

Mineral Industry Surveys

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MOLYBDENUM IN DECEMBER 2018

Domestic production of molybdenum in concentrate in December 2018 was slightly less than the output of the previous month and slightly more than that of December 2017 (fig. 1, table 1).

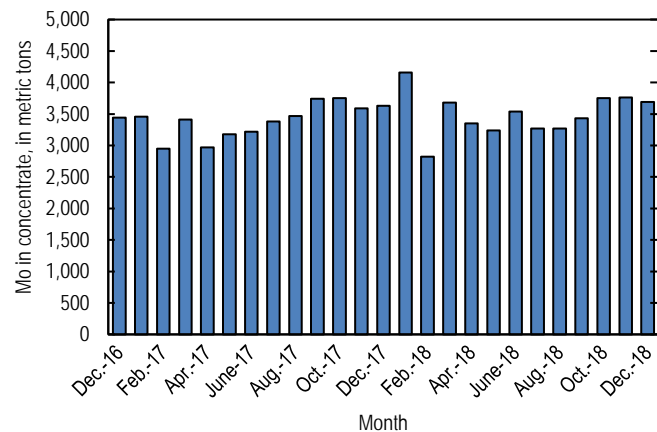


Figure 1. Monthly domestic production of molybdenum (Mo) in concentrate from December 2016 through December 2018 (may include revisions to previously published data).

According to CRU Group (2019), the December 2018 monthly average price range for U.S. ferromolybdenum (FeMo) was \$13.000 to \$13.500 per pound of molybdenum content, compared with \$12.950 to \$13.300 per pound in November 2018. FeMo monthly averages in Europe ranged from \$29.038 to \$29.538 per kilogram of molybdenum content in December 2018 compared with \$28.667 to \$29.278 per kilogram in November 2018. U.S. molybdenum oxide (MoO₃) prices ranged

from \$12.000 to \$12.400 per pound in December 2018 compared with \$12.128 to \$12.328 per pound in November 2018 (fig. 2).

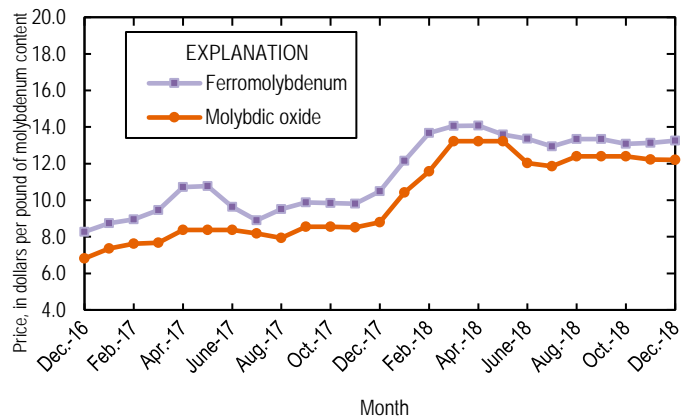


Figure 2. Average monthly prices for U.S. ferromolybdenum and molybdcic oxide from December 2016 through December 2018. Source: CRU Group.

Reference Cited

CRU Group, 2019, Molybdenum prices: CRU Group, February 1. (Accessed March 18, 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}
2017:		
January	3,460	3,410
February	2,950	2,920
March	3,410	3,450
April	2,970	2,930
May	3,180	3,250
June	3,220	3,220
July	3,380	3,320
August	3,470	3,490
September	3,740	3,780
October	3,750	3,710
November	3,590	3,620
December	3,630	3,620
January–December	40,700	40,700
2018:		
January	4,160 ^r	4,180 ^r
February	2,820 ^r	2,800 ^r
March	3,680 ^r	3,690 ^r
April	3,350 ^r	3,310 ^r
May	3,240 ^r	3,240 ^r
June	3,540 ^r	3,630 ^r
July	3,270 ^r	3,280 ^r
August	3,270 ^r	3,220 ^r
September	3,430 ^r	3,310 ^r
October	3,750 ^r	3,740 ^r
November	3,760 ^r	3,740 ^r
December	3,690	3,730
January–November	41,900	41,900

