

# Mineral Industry Surveys

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**For information, contact:**

Désirée E. Polyak, Molybdenum Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4909, Fax: (703) 648-7757  
E-mail: dpolyak@usgs.gov

Raymond I. Eldridge III (Data)  
Telephone: (703) 648-7982  
Fax: (703) 648-7975  
E-mail: reldridge@usgs.gov

**Internet:** <http://minerals.usgs.gov/minerals>

## MOLYBDENUM IN JANUARY 2012

Domestic production of molybdenum (Mo) in concentrate in January 2012 was 18% more than the output of the previous month and was 11% less than that of January 2011. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 8,900 metric tons (t) at the beginning of 2012 and about 9,440 t at the end of January.

According to Ryan's Notes, the January 2012 monthly average price range for U.S. ferromolybdenum (FeMo) was \$16.044 to \$16.300 per pound of molybdenum content, compared with \$15.617 to \$15.989 per pound in December 2011. European FeMo monthly averages ranged from \$33.317 to \$33.644 per kilogram of molybdenum content in January compared with \$32.050 to \$32.417 per kilogram in December 2011. In January, worldwide molybdenum oxide (MoO<sub>3</sub>) prices ranged from \$13.717 to \$13.933 per pound compared with \$13.311 to \$13.522 per pound in December 2011.

Molybdenum production at Kennecott Utah Copper Corp.'s Bingham Canyon Mine in Utah was 45% less in the fourth

quarter of 2011 (2,300 t of molybdenum), than the 4,200 t of molybdenum produced in the same quarter of 2010. Because production in the previous three quarters of 2011 was substantially higher than in 2010, 2011 molybdenum production was 5% more; 13,600 t molybdenum compared with 12,900 t molybdenum produced in 2010 (Ryan's Notes, 2012).

Included in this Mineral Industry Surveys are U.S. production and shipments of molybdenum concentrates and materials, U.S. consumption by end use, and consumer stocks of molybdenum material in December 2011 and January 2012. Export data for November and December 2011, and January 2012 and import data for December 2011 and January 2012 are also included.

### Reference Cited

Ryan's Notes, 2012, Ferroalloy notes: Ryan's Notes, v. 18, no. 4, January 23, p. 3.

TABLE 1  
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS<sup>1</sup>

(Metric tons, contained molybdenum)

	2011 <sup>P</sup>			2012 January
	January– December	January	December	
Production	62,700	5,810 <sup>r</sup>	4,360 <sup>r</sup>	5,150
Shipments: <sup>2</sup>				
Domestic	18,300	1,020 <sup>r</sup>	1,280	1,480
Export	W	W	W	W

<sup>P</sup>Preliminary. <sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data.

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>As reported by producers.

TABLE 2  
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM  
PRODUCTS<sup>1</sup>

(Metric tons, contained molybdenum)

	2011 <sup>P</sup>			2012 January
	January– December	January	December	
Gross production	W	W	W	6,350
Internal consumption <sup>2</sup>	W	W	W	W
Gross shipments	W	5,120 <sup>r</sup>	4,120	4,100

<sup>P</sup>Preliminary. <sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data.

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 3  
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS<sup>1</sup>

(Kilograms, contained molybdenum)

End use	Molybdc oxides	Ferro molyb- denum <sup>2</sup>	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2011:						
December:						
Steel:						
Carbon	34,100	W	--	--	W	34,100
High-strength low-alloy	54,800	8,230	--	--	--	63,000
Stainless and heat-resisting	166,000	59,400	--	(3)	6,510	232,000
Full alloy	263,000	309,000	--	--	W	572,000
Tool	W	W	--	--	--	W
Total	518,000	377,000	--	--	6,510	901,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	25,900	W	--	(3)	90,000	116,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	55	W	--	--	--	55
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)	--	--	--
Catalysts	77,300	--	(3)	--	W	77,300
Other chemicals	--	--	--	--	--	--
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	51,800	63,300	--	--	321,000	436,000
Grand total	673,000	440,000	--	--	428,000	1,540,000
Stocks, December 31, 2011	408,000	311,000	2,160	(6)	(6)	1,620,000
2012:						
January:						
Steel:						
Carbon	32,300	W	--	--	W	32,300
High-strength low-alloy	67,500	7,320	--	--	--	74,800
Stainless and heat-resisting	167,000	59,900	--	(3)	6,510	233,000
Full alloy	271,000	347,000	--	--	W	618,000
Tool	W	W	--	--	--	W
Total	537,000	414,000	--	--	6,510	958,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	25,900	W	--	(3)	91,500	117,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	88	W	--	--	--	88
Mill products made from metal powder <sup>4</sup>	W	--	--	--	W	W
Cemented carbides and related products <sup>5</sup>	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	--
Catalysts	77,300	--	(3)	--	W	77,300
Other chemicals	--	--	--	--	--	--
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	54,300	60,900	--	--	370,000	486,000
Grand total	695,000	475,000	--	--	479,000	1,650,000
Stocks, January 31, 2012	408,000	323,000	2,160	(6)	(6)	1,630,000

