

# Mineral Industry Surveys

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## MOLYBDENUM IN APRIL 2012

Domestic production of molybdenum (Mo) in concentrate in April 2012 was slightly more than the output of the previous month and 22% less than that of April 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 8,340 t at the end of April.

According to Ryan's Notes, the April monthly average price range for U.S. ferromolybdenum (FeMo) was \$15.881 to \$16.200 per pound of molybdenum content, compared with \$15.850 to \$16.156 per pound in March. European FeMo monthly averages ranged from \$34.100 to \$34.488 per kilogram of molybdenum content in April compared with \$34.367 to \$34.739 per kilogram in March. In April, worldwide molybdenum oxide (MoO<sub>3</sub>) prices ranged from \$14.088 to \$14.288 per pound compared with \$14.089 to \$14.311 per pound in March.

Corporación Nacional del Cobre de Chile (Codelco) announced that its molybdenum production increased by 4.5% in 2011 to 23,000 t of molybdenum compared with 22,000 t of molybdenum produced in 2010 (TEX Report Ltd., 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 March and April 2012. Export data for March and April 2012 and import data for April 2012 are also included.

### Reference Cited

TEX Report Ltd., 2012, Codelco's molybdenum 2011 output up YoY: TEX Report Ltd., April 3. (Accessed May 9, 2012, at <http://www.texreport.co.jp/xenglish/eng-genryou/201203/201203291512Thu-4.html>.)

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

(Metric tons, contained molybdenum)

	2011 <sup>P</sup>		2012		
	January– December	January– April	March	April	January– April
Production	62,700	22,900	4,750 <sup>r</sup>	4,840	19,800
Shipments: <sup>2</sup>					
Domestic	18,300	5,060 <sup>r</sup>	1,530 <sup>r</sup>	1,500	6,130
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– April	March	April	January– April
Gross production	W	W	W	W	W
Internal consumption <sup>2</sup>	W	W	W	W	W
Gross shipments	W	19,900 <sup>r</sup>	3,780	3,790	15,700

<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 molybdc 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 molybdenum <sup>2</sup>	Ammonium and sodium molybdate	Molybdenum scrap	Other	Total
2012:						
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	250,000 <sup>r</sup>	319,000 <sup>r</sup>	--	--	W	569,000 <sup>r</sup>
Tool	W	W	--	--	--	W
Total	515,000 <sup>r</sup>	387,000 <sup>r</sup>	--	--	6,510	909,000 <sup>r</sup>
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	29,300 <sup>r</sup>	W	--	(3)	96,200	126,000 <sup>r</sup>
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
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	51,900 <sup>r</sup>	64,200 <sup>r</sup>	--	--	354,000	470,000 <sup>r</sup>
Grand total	674,000 <sup>r</sup>	452,000 <sup>r</sup>	--	--	467,000 <sup>r</sup>	1,590,000 <sup>r</sup>
Stocks, March 31, 2012	451,000 <sup>r</sup>	318,000 <sup>r</sup>	2,160	(6)	(6)	1,690,000 <sup>r</sup>
April:						
Steel:						
Carbon	34,900	W	--	--	W	34,900
High-strength low-alloy	52,900	7,680	--	--	--	60,600
Stainless and heat-resisting	164,000	59,600	--	(3)	6,510	230,000
Full alloy	250,000	316,000	--	--	W	566,000
Tool	W	W	--	--	--	W
Total	502,000	384,000	--	--	6,510	892,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(7)	(7)	--	(7)	96,700	96,700
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	419	W	--	--	--	419
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	51,900	55,400	--	--	271,000	378,000
Grand total	631,000	439,000	--	--	385,000	1,460,000
Stocks, April 30, 2012	421,000	314,000	2,160	(6)	(6)	1,640,000

See footnote at end of table.

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

<sup>1</sup>Revised. 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."

<sup>7</sup>Withheld to avoid disclosing company proprietary data.

