

# Mineral Industry Surveys

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## MOLYBDENUM IN NOVEMBER 2011

Domestic production of molybdenum (Mo) in concentrate in November 2011 was 3% more than the output of the previous month and 20% less than that of November 2010. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 8,150 metric tons (t) at the beginning of 2011 and about 8,580 t at the end of November.

According to Ryan's Notes, the November monthly average price range for U.S. ferromolybdenum (FeMo) was \$14.869 to \$15.238 per pound of molybdenum content, compared with \$15.275 to \$15.625 in October. European FeMo monthly average prices ranged from \$32.431 to \$32.981 per kilogram (kg) of molybdenum content in November compared with \$32.388 to \$32.850 per kg in October. In November, worldwide molybdenum oxide (MoO<sub>3</sub>) prices ranged from \$13.175 to \$13.506 per pound compared with \$13.219 to \$13.506 per pound in October.

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 October and November 2011. Export data for September and October 2011 and import data for October 2011 are also included.

Molybdenum production from Grupo Mexico S.A.B. de C.V. mines in Mexico and Peru decreased 11% to 13,563 t molybdenum in the first nine months of the year compared with 15,273 t of molybdenum produced during the same period of 2010. In the third quarter of 2011, production decreased to 4,787 t molybdenum, compared with 5,009 t of molybdenum produced during the same period in 2010 (Ryan's Notes, 2011).

### Reference Cited

Ryan's Notes, 2011, Ferroalloy notes: Ryan's Notes, v. 17, no. 46, November 14, p. 2-3.

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

(Metric tons, contained molybdenum)

	2010		2011		
	January– December	January– November	October	November	January– November
Production	59,400 <sup>r</sup>	52,400	4,180 <sup>r</sup>	4,310	58,300
Shipments: <sup>2</sup>					
Domestic	14,100 <sup>r</sup>	12,700	1,420	1,380	17,000
Export	W	W	W	W	W

<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)

	2010		2011		
	January– December	January– November	October	November	January– November
Gross production	68,600	61,900 <sup>r</sup>	W	W	W
Internal consumption <sup>2</sup>	W	W	W	W	W
Gross shipments	51,100	46,200 <sup>r</sup>	W	W	W

<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 molybdenum <sup>2</sup>	Ammonium and sodium molybdate	Molybdenum scrap	Other	Total
2011, October:						
Steel:						
Carbon	34,600	W	--	--	W	34,600
High-strength low-alloy	52,000	7,320	--	--	--	59,400
Stainless and heat-resisting	165,000	59,600	--	(3)	6,510	231,000
Full alloy	265,000	323,000	--	--	W	588,000
Tool	W	W	--	--	--	W
Total	517,000	390,000	--	--	6,510	913,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(4)	W	--	(4)	103,000	103,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	160	W	--	--	--	160
Mill products made from metal powder <sup>5</sup>	W	--	--	--	W	W
Cemented carbides and related products <sup>6</sup>	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	--
Catalysts	77,300	--	(3)	--	W	77,300
Other chemicals	--	--	--	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	49,200	65,900 <sup>r</sup>	(3)	--	278,000	393,000 <sup>r</sup>
Grand total	644,000	455,000 <sup>r</sup>	--	--	398,000	1,500,000 <sup>r</sup>
Stocks, October 31, 2011	450,000	317,000 <sup>r</sup>	2,180 <sup>r</sup>	(7)	(7)	1,680,000
2011, November:						
Steel:						
Carbon	34,000	W	--	--	W	34,000
High-strength low-alloy	50,200	8,230	--	--	--	58,500
Stainless and heat-resisting	162,000	59,200	--	(3)	6,510	228,000
Full alloy	265,000	300,000	--	--	W	565,000
Tool	W	W	--	--	--	W
Total	511,000	367,000	--	--	6,510	885,000
Cast irons (gray, malleable, and ductile iron)	W	W	--	--	W	W
Superalloys	(4)	W	--	(4)	88,200	88,200
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	W	W
Other alloys	189	W	--	--	--	189
Mill products made from metal powder <sup>5</sup>	W	--	--	--	W	W
Cemented carbides and related products <sup>6</sup>	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	(3)	--	--	--
Catalysts	77,300	--	(3)	--	W	77,300
Other chemicals	--	--	--	--	W	W
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	47,100	59,600	(3)	--	270,000	377,000
Grand total	636,000	427,000	--	--	376,000	1,440,000
Stocks, November 30, 2011	398,000	319,000	2,160	(7)	(7)	1,630,000

<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>Withheld to avoid disclosing company proprietary data.

<sup>5</sup>Includes ingot, wire, rod, and sheet.

<sup>6</sup>Includes construction, mining, oil and gas, metalworking machinery.