See footnotes at end of table.

TABLE 3—Continued  
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS<sup>1</sup>

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.

<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, metalworking machinery.

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

TABLE 4A  
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES  
(including roasted concentrate), BY COUNTRY<sup>1</sup>

(Kilograms, contained molybdenum)

Country	2010		2011		
	January– December	December	November	December	January– December
Argentina	17,200	--	--	--	--
Australia	--	--	--	--	800
Austria	440,000	168,000	--	10,900	278,000
Azerbaijan	--	--	--	--	9,370
Belgium	9,610,000	920,000	606,000	465,000	6,620,000
Brazil	310,000	78,100	6,550	24,600	374,000
Canada	1,150,000	94,300	60,600	147,000	1,400,000
Chile	--	--	--	--	3,220,000
China	5,280,000	402,000	178,000	169,000	2,570,000
Czech Republic	--	--	--	--	31
El Salvador	--	--	--	--	881
Finland	--	--	34,700	--	283,000
France	16,600	12,100	--	--	121,000
Germany	143,000	--	--	12,300	133,000
Hong Kong	1,140	1,140	--	--	--
India	924,000	140,000	62,700	48,000	901,000
Italy	13,200	--	--	--	37,300
Japan	2,630,000	261,000	302,000	294,000	4,150,000
Korea, Republic of	805,000	54,900	55,400	70,300	1,460,000
Luxembourg	11,500	--	--	--	24,800
Mexico	5,040,000	510,000	661,000	577,000	7,270,000
Netherlands	8,210,000	453,000	1,210,000	750,000	11,500,000
New Caledonia	1,050	--	--	--	--
Panama	2,360	--	--	--	--
Poland	194	--	--	--	--
Slovenia	24,600	--	--	--	--
South Africa	520,000	--	--	--	--
Spain	24,600	--	--	--	330
Sweden	12,100	11,900	--	--	145,000
Taiwan	67,900	33,800	--	--	40,500
Thailand	19,200	--	--	--	7,260
United Arab Emirates	154,000	24,800	--	--	12,600
United Kingdom	5,000,000	668,000	431,000	505,000	6,210,000
Venezuela	940	--	--	--	838
Vietnam	149,000	80,500	4,550	16,800	301,000
Total	40,600,000	3,910,000	3,620,000	3,090,000	47,100,000

-- 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 4B  
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES  
(including roasted concentrate), BY COUNTRY<sup>1</sup>

(Kilograms, contained molybdenum)

Country	2011			2012
	January– December	January	December	January
Australia	800	800	--	--
Austria	278,000	37,300	10,900	11,200
Azerbaijan	9,370	--	--	--
Belgium	6,620,000	1,160,000	465,000	504,000
Brazil	374,000	20,000	24,600	--
Canada	1,400,000	147,000	147,000	141,000
Chile	3,220,000	--	--	--
China	2,570,000	352,000	169,000	311,000
Czech Republic	31	--	--	--
El Salvador	881	--	--	--
Finland	283,000	48,000	--	--
France	121,000	12,400	--	--
Germany	133,000	12,300	12,300	98
India	901,000	105,000	48,000	25,900
Italy	37,300	--	--	--
Japan	4,150,000	333,000	294,000	197,000
Korea, Republic of	1,460,000	188,000	70,300	26,100
Luxembourg	24,800	--	--	--
Mexico	7,270,000	695,000	577,000	686,000
Netherlands	11,500,000	597,000	750,000	768,000
Peru	--	--	--	181
Spain	330	--	--	--
Sweden	145,000	12,000	--	--
Taiwan	40,500	17,600	--	1,000
Thailand	7,260	--	--	--
United Arab Emirates	12,600	12,600	--	--
United Kingdom	6,210,000	576,000	505,000	411,000
Venezuela	838	--	--	--
Vietnam	301,000	14,900	16,800	1,010
Total	47,100,000	4,340,000	3,090,000	3,080,000

