

# Mineral Industry Surveys

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## MOLYBDENUM IN MARCH 2012

Domestic production of molybdenum (Mo) in concentrate in March 2012 was 6% less than the output of the previous month and 18% less than that of March 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 8,830 t at the end of March.

According to Ryan's Notes, the March 2012 monthly average price range for U.S. ferromolybdenum (FeMo) was \$15.850 to \$16.156 per pound of molybdenum content, compared with \$16.150 to \$16.538 per pound in February 2012. European FeMo monthly averages ranged from \$34.367 to \$34.739 per kilogram of molybdenum content in March compared with \$35.300 to \$35.613 per kilogram in February. In March, worldwide molybdenum oxide (MoO<sub>3</sub>) prices ranged from

14.089 to \$14.311 per pound compared with \$14.531 to \$14.800 per pound in February.

In 2011, China's MoO<sub>3</sub> imports decreased by 41% to 14,206 t compared with 24,010 t in 2010. Imports of molybdenum disulfide and FeMo decreased by 48% to 15,655 t compared with 30,000 t 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 February and March 2012. Export data for February and March and import data for March 2012 are also included.

### Reference Cited

Ryan's Notes, 2012, Ferroalloy notes: Ryan's Notes, v. 18, no. 7, February 13, p. 2.

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

(Metric tons, contained molybdenum)

	2011 <sup>P</sup>		2012		
	January– December	January– March	February	March	January– March
Production	62,700	16,600	5,090	4,770	15,000
Shipments: <sup>2</sup>					
Domestic	18,300	3,560 <sup>r</sup>	1,610 <sup>r</sup>	1,530	4,630
Export	W	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– December	January– March	February	March	January– March
Gross production	W	W	W	W	20,300
Internal consumption <sup>2</sup>	W	W	W	W	W
Gross shipments	W	15,700 <sup>r</sup>	4,080	3,780	12,000

<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	Molybdic oxides	Ferro molyb- denum <sup>2</sup>	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2012:						
February:						
Steel:						
Carbon	34,200	W	--	--	W	34,200
High-strength low-alloy	67,500	7,320	--	--	--	74,800
Stainless and heat-resisting	162,000	59,300	--	(3)	6,510	228,000
Full alloy	255,000	342,000	--	--	W	597,000
Tool	W	W	--	--	--	W
Total	518,000	409,000	--	--	6,510	933,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	25,400	W	--	(3)	96,200	122,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	191	W	--	--	--	191
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	54,400	61,000	--	--	362,000	478,000
Grand total	675,000	470,000	--	--	476,000	1,620,000
Stocks, February 29, 2012	404,000	324,000	2,160	(6)	(6)	1,660,000
March:						
Steel:						
Carbon	33,800	W	--	--	W	33,800
High-strength low-alloy	62,900	7,320	--	--	--	70,300
Stainless and heat-resisting	169,000	61,100	--	(3)	6,510	236,000
Full alloy	255,000	342,000	--	--	W	597,000
Tool	W	W	--	--	--	W
Total	520,000	411,000	--	--	6,510	937,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	25,400	W	--	(3)	96,200	122,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	67	W	--	--	--	67
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	54,400	61,000	--	--	362,000	477,000
Grand total	677,000	472,000	--	--	476,000	1,620,000
Stocks, March 31, 2012	408,000	322,000	2,160	(6)	(6)	1,660,000

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

(Kilograms, contained molybdenum)

Country	2011			2012		
	January– December	March	January– March	February	March	January– March
Australia	800	--	800	--	--	--
Austria	278,000	16,100	161,000	11,200	11,200	33,600
Azerbaijan	9,370	--	--	--	--	--
Belgium	6,620,000	744,000	2,760,000	669,000	779,000	1,950,000
Brazil	374,000	35,500	88,300	6,760	12,100	18,900
Canada	1,400,000	140,000	409,000	188,000	288,000	617,000
Chile	3,220,000	--	--	--	--	--
China	2,570,000	143,000	833,000	218,000	272,000	800,000
Czech Republic	31	--	--	--	--	--
El Salvador	881	--	881	--	--	--
Finland	283,000	12,000	83,700	--	--	--
France	121,000	23,900	48,200	--	--	--
Germany	133,000	6,130	30,200	12,100	12,100	24,300
India	901,000	100,000	380,000	70,300	49,000	145,000
Italy	37,300	11,900	23,600	--	--	--
Japan	4,150,000	219,000	833,000	184,000	313,000	694,000
Korea, Republic of	1,460,000	142,000	492,000	47,800	38,600	113,000
Luxembourg	24,800	12,300	24,800	--	--	--
Mexico	7,270,000	558,000	1,800,000	764,000	640,000	2,090,000
Netherlands	11,500,000	986,000	2,090,000	887,000	1,350,000	3,000,000
Peru	--	--	--	362	--	543
Philippines	--	--	--	--	8,170	8,170
Spain	330	--	--	--	--	--
Sweden	145,000	23,300	54,300	--	--	--
Taiwan	40,500	--	17,600	--	--	1,000
Thailand	7,260	--	--	15,400	--	15,400
United Arab Emirates	12,600	--	12,600	--	--	--
United Kingdom	6,210,000	734,000	1,980,000	269,000	511,000	1,210,000
Venezuela	838	--	--	--	--	--
Vietnam	301,000	5,030	20,000	887	--	1,900
Total	47,100,000	3,910,000	12,200,000	3,340,000	4,280,000	10,700,000

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

(Kilograms, contained molybdenum)

Country	2011			2012		
	January– December	March	January– March	February	March	January– March
Australia	497	--	--	--	--	223
Canada	871,000	89,700	200,000	68,200	96,600	222,000
Colombia	119	--	--	--	--	--
Denmark	501	--	--	--	150	150
Mexico	47,800	--	6,660	13,200	6,680	20,200
Netherlands	293,000	38,400	126,000	--	12,000	24,000
Turkey	116,000	11,400	35,900	--	--	--
Total	1,330,000	139,000	369,000	81,400	115,000	267,000

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

(Kilograms, unless otherwise specified)

Material	January–December 2011			2012					
	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	March			January–March		
				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	1,040,000	635,000	\$11,700	3,340,000	2,030,000	\$39,400
Ore and concentrates other	18,700,000	7,570,000	323,000	1,300,000	650,000	21,800	3,170,000	1,580,000	52,800
Molybdenum chemicals:									
Oxides and hydroxides	146,000	NA	3,820	25,500	NA	605	53,500	--	1,180
Molybdates of ammonium	982,000	578,000	21,400	99,900	56,300	2,040	181,000	102,000	3,570
Molybdates (all others)	22,300	9,840	1,120	15,700	6,010	157	15,700	6,010	157
Molybdenum orange	328,000	NA	2,790	85,900	NA	556	157,000	NA	1,140
Ferromolybdenum	4,800,000	3,210,000	119,000	730,000	474,000	16,100	2,020,000	1,340,000	44,600
Molybdenum powders	281,000	264,000	13,600	59,000	50,600	2,370	146,000	125,000	5,900
Molybdenum unwrought	566,000	545,000	20,800	45,400	44,600	811	167,000	162,000	4,680
Molybdenum waste and scrap	748,000	700,000	27,400	115,000	100,000	3,590	297,000	268,000	9,630
Molybdenum wire	21,300	NA	3,230	1,120	NA	173	3,350	NA	538
Molybdenum other	903,000	NA	63,200	58,000	NA	3,470	124,000	NA	8,640
Total	39,200,000	XX	736,000	3,580,000	XX	63,500	9,670,000	XX	172,000

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.