<sup>7</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	2010			2011		
	January-- December	October	January-- October	September	October	January-- October
Argentina	17,200	--	13,200	--	--	--
Australia	--	--	--	--	--	800
Austria	440,000	35,000	148,000	--	--	267,000
Azerbaijan	--	--	--	--	9,370	9,370
Belgium	9,610,000	925,000	7,950,000	269,000	719,000	5,550,000
Brazil	310,000	18,700	211,000	19,500	7,640	342,000
Canada	1,150,000	120,000	888,000	46,300	37,500	1,190,000
Chile	--	--	--	--	--	3,220,000
China	5,280,000	489,000	4,490,000	183,000	112,000	2,230,000
Czech Republic	--	--	--	--	31	31
El Salvador	--	--	--	--	--	881
Finland	--	--	--	23,200	11,400	248,000
France	16,600	--	4,410	--	--	121,000
Germany	143,000	--	143,000	435	--	120,000
Hong Kong	1,140	--	--	--	--	--
India	924,000	45,300	646,000	35,100	34,300	791,000
Italy	13,200	13,200	13,200	--	--	37,300
Japan	2,630,000	433,000	2,060,000	441,000	387,000	3,560,000
Korea, Republic of	805,000	82,300	706,000	53,500	70,900	1,340,000
Luxembourg	11,500	--	--	--	--	24,800
Mexico	5,040,000	388,000	4,010,000	693,000	473,000	6,030,000
Netherlands	8,210,000	742,000	7,080,000	953,000	1,330,000	9,540,000
New Caledonia	1,050	--	1,050	--	--	--
Panama	2,360	--	--	--	--	--
Poland	194	--	194	--	--	--
Slovenia	24,600	--	24,600	--	--	--
South Africa	520,000	17,700	520,000	--	--	--
Spain	24,600	--	24,600	--	--	330
Sweden	12,100	151	151	11,700	11,600	145,000
Taiwan	67,900	--	26,500	--	--	40,500
Thailand	19,200	--	19,200	--	--	7,260
United Arab Emirates	154,000	--	117,000	--	--	12,600
United Kingdom	5,000,000	377,000	3,780,000	273,000	491,000	5,280,000
Venezuela	940	--	940	--	--	838
Vietnam	149,000	2,340	66,300	110,000	1,200	279,000
Total	40,600,000	3,690,000	33,000,000	3,110,000	3,700,000	40,400,000

-- 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	2010			2011		
	January– December	October	January– October	September	October	January– October
Argentina	13,300	--	13,300	--	--	--
Australia	628	--	628	--	--	241
Canada	677,000	47,900	589,000	105,000	76,300	766,000
Colombia	1,170	--	1,170	--	--	--
Denmark	372	200	372	--	171	501
India	36,600	6,470	30,000	--	--	--
Japan	12,700	--	--	--	--	--
Korea, Republic of	11,200	--	11,200	--	--	--
Mexico	12,900	--	9,620	12,300	15,200	44,800
Netherlands	196,000	37,100	130,000	26,200	26,300	255,000
Philippines	939	--	939	--	--	--
Singapore	14,300	--	7,380	--	--	--
Turkey	103	--	103	13,400	--	116,000
Total	978,000	91,700	794,000	157,000	118,000	1,180,000

-- 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 2010			2011					
	Gross weight	Contained molybdenum	Value <sup>2</sup> (thousands)	October			January–October		
				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	1,070,000	555,000	\$9,700	9,690,000	5,850,000	\$115,000
Ore and concentrates other	13,500,000	6,610,000	202,000	1,750,000	550,000	26,100	15,500,000	6,110,000	272,000
Molybdenum chemicals:									
Oxides and hydroxides	508,000	NA	12,200	15,000	NA	367	126,000	NA	3,370
Molybdates of ammonium	1,590,000	905,000	28,600	86,500	52,200	1,440	855,000	506,000	19,100
Molybdates (all others)	62,600	23,300	1,510	915	435	57	22,100	9,730	1,100
Molybdenum orange	349,000	NA	2,730	24,900	NA	198	263,000	NA	2,330
Ferromolybdenum	5,330,000	3,560,000	130,000	348,000	231,000	8,160	3,780,000	2,520,000	96,000
Molybdenum powders	232,000	221,000	10,100	17,400	16,800	847	265,000	249,000	12,900
Molybdenum unwrought	307,000	301,000	10,200	36,400	36,000	1,230	504,000	483,000	18,800
Molybdenum waste and scrap	703,000	682,000	26,900	53,700	52,400	2,050	620,000	579,000	23,000
Molybdenum wire	19,300	NA	3,030	883	NA	103	16,500	NA	2,680
Molybdenum other	582,000	NA	37,500	77,000	NA	4,730	712,000	NA	51,400
Total	33,500,000	XX	576,000	3,480,000	XX	55,000	32,300,000	XX	618,000

NA Not available. XX Not applicable.

<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.