

Mineral Industry Surveys

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MOLYBDENUM IN APRIL 2020

Domestic production of molybdenum in concentrate in April 2020 was 11% less than the output of the previous month and 6% more than that of April 2019. Total production during the first 4 months of 2020 was 23% more than total production during the same period in 2019 (fig. 1, table 1).

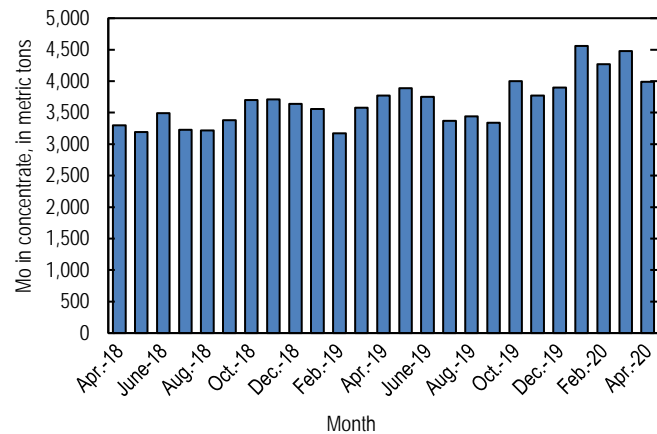


Figure 1. Monthly domestic production of molybdenum (Mo) in concentrate from April 2018 through April 2020 (may include revisions to previously published data).

According to CRU Group (2020), the April 2020 monthly average price range for U.S. ferromolybdenum (FeMo) was \$9.300 to \$9.800 per pound of molybdenum content, compared with \$10.378 to \$10.878 per pound in March 2020. FeMo monthly averages in Europe ranged from \$20.578 to \$21.222 per kilogram (\$9.334 to \$9.626 per pound) of molybdenum content in April 2020 compared with \$22.344 to \$23.100 per kilogram (\$10.135 to \$10.478 per pound) in March 2020. U.S.

molybdenum oxide (MoO₃) prices ranged from \$9.450 to \$9.950 per pound of molybdenum content in April 2020 compared with \$9.450 to \$9.933 per pound of molybdenum content in March 2020 (fig. 2).

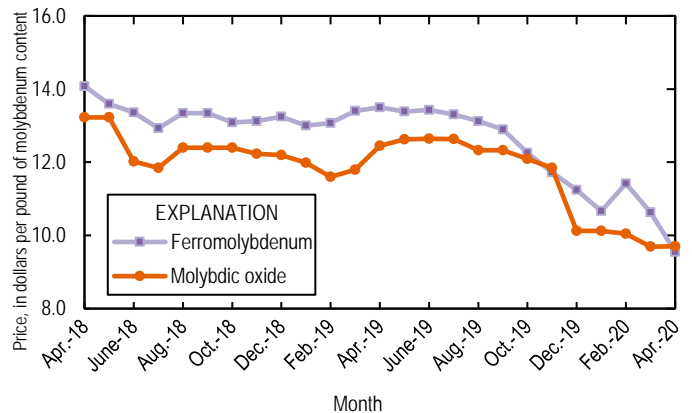


Figure 2. Average monthly prices for U.S. ferromolybdenum and molybdenic oxide from April 2018 through April 2020. Source: CRU Group.

Reference Cited

CRU Group, 2020, Molybdenum prices: London, United Kingdom, CRU Group, May 1. (Accessed June 14, 2020, 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 ^r	3,890 ^r
June	3,750	3,750
July	3,370 ^r	3,370 ^r
August	3,440 ^r	3,440 ^r
September	3,340 ^r	3,330 ^r
October	4,000	4,010
November	3,770	3,780
December	3,900	3,920
January–December	43,600 ^r	43,600 ^r
2020:		
January	4,560	4,510
February	4,270	4,280
March	4,480	4,520
April	3,990	4,020
January–April	17,300	17,300

^rRevised.

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 MATERIALS¹

(Kilograms, contained molybdenum)

End use	Molybdc oxides	Ferro molyb- denum ²	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2020:						
March:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	14,400	--	--	--	14,400
Stainless and heat-resisting	194,000 ^r	50,300 ^r	--	(3)	W	245,000 ^r
Full alloy	246,000	76,600	--	--	W	322,000
Tool	W	W	--	--	--	W
Total	440,000 ^r	141,000 ^r	--	(3)	W	581,000 ^r
Cast irons (gray, malleable, and ductile iron)	--	W	--	--	--	W
Superalloys	--	--	--	(3)	63,000 ^r	63,000 ^r
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	56 ^r	W	--	--	--	56 ^r
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	--	--	--	--	9,440	9,440
Other	185,000 ^r	59,600 ^r	425	(3)	334,000	579,000 ^r
Grand total	625,000 ^r	201,000 ^r	425	(3)	406,000	1,230,000
Stocks, March 31, 2020	527,000 ^r	503,000 ^r	2,750	(6)	(6)	1,750,000
April:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	7,120	--	--	--	7,120
Stainless and heat-resisting	154,000	47,700	--	(3)	W	201,000
Full alloy	246,000	76,600	--	--	W	322,000
Tool	W	W	--	--	W	--
Total	399,000	131,000	--	(3)	W	531,000
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	167	W	--	--	--	167
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	--	--	--	--	9,440	9,440
Other	200,000	53,200	425	(3)	334,000	587,000
Grand total	599,000	185,000	425	(3)	406,000	1,190,000
Stocks, April 30, 2020	504,000	645,000	2,740	(6)	(6)	2,040,000