-- 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 5A  
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY<sup>1</sup>

(Kilograms, contained molybdenum)

Country	2010		2011		
	January– December	December	November	December	January– December
Argentina	13,300	--	--	--	--
Australia	628	--	256	--	497
Canada	677,000	50,400	61,000	44,300	871,000
Colombia	1,170	--	--	119	119
Denmark	372	--	--	--	501
India	36,600	--	--	--	--
Japan	12,700	12,700	--	--	--
Korea, Republic of	11,200	--	--	--	--
Mexico	12,900	--	3,030	--	47,800
Netherlands	196,000	40,200	13,700	24,100	293,000
Philippines	939	--	--	--	--
Singapore	14,300	--	--	--	--
Turkey	103	--	--	--	116,000
Total	978,000	103,000	78,000	68,500	1,330,000

-- 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 5B  
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY<sup>1</sup>

(Kilograms, contained molybdenum)

Country	2011			2012
	January– December	January	December	January
Australia	497	--	--	223
Canada	871,000	70,200	44,300	57,200
Colombia	119	--	119	--
Denmark	501	--	--	--
Mexico	47,800	6,180	--	318
Netherlands	293,000	37,600	24,100	12,000
Turkey	116,000	11,800	--	--
Total	1,330,000	126,000	68,500	69,800

-- 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 6A  
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS<sup>1</sup>

(Kilograms, unless otherwise specified)

Material	January–December 2010			2011					
	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	December			January–December		
				Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)
Ore and concentrates roasted	10,300,000	6,340,000	\$112,000	813,000	498,000	\$8,210	11,700,000	7,080,000	\$136,000
Ore and concentrates other	13,500,000	6,610,000	202,000	1,930,000	886,000	28,600	18,700,000	7,570,000	323,000
Molybdenum chemicals:									
Oxides and hydroxides	508,000	NA	12,200	20,000	NA	446	146,000	NA	3,820
Molybdates of ammonium	1,590,000	905,000	28,600	60,000	33,800	1,190	982,000	578,000	21,400
Molybdates (all others)	62,600	23,300	1,510	--	--	--	22,300	9,840	1,120
Molybdenum orange	349,000	NA	2,730	51,000	NA	339	328,000	NA	2,790
Ferromolybdenum	5,330,000	3,560,000	130,000	547,000	365,000	12,100	4,800,000	3,210,000	119,000
Molybdenum powders	232,000	221,000	10,100	12,300	11,900	473	281,000	264,000	13,600
Molybdenum unwrought	307,000	301,000	10,200	40,200	40,100	1,230	566,000	545,000	20,800
Molybdenum waste and scrap	703,000	682,000	26,900	73,600	66,000	2,260	748,000	700,000	27,400
Molybdenum wire	19,300	NA	3,030	2,070	NA	224	21,300	NA	3,230
Molybdenum other	582,000	NA	37,500	100,000	NA	5,770	903,000	NA	63,200
Total	33,500,000	XX	576,000	3,650,000	XX	60,800	39,200,000	XX	736,000

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

<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.

TABLE 6B  
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS<sup>1</sup>

(Kilograms, unless otherwise specified)

Material	January–December 2011			January 2012		
	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)
Ore and concentrates roasted	11,700,000	7,080,000	\$136,000	991,000	604,000	\$11,100
Ore and concentrates other	18,700,000	7,570,000	323,000	1,290,000	639,000	18,800
Molybdenum chemicals:						
Oxides and hydroxides	146,000	NA	3,820	--	--	--
Molybdates of ammonium	982,000	578,000	21,400	100	80	6
Molybdates (all others)	22,300	9,840	1,120	--	--	--
Molybdenum orange	328,000	NA	2,790	56,600	NA	438
Ferromolybdenum	4,800,000	3,210,000	119,000	487,000	327,000	10,600
Molybdenum powders	281,000	264,000	13,600	55,900	47,300	2,290
Molybdenum unwrought	566,000	545,000	20,800	74,500	71,400	2,380
Molybdenum waste and scrap	748,000	700,000	27,400	116,000	109,000	4,080
Molybdenum wire	21,300	NA	3,230	1,360	NA	212
Molybdenum other	903,000	NA	63,200	38,700	NA	2,830
Total	39,200,000	XX	736,000	3,110,000	XX	52,800

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

<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.