

Mineral Industry Surveys

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MOLYBDENUM IN SEPTEMBER 2019

Domestic production of molybdenum in concentrate in September 2019 was 3% less than the output of the previous month and 8% less than that of September 2018 (fig. 1, table 1).

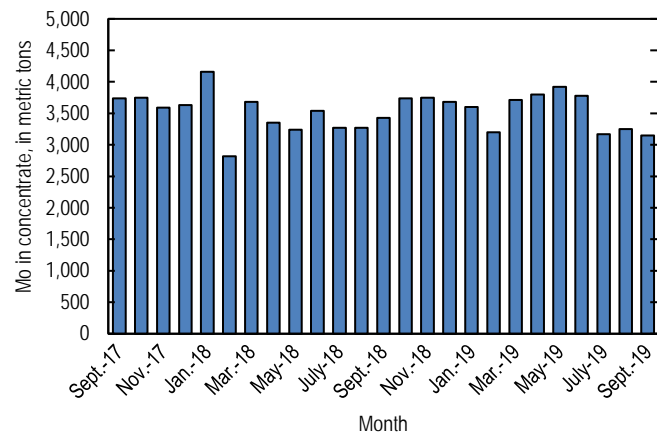


Figure 1. Monthly domestic production of molybdenum (Mo) in concentrate from September 2017 through September 2019 (may include revisions to previously published data).

According to CRU Group (2019), the September 2019 monthly average price range for U.S. ferromolybdenum (FeMo) was \$12.500 to \$13.300 per pound of molybdenum content, compared with \$12.822 to \$13.422 per pound in August 2019. FeMo monthly averages in Europe ranged from \$27.188 to \$27.788 per kilogram (\$12.332 to \$12.604 per pound) of molybdenum content in September 2019 compared with \$27.317 to \$27.933 per kilogram (\$12.391 to \$12.670 per pound) in August 2019. U.S. molybdenum oxide (MoO₃) prices

ranged from \$12.150 to \$12.500 per pound of molybdenum content in both August and September 2019 (fig. 2).

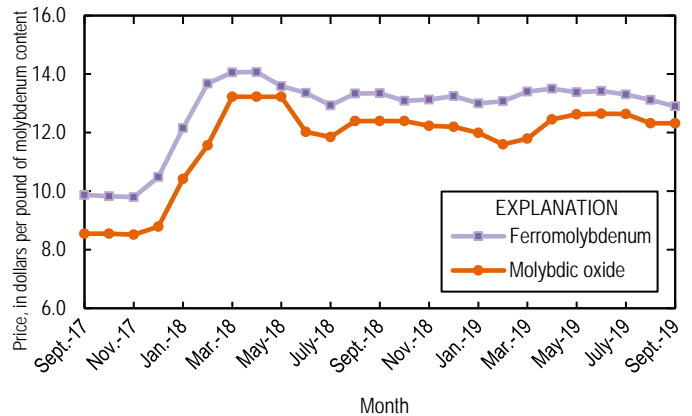


Figure 2. Average monthly prices for U.S. ferromolybdenum and molybdenic oxide from September 2017 through September 2019. Source: CRU Group.

Reference Cited

CRU Group, 2019, Molybdenum prices: CRU Group, September 30. (Accessed December 2, 2019, 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}
2018:		
January	4,160	4,180
February	2,820	2,800
March	3,680	3,690
April	3,350	3,310
May	3,240	3,240
June	3,540	3,630
July	3,270	3,280
August	3,270	3,220
September	3,430	3,310
October	3,740	3,730
November	3,750	3,730
December	3,680	3,720
January–December	41,900	41,800
2019:		
January	3,600	3,590
February	3,200	3,170
March	3,710	3,750
April	3,800	3,800
May	3,920	3,930
June	3,780	3,790
July	3,170 ^r	3,170 ^r
August	3,250 ^r	3,240 ^r
September	3,150	3,140
January–September	31,600	31,600

^rRevised.

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

²Includes data from Freeport-McMoRan Copper & Gold Inc., 2018–2019. 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	Molybdic oxides	Ferro molyb- denum ²	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2019:						
August:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	14,400	--	--	--	14,400
Stainless and heat-resisting	189,000	49,500	--	(3)	W	238,000
Full alloy	246,000	76,600	--	--	W	322,000
Tool	W	W	--	--	--	W
Total	435,000	140,000	--	(3)	W	575,000
Cast irons (gray, malleable, and ductile iron)	--	W	--	--	--	W
Superalloys	--	W	--	(3)	62,200	62,200
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	116	W	--	--	--	116
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	199,000	59,100 ^r	425	(3)	334,000	592,000 ^r
Grand total	634,000	200,000 ^r	425	(3)	405,000	1,240,000 ^r
Stocks, August 31, 2019	521,000	325,000 ^r	2,770 ^r	(6)	(6)	1,740,000 ^r
September:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	14,400	--	--	--	14,400
Stainless and heat-resisting	182,000	50,400	--	(3)	W	232,000
Full alloy	246,000	76,600	--	--	W	322,000
Tool	W	W	--	--	--	W
Total	428,000	141,000	--	(3)	W	569,000
Cast irons (gray, malleable, and ductile iron)	--	W	--	--	--	W
Superalloys	--	W	--	(3)	63,200	63,200
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	116	W	--	--	--	116
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	199,000	59,900	425	(3)	334,000	593,000
Grand total	627,000	201,000	425	(3)	406,000	1,240,000
Stocks, September 30, 2019	518,000	266,000	2,770	(6)	(6)	1,680,000