^rRevised.

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, metalworking machinery.

⁶Withheld to avoid disclosing company proprietary data; included in "Total."

(including roasted concentrate), BY COUNTRY OR LOCALITY¹

(Kilograms, contained molybdenum)

Country or locality	2019			2020		
	January– December	April	January– April	March	April	January– April
Belgium	6,690,000	510,000	2,230,000	463,000	779,000	3,180,000
Brazil	15,900	11,400	11,400	--	6,170	7,590
Cambodia	--	--	--	--	--	1,440
Canada	1,120,000	69,200	334,000 [†]	160,000	18,300	503,000
Chile	218,000	--	218,000	--	89,500	89,500
China	533,000	--	200,000	250,000	86,600	339,000
Colombia	339	--	339	--	--	--
Estonia	--	--	--	158,000	--	305,000
Germany	1,090	547	547	--	285	285
India	205,000	20,000	49,400	60,800	30,100	164,000
Japan	3,920,000	367,000	1,340,000	498,000	236,000	1,300,000
Korea, Republic of	3,120,000	181,000	815,000	518,000	716,000	2,030,000
Mexico	3,050,000	202,000	910,000	357,000	31,400	1,460,000
Netherlands	35,900,000	4,340,000	12,700,000	3,740,000	2,170,000	8,740,000
Sri Lanka	1,630	--	--	--	--	--
Taiwan	23,300	--	23,300	--	--	--
Thailand	1,380,000	--	--	235,000	15,100	573,000
Turkey	--	--	--	--	--	363
United Kingdom	7,550,000	--	2,510,000	938,000	577,000	2,520,000
Vietnam	434,000	17,900	91,800	6,840	50,600	93,600
Total	64,200,000	5,710,000	21,400,000 [†]	7,390,000	4,800,000	21,300,000

[†]Revised. -- 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	April	January– April	March	April	January– April
Australia	1,610	--	871	--	--	697
Canada	243,000 ^r	3,910 ^r	89,000 ^r	63,700	4,370	134,000
China	1,210	--	1,210	--	--	--
Denmark	903	--	431	--	--	474
Mexico	306,000	20,000	123,000	80,000	20,000	122,000
United Kingdom	420	--	--	--	--	--
Total	552,000 ^r	23,900	215,000 ^r	144,000	24,400	257,000

^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)	April			January–April		
				Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)
Ore and concentrates, roasted	6,470,000	4,030,000	\$89,600	638,000	396,000	\$7,050	3,730,000	2,280,000	\$42,600
Ore and concentrates, other	34,400,000	16,400,000	440,000	2,270,000	1,080,000	23,600	10,700,000	5,060,000	112,000
Molybdenum chemicals:									
Oxides and hydroxides	4,290,000	NA	89,300	333,000	NA	5,340	1,450,000	NA	24,500
Molybdates of ammonium	1,400,000	789,000	24,200	40,000	22,500	562	339,000	191,000	5,020
Molybdates (all others)	221,000	87,700	3,060	20,000	7,920	214	62,000	24,600	608
Molybdenum orange	234,000	NA	1,350	4,250	NA	40	48,500	NA	393
Ferromolybdenum	10,400,000	6,990,000	196,000	910,000	614,000	14,200	3,340,000	2,240,000	51,700
Molybdenum powders	238,000	221,000	8,520	28,200	23,000	946	150,000	141,000	5,020
Molybdenum unwrought	595,000	593,000	19,300	112,000	112,000	3,630	223,000	223,000	6,800
Molybdenum waste and scrap	1,890,000	1,740,000	59,500	196,000	192,000	6,090	488,000	480,000	14,500
Molybdenum wire	18,400	NA	2,150	1,140	NA	90	4,430	NA	462
Molybdenum other	193,000	NA	18,300	12,900	NA	1,310	52,100	NA	4,920
Total	60,300,000	XX	951,000	4,570,000	XX	63,000	20,600,000	XX	269,000

NA Not available. XX Not applicable. -- Zero.

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

²Customs value.

Source: U.S. Census Bureau.