^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., 2017–2018. 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
November 2018:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	14,400	--	--	--	14,400
Stainless and heat-resisting	188,000	47,800	--	(3)	W	236,000
Full alloy	246,000	76,900	--	--	W	323,000
Tool	W	W	--	--	--	W
Total	434,000	139,000	--	(3)	W	573,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	--	W
Superalloys	W	W	--	(3)	72,300	72,300
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	285	W	--	--	--	285
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	214,000	58,500	425	(3)	343,000	616,000
Grand total	648,000	198,000	425	(3)	424,000	1,270,000
Stocks, November 30, 2018	556,000	294,000	3,430	(6)	(6)	1,740,000
December 2018:						
Steel:						
Carbon	W	W	--	--	--	W
High-strength low-alloy	W	14,400	--	--	--	14,400
Stainless and heat-resisting	176,000	47,800	--	(3)	W	224,000
Full alloy	246,000	85,300	--	--	W	331,000
Tool	W	W	--	--	--	W
Total	422,000	147,000	--	(3)	W	570,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	--	W
Superalloys	W	W	--	(3)	68,500	68,500
Alloys: (other than steels, cast irons, and superalloys)						
Other alloys	131	W	--	--	--	131
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	214,000	59,500	425	(3)	334,000	608,000
Grand total	636,000	207,000	425	(3)	412,000	1,260,000
Stocks, December 31, 2018	548,000	315,000	3,430	(6)	(6)	1,750,000

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	2017		2018		
	January- December	December	November	December	January- December
Belgium	5,350,000	385,000	305,000	442,000	5,030,000
Brazil	39,400	7,580	--	--	27,400
Canada	1,570,000	96,000	92,400	94,400	1,370,000
Chile	1,550,000	191,000	221,000	268,000	1,420,000
China	4,950,000	202,000	18,000	21,700	1,030,000
Estonia	19,500	19,500	--	--	--
Germany	166	--	--	--	--
India	199,000	69,300	45,100	93,300	603,000
Israel	--	--	--	--	262
Japan	2,860,000	301,000	312,000	336,000	3,930,000
Korea, Republic of	876,000	34,200	34,100	71,800	546,000
Malaysia	--	--	--	--	227
Mexico	704,000	127,000	339,000	83,100	1,880,000
Netherlands	14,000,000	735,000	1,990,000	2,610,000	21,000,000
Russia	--	--	--	--	98,100
Sweden	1,720	--	60,000	--	123,000
Taiwan	10,300	--	--	--	--
Thailand	74,500	--	--	280	37,400
Turkey	1,060	--	--	--	--
United Kingdom	7,220,000	689,000	414,000	452,000	6,710,000
Vietnam	393,000	84,000	8,520	68,600	848,000
Total	39,800,000	2,940,000	3,840,000	4,540,000	44,700,000

-- 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	2017		2018		
	January- December	December	November	December	January- December
Australia	1,320	--	--	--	2,530
Canada	586,000	24,700 ^r	3,480	59,100	426,000
Colombia	200	--	--	--	225
Denmark	710	245 ^r	--	--	837
Israel	--	--	--	--	249
Mexico	39,500	15,000 ^r	2,000	--	513,000
Total	628,000	40,000 ^r	5,480	59,100	943,000

^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	2017			2018					
	January–December			December			January - December		
	Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)
Ore and concentrates roasted	11,100,000	6,630,000	\$116,000	413,000	253,000	\$6,250	7,030,000	4,330,000	\$102,000
Ore and concentrates other	36,000,000	17,600,000	297,000	4,090,000	1,990,000	52,800	38,200,000	18,600,000	481,000
Molybdenum chemicals:									
Oxides and hydroxides	2,920,000	NA	42,700	310,000	NA	6,490	3,460,000	NA	69,500
Molybdates of ammonium	2,530,000	1,430,000	32,700	147,000	83,000	2,330	1,750,000	985,000	29,800
Molybdates (all others)	302,000	119,000	2,980	31,200	12,400	378	384,000	154,000	5,000
Molybdenum orange	840,000	NA	3,370	10,500	NA	86	683,000	NA	2,630
Ferromolybdenum	7,590,000	5,130,000	112,000	947,000	636,000	18,500	11,900,000	7,990,000	223,000
Molybdenum powders	368,000	350,000	10,400	34,000	29,500	1,270	410,000	386,000	15,000
Molybdenum unwrought	987,000	985,000	20,700	95,800	95,500	3,100	722,000	721,000	21,000
Molybdenum waste and scrap	1,150,000	1,120,000	23,700	71,500	62,000	1,960	1,700,000	1,580,000	48,900
Molybdenum wire	25,600	NA	2,600	2,800	NA	331	31,100	NA	3,030
Molybdenum other	233,000	NA	15,300	15,000	NA	1,290	179,000	NA	18,500
Total	64,000,000	XX	680,000	6,170,000	XX	94,700	66,400,000	XX	1,020,000

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.