

Mineral Industry Surveys

For information, contact:

Michael J. Magyar, Molybdenum Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4964, Fax: (703) 648-7757
E-mail: mmagyar@usgs.gov

Lisa Mersdorf (Data)
Telephone: (703) 648-7941
Fax: (703) 648-7975
E-mail: lmersdorf@usgs.gov

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

MOLYBDENUM IN NOVEMBER 2007

Domestic production of molybdenum (Mo) in concentrate in November 2007 was about 26% more than the output of the previous month and about 8% more than that of November 2006, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 5,330 metric tons (t) at the beginning of 2007 and about 5,830 t at the end of November.

According to Ryan's Notes (2007b), the November monthly average price range for U.S. ferromolybdenum (FeMo) was \$34.588 to \$34.875 per pound of molybdenum content, compared with \$34.133 to \$34.556 in October. European FeMo monthly averages ranged from \$74.800 to \$75.350 per kilogram (kg) of molybdenum content in November compared with \$72.900 to \$73.722 per kg in October. In November, worldwide molybdenum oxide (MoO₃) prices ranged from \$32.850 to \$33.200 per pound versus \$31.661 to \$32.322 per pound in October.

Climax Molybdenum Co. recommended that the U.S. International Trade Commission deny U.S. General System of Preferences (GSP) for molybdenum ores and roasted concentrates from Mongolia. A new roaster with a 2,300-t (5-million-pound) per year capacity began operation in Mongolia

in the second quarter of 2007 and test quantities of molybdenum oxide reportedly were shipped to Japan and the Republic of Korea. Previously, all concentrates were shipped to China for roasting, but exports of concentrates to China dropped from 800 t in the first quarter to 350 t in the second quarter. Climax argued that granting GSP status to Mongolia was not necessary for Mongolian products to be competitive, as the standard duty was only 17.8 cents per kg of Mo in concentrate and 7.2 cents per kg of Mo in MoO₃ (Ryan's Notes, 2007a).

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 2007. Export data for September and October 2007 and import data for October 2007 are also included.

References Cited

- Ryan's Notes, 2007a, Climax testifies at GSP hearing: Ryan's Notes, v. 13, no. 45, November 12, p. 5.
Ryan's Notes, 2007b, [untitled]: Ryan's Notes, v. 13, no. 48, December 3, p. 12.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2006		2007		
	January- December	January- November	October	November	January- November
Production	59,700	55,700	4,060	5,130	52,500
Shipments: ²					
Domestic	38,600	36,500	3,280	3,560	37,400
Export	21,300	19,600	865	1,320	15,200

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²As reported by producers.

TABLE 2
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM
PRODUCTS¹

(Metric tons, contained molybdenum)

	2006		2007		
	January- December	January- November	October	November	January- November
Gross production	78,000	71,800	3,870	3,740	51,600
Internal consumption ²	47,400	43,800	864	1,060	23,200
Gross shipments	51,000	46,700	5,150	3,970	45,400

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes molybdc oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 3
U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS¹

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molybdenum ²	Ammonium and sodium molybdate	Molybdenum scrap	Other	Total
2007, October:						
Steel:						
Carbon	14,800	W	--	--	W	14,800
High-strength low-alloy	37,900	7,540 ^r	--	--	11,300	56,800 ^r
Stainless and heat-resisting	167,