^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."

TABLE 3
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES
(including roasted concentrate), BY COUNTRY OR LOCALITY¹

(Kilograms, contained molybdenum)

Country or locality	2018			2019		
	January– December	September	January– September	August	September	January– September
Belgium	5,070,000	228,000	3,520,000	521,000	480,000	4,610,000
Brazil	27,400	--	26,600	--	1,480	15,900
Canada	1,390,000	37,600	1,070,000 ^f	74,300	120,000	810,000
Chile	1,410,000	182,000	861,000	--	--	218,000
China	1,030,000	138,000	950,000	108,000	78,100	444,000
Colombia	--	--	--	--	--	339
Germany	--	--	--	--	--	1,090
India	603,000	79,600	391,000	54,100	11,000	139,000
Israel	262	--	262	--	--	--
Japan	3,920,000	344,000	2,900,000 ^f	365,000	342,000	2,990,000
Korea, Republic of	538,000	33,400	362,000 ^f	280,000	212,000	2,150,000
Malaysia	227	--	227	--	--	--
Mexico	1,880,000	99,400	1,200,000	123,000	109,000	2,050,000
Netherlands	21,100,000	2,210,000	14,100,000	1,890,000	2,000,000	26,300,000
Russia	98,100	--	98,100	--	--	--
Sri Lanka	--	--	--	--	1,630	1,630
Sweden	123,000	--	--	--	--	--
Taiwan	--	--	--	--	--	23,300
Thailand	60,000	--	59,700 ^f	--	528,000	692,000
United Kingdom	6,710,000	880,000	5,330,000	774,000	1,040,000	6,030,000
Vietnam	848,000	14,500	705,000	60,300	21,700	283,000
Total	44,800,000	4,250,000	31,600,000	4,250,000	4,940,000	46,700,000

^fRevised. -- 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	2018			2019		
	January– December	September	January– September	August	September	January– September
Australia	2,530	889	2,530	--	--	1,610
Canada	426,000	42,100	336,000	35,500	12,900	115,000
China	--	--	--	--	--	1,210
Colombia	225	--	225	--	--	--
Denmark	837	--	837	--	--	903
Israel	249	--	--	--	--	--
Mexico	513,000	--	511,000	20,000	60,000	282,000
United Kingdom	--	--	--	--	420	420
Total	943,000	43,000	850,000	55,500	73,300	401,000

-- 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 2018			2019					
	Gross weight	Contained molybdenum	Value ² (thousands)	September			January–September		
				Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)
Ore and concentrates roasted	7,030,000	4,330,000	\$102,000	355,000	227,000	\$5,070	4,670,000	2,910,000	\$67,300
Ore and concentrates other	38,200,000	18,500,000	481,000	3,060,000	1,450,000	39,500	27,300,000	13,200,000	359,000
Molybdenum chemicals:									
Oxides and hydroxides	3,460,000	NA	69,500	308,000	NA	6,480	3,480,000	NA	73,200
Molybdates of ammonium	1,750,000	985,000	29,800	120,000	67,600	2,110	1,080,000	605,000	19,000
Molybdates (all others)	384,000	154,000	5,000	24,000	9,510	370	185,000	73,500	2,610
Molybdenum orange	683,000	NA	2,630	10,700	NA	113	192,000	NA	1,150
Ferromolybdenum	11,900,000	8,010,000	223,000	928,000	615,000	18,000	8,630,000	5,780,000	166,000
Molybdenum powders	410,000	386,000	15,000	24,100	19,600	880	184,000	171,000	7,230
Molybdenum unwrought	722,000	721,000	21,000	61,100	60,600	2,020	473,000	471,000	15,300
Molybdenum waste and scrap	1,700,000	1,580,000	48,900	133,000	122,000	4,380	1,510,000	1,390,000	47,500
Molybdenum wire	31,100	NA	3,030	1,940	NA	139	13,000	NA	1,490
Molybdenum other	177,000	NA	17,500	10,000	NA	1,280	148,000	NA	13,900
Total	66,400,000	XX	1,020,000	5,040,000	XX	80,400	47,900,000	XX	773,000

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.