. (Accessed January 27, 2021, via <http://www.crugroup.com/>.)

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TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE
STATISTICS^{1,2}

(Metric tons, contained molybdenum)

Period	Production	Shipments ^{3,4}
2019:		
January	3,560	3,560
February	3,170	3,140
March	3,580	3,630
April	3,770	3,750
May	3,890	3,890
June	3,750	3,750
July	3,370	3,370
August	3,440	3,440
September	3,340	3,330
October	4,000	4,010
November	3,770	3,780
December	3,900	3,920
January–December	43,600	43,600
2020:		
January	4,510	4,480
February	4,190	4,200
March	4,440	4,440
April	5,420	5,450
May	5,350	5,370
June	5,330	5,330
July	4,240	4,240
August	4,200	4,180
September	4,040	4,070
October	4,040	3,710
November	3,930	3,940
January–November	49,700	49,400

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

²Includes data from Freeport-McMoRan Inc., 2019–2020. Adjusted by USGS to reflect estimated monthly data.

³As reported by producers.

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

TABLE 2
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS^{e, 1}

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molybdenum ²	Ammonium and sodium molybdate	Molybdenum scrap	Other	Total
2020:						
October:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	9,620	--	--	--	9,620
Stainless and heat-resisting	152,000	47,400	--	(3)	W	199,000
Full alloy	244,000	77,900	--	--	W	322,000
Tool	W	W	--	--	--	W
Total	396,000	135,000	--	(3)	--	531,000
Cast irons (gray, malleable, and ductile iron)	--	W	--	--	--	W
Superalloys	--	--	--	(3)	63,300	63,300
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	175	W	--	--	--	175
Mill products made from metal powder ⁴	--	--	--	--	W	W
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	(3)
Catalysts	W	--	(3)	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	9,670	9,670
Other	190,000	50,600	415	(3)	327,000	568,000
Grand total	586,000	186,000	415	(3)	400,000	1,170,000
Stocks, October 31, 2020	493,000	762,000	2,980	(6)	(6)	2,100,000
November:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	9,590	--	--	--	9,590
Stainless and heat-resisting	151,000	47,300	--	(3)	W	199,000
Full alloy	245,000	78,100	--	--	W	324,000
Tool	W	W	--	--	--	W
Total	397,000	135,000	--	(3)	--	532,000
Cast irons (gray, malleable, and ductile iron)	--	W	--	--	--	W
Superalloys	--	--	--	(3)	63,000	63,000
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	178	W	--	--	--	178
Mill products made from metal powder ⁴	--	--	--	--	W	W
Cemented carbides and related products ⁵	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	(3)
Catalysts	W	--	(3)	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	9,600	9,600
Other	189,000	50,800	407	(3)	327,000	568,000
Grand total	586,000	186,000	415	(3)	400,000	1,170,000
Stocks, November 30, 2020	493,000	762,000	3,000	(6)	(6)	2,100,000

^eEstimated. W Withheld to avoid disclosing company proprietary data; included in "Miscellaneous and unspecified uses: Other" category. -- Zero.

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

²Includes calcium molybdate.

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

⁴Includes ingot, wire, rod, and sheet.

⁵Includes construction, mining, oil and gas, and metalworking machinery.

⁶Withheld 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 LOCALITY¹

(Kilograms, contained molybdenum)

Country or locality	2019			2020		
	January– December	November	January– November	October	November	January– November
Belgium	6,630,000	685,000	6,080,000 ^r	989,000	239,000	8,580,000
Brazil	15,900	--	15,900	8,130	3,060	25,600
Cambodia	--	--	--	--	--	1,440
Canada	1,110,000	77,200	966,000 ^r	78,700	147,000	1,100,000
Chile	218,000	--	218,000	88,200	528,000	1,370,000
China	529,000	55,800	497,000 ^r	289,000	539,000	2,880,000
Colombia	339	--	339	--	--	--
Estonia	--	--	--	--	--	305,000
Germany	1,090	--	1,090	--	--	285
India	205,000	22,200	184,000	132,000	137,000	790,000
Japan	3,970,000	293,000	3,680,000 ^r	232,000	256,000	2,980,000
Korea, Republic of	3,030,000	328,000	2,590,000 ^r	167,000	539,000	4,450,000
Mexico	3,050,000	317,000	2,640,000	383,000	352,000	3,850,000
Netherlands	35,900,000	4,110,000	33,300,000	1,740,000	1,780,000	22,300,000
South Africa	--	--	--	--	300	300
Sri Lanka	1,630	--	1,630	--	--	--
Taiwan	23,300	--	23,300	--	--	--
Thailand	1,380,000	554,000	1,350,000	--	--	714,000
Turkey	--	--	--	--	415	1,400
United Kingdom	7,550,000	--	6,790,000	997,000	290,000	4,950,000
Vietnam	434,000	88,600	413,000	31,200	35,000	339,000
Total	64,100,000	6,530,000	58,800,000 ^r	5,130,000	4,840,000	54,700,000

^rRevised. -- Zero.

¹Data 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 LOCALITY¹

(Kilograms, contained molybdenum)

Country or locality	2019			2020		
	January– December	November	January– November	October	November	January– November
Australia	1,610	--	1,610	376	--	1,070
Canada	243,000	19,500	214,000 ^r	41,000	28,500	350,000
China	1,210	--	1,210	--	--	--
Denmark	903	--	903	--	--	948
Mexico	306,000	--	304,000	--	20,000	170,000
United Kingdom	420	--	420	--	--	--
Total	552,000	19,500	522,000 ^r	41,300	48,500	522,000

^rRevised. -- Zero.

¹Data 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 PRODUCTS¹

(Kilograms, unless otherwise specified)

Material	January–December 2019			2020					
	Gross weight	Contained molybdenum	Value ² (thousands)	November			January–November		
				Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)
Ore and concentrates, roasted	6,490,000	4,050,000	\$89,800	656,000	413,000	\$7,330	6,790,000	4,160,000	\$75,800
Ore and concentrates, other	34,400,000	16,500,000	440,000	1,320,000	672,000	10,700	20,600,000	9,750,000	195,000
Molybdenum chemicals:									
Oxides and hydroxides	4,290,000	NA	89,300	397,000	NA	6,150	3,260,000	NA	50,900
Molybdates of ammonium	1,400,000	789,000	24,200	39,300	22,100	479	803,000	452,000	10,900
Molybdates (all others)	216,000	85,600	2,880	10,000	3,960	91	104,000	42,500	1,030
Molybdenum orange	234,000	NA	1,350	13,600	NA	166	128,000	NA	1,180
Ferromolybdenum	10,400,000	6,990,000	196,000	635,000	436,000	9,040	6,450,000	4,380,000	94,100
Molybdenum powders	238,000	221,000	8,520	1,570	1,160	99	200,000	182,000	6,370
Molybdenum unwrought	595,000	593,000	19,300	27,400	27,300	685	409,000	407,000	11,800
Molybdenum waste and scrap	1,900,000	1,750,000	59,700	72,600	71,800	1,550	1,090,000	1,060,000	30,000
Molybdenum wire	18,400	NA	2,150	965	NA	84	15,300	NA	1,540
Molybdenum other	193,000	NA	18,300	14,300	NA	1,040	164,000	NA	13,900
Total	60,300,000	XX	951,000	3,190,000	XX	37,400	40,000,000	XX	493,000

NA Not available. XX Not applicable.

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

²Customs value.

Source: U.S. Census Bureau.