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	April	January– April	March	April	January– April
Australia	800	--	800	--	--	--
Austria	278,000	47,900	209,000	11,200	11,200	44,800
Azerbaijan	9,370	--	--	--	--	--
Belgium	6,620,000	830,000	3,590,000	779,000	652,000	2,600,000
Brazil	374,000	44,400	133,000	12,100	69,500	88,400
Canada	1,400,000	208,000	617,000	288,000	154,000	771,000
Chile	3,220,000	499,000	499,000	--	--	--
China	2,570,000	130,000	963,000	272,000	77,800	878,000
Czech Republic	31	--	--	--	--	--
El Salvador	881	--	881	--	--	--
Finland	283,000	11,800	95,500	--	--	--
France	121,000	11,900	60,100	--	--	--
Germany	133,000	49,900	80,100	12,100	--	24,300
Hungary	--	--	--	--	997	997
India	901,000	101,000	481,000	49,000	62,800	208,000
Italy	37,300	1,910	25,500	--	--	--
Japan	4,150,000	336,000	1,170,000	313,000	302,000	996,000
Korea, Republic of	1,460,000	171,000	663,000	38,600	13,400	126,000
Luxembourg	24,800	--	24,800	--	--	--
Mexico	7,270,000	648,000	2,450,000	640,000	650,000	2,740,000
Netherlands	11,500,000	959,000	3,050,000	1,350,000	1,430,000	4,430,000
Peru	--	--	--	--	--	543
Philippines	--	--	--	8,170	--	8,170
South Africa	--	--	--	--	180,000	180,000
Spain	330	--	--	--	--	--
Sweden	145,000	7,600	61,900	--	--	--
Taiwan	40,500	22,800	40,500	--	--	1,000
Thailand	7,260	7,260	7,260	--	--	15,400
United Arab Emirates	12,600	--	12,600	--	--	--
United Kingdom	6,210,000	827,000	2,810,000	511,000	490,000	1,700,000
Venezuela	838	--	--	--	--	--
Vietnam	301,000	878	20,900	--	102	2,000
Total	47,100,000	4,920,000	17,100,000	4,280,000	4,100,000	14,800,000

-- 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	April	January– April	March	April	January– April
Australia	497	--	--	--	--	223
Canada	871,000	93,600	294,000	96,600	51,100	273,000
Colombia	119	--	--	--	--	--
Denmark	501	--	--	150	--	150
Mexico	47,800	952	7,610	6,680	318	20,500
Netherlands	293,000	25,700	152,000	12,000	13,700	37,700
Turkey	116,000	13,200	49,100	--	--	--
Total	1,330,000	133,000	502,000	115,000	65,100	332,000

-- 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)	April			January–April		
				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	604,000	364,000	\$3,930	3,940,000	2,400,000	\$43,300
Ore and concentrates other	18,700,000	7,570,000	323,000	623,000	314,000	13,800	3,790,000	1,890,000	66,600
Molybdenum chemicals:									
Oxides and hydroxides	146,000	NA	3,820	--	--	--	53,500	NA	1,180
Molybdates of ammonium	982,000	578,000	21,400	40,200	22,700	814	222,000	125,000	4,390
Molybdates (all others)	22,300	9,840	1,120	--	--	--	15,700	6,010	157
Molybdenum orange	328,000	NA	2,790	29,100	NA	227	187,000	NA	1,360
Ferromolybdenum	4,800,000	3,210,000	119,000	321,000	217,000	7,660	2,340,000	1,550,000	52,200
Molybdenum powders	281,000	264,000	13,600	18,200	16,700	857	164,000	142,000	6,750
Molybdenum unwrought	566,000	545,000	20,800	141,000	133,000	3,860	308,000	296,000	8,540
Molybdenum waste and scrap	748,000	700,000	27,400	79,100	79,000	2,710	377,000	347,000	12,300
Molybdenum wire	21,300	NA	3,230	1,590	NA	226	4,940	NA	764
Molybdenum other	903,000	NA	63,200	55,300	NA	3,010	180,000	NA	11,600
Total	39,200,000	XX	736,000	1,910,000	XX	37,000	11,600,000	XX	209,000

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.