

# Mineral Industry Surveys

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## MOLYBDENUM IN AUGUST 2013

Domestic production of molybdenum (Mo) in concentrate in August 2013 was about the same as the output of the previous month and 4% more than that of August 2012. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 8,300 metric tons (t) at the beginning of 2013 and about 10,100 t at the end of August.

According to Ryan's Notes, the August monthly average price range for U.S. ferromolybdenum (FeMo) was from \$11.200 to \$11.400 per pound of molybdenum content, compared with \$11.456 to \$11.711 in July. European FeMo monthly averages ranged from \$23.522 to \$23.822 per kilogram (kg) of molybdenum content in August compared with \$23.828 to \$24.233 per kg in July. In August, worldwide molybdenum oxide (MoO<sub>3</sub>) prices ranged from \$9.278 to \$9.422 per pound compared with \$9.511 to \$9.717 per pound in July.

World consumption of molybdenum in the first quarter of 2013 was 55,600 t of Mo, compared with 58,700 t of Mo in the first quarter of 2012, according to statistics from the International Molybdenum Association (2013). China was the

leading consuming country, using 17,500 t of Mo in the first quarter of 2013, 18 % less than the 21,400 t of Mo consumed in the fourth quarter of 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 July and August 2013. Export data for July and August 2013 and import data for August 2013 are also included.

### Reference Cited

International Molybdenum Association, 2013, Global molybdenum production and use near equilibrium: London, United Kingdom, International Molybdenum Association, August 21. (Accessed January 8, 2014, at [http://www.imoa.info/media\\_centre/latest\\_news/latest\\_news\\_details.php?objectID=225&lang=en](http://www.imoa.info/media_centre/latest_news/latest_news_details.php?objectID=225&lang=en).)

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

(Metric tons, contained molybdenum)

Period	Production	Shipments <sup>2</sup>	
		Domestic	Export
2012:			
January–August	39,300	30,800	W
August	4,740	4,220	W
September	4,740	3,840	W
October	5,490	5,400	W
November	5,560	5,000	W
December	5,330	4,780	W
January–December	60,400	49,800	W
2013:			
January	5,300	4,500	W
February	4,880	4,530	W
March	5,730	4,560	W
April	5,340	4,400	W
May	4,810	4,400	W
June	5,090	4,510	W
July	4,960	(3)	W
August	4,940	(3)	W
January–August	41,100	35,800	W

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.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included in "January–August."

TABLE 2  
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
2013:						
July:						
Steel:						
Carbon	31,600	W	--	--	W	31,600
High-strength low-alloy	W	7,380	--	--	--	7,380
Stainless and heat-resisting	165,000 <sup>r</sup>	50,400 <sup>r</sup>	--	(3)	W	215,000 <sup>r</sup>
Full alloy	244,000	W	--	--	W	244,000 <sup>r</sup>
Tool	W	W	--	--	--	W
Total	441,000 <sup>r</sup>	57,800 <sup>r</sup>	--	--	--	499,000 <sup>r</sup>
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	W	W	--	(3)	83,700	83,700
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	180	W	--	--	--	180
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	106,000	305,000 <sup>r</sup>	901	(3)	325,000	736,000 <sup>r</sup>
Grand total	624,000 <sup>r</sup>	362,000 <sup>r</sup>	901	--	420,000	1,410,000
Stocks, July 31, 2013	528,000 <sup>r</sup>	302,000 <sup>r</sup>	2,850	(6)	(6)	1,710,000 <sup>r</sup>
August:						
Steel:						
Carbon	W	W	--	--	W	W
High-strength low-alloy	W	7,380	--	--	--	7,380
Stainless and heat-resisting	164,000	50,400	--	(3)	W	214,000
Full alloy	246,000	218,000	--	--	W	464,000
Tool	W	W	--	--	--	W
Total	410,000	276,000	--	--	--	686,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	W	W	--	(3)	87,900	87,900
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	250	W	--	--	--	250
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	143,000	40,800	901	(3)	326,000	511,000
Grand total	631,000	316,000	901	--	425,000	1,370,000
Stocks, August 31, 2013	477,000	283,000	2,850	(6)	(6)	1,640,000

<sup>r</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."

TABLE 3  
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES  
(including roasted concentrate), BY COUNTRY<sup>1</sup>

(Kilograms, contained molybdenum)

Country	2012			2013		
	January– December	August	January– August	July	August	January– August
Australia	--	--	--	41,100	--	214,000
Austria	166,000	21,500	109,000	--	--	31,800
Belgium	6,190,000	651,000	4,840,000	342,000	229,000	2,010,000
Brazil	378,000	18,600	266,000	104,000	87,400	540,000
Canada	2,220,000	271,000	1,740,000	147,000	230,000	1,400,000
China	2,130,000	167,000	1,580,000	66,500	207,000	762,000
Colombia	7,190	--	7,190	--	--	--
Germany	71,900	--	36,500	--	--	172,000
Hungary	997	--	997	--	--	--
India	660,000	24,200	299,000	140,000	117,000	939,000
Japan	3,780,000	288,000	2,290,000	390,000	424,000	2,890,000
Korea, Republic of	420,000	65,600	294,000	89,500	94,300	663,000
Mexico	7,590,000	495,000	5,320,000	958,000	723,000	6,160,000
Netherlands	13,000,000	686,000	8,330,000	2,890,000	1,580,000	14,300,000
Peru	8,110	--	724	--	--	18,500
Philippines	8,170	--	8,170	--	--	2,180
Singapore	--	--	--	1,370	--	1,370
South Africa	382,000	--	192,000	40,000	--	154,000
Taiwan	6,040	344	6,040	5,030	--	24,900
Thailand	30,000	--	29,900	--	--	37,000
United Kingdom	6,450,000	443,000	3,550,000	33,500	32,600	1,510,000
Vietnam	18,300	--	10,900	335	80	42,500
Total	43,500,000	3,130,000	28,900,000	5,250,000	3,720,000	31,800,000

-- 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 4  
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY<sup>1</sup>

(Kilograms, contained molybdenum)

Country	2012			2013		
	January– December	August	January– August	July	August	January– August
Argentina	26,200	--	--	--	--	--
Australia	223	--	223	--	--	--
Brazil	528	--	--	--	--	--
Canada	677,000	67,000	514,000	67,600	60,300	465,000
Colombia	224	--	--	--	--	119
Denmark	495	--	323	--	171	342
Israel	--	--	--	--	--	168
Mexico	188,000	3,800	24,700	13,500	12,700	86,700
Netherlands	76,600	--	76,600	--	--	48,600
Panama	--	--	--	--	--	13,200
Peru	--	--	--	--	--	6,000
Saudi Arabia	26,400	--	--	--	--	--
Total	996,000	70,800	615,000	81,100	73,300	620,000

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

(Kilograms, unless otherwise specified)

Material	January–December 2012			2013					
	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	August			January–August		
				Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)
Ore and concentrates roasted	10,100,000	6,170,000	\$100,000	419,000	253,000	\$2,080	4,510,000	2,730,000	\$33,700
Ore and concentrates other	11,900,000	5,810,000	199,000	1,930,000	949,000	27,200	11,500,000	5,510,000	167,000
Molybdenum chemicals:									
Oxides and hydroxides	532,000	NA	10,600	--	--	--	242,000	NA	4,710
Molybdates of ammonium	813,000	460,000	14,900	41,400	23,300	635	955,000	541,000	15,200
Molybdates (all others)	41,800	16,300	748	306	121	19	1,310	517	39
Molybdenum orange	355,000	NA	2,910	16,200	--	154	182,000	NA	1,700
Ferromolybdenum	6,450,000	4,320,000	138,000	682,000	457,000	11,900	4,030,000	2,700,000	74,600
Molybdenum powders	408,000	362,000	16,700	37,400	35,700	1,350	281,000	271,000	10,500
Molybdenum unwrought	744,000	726,000	21,800	80,400	80,100	2,330	527,000	514,000	16,100
Molybdenum waste and scrap	971,000	925,000	31,400	12,700	12,600	377	475,000	444,000	15,100
Molybdenum wire	19,600	NA	2,760	1,590	NA	273	12,900	NA	2,060
Molybdenum other	507,000	NA	31,700	24,300	NA	1,690	226,000	NA	14,500
Total	32,900,000	XX	570,000	3,240,000	XX	48,000	23,000,000	XX	355,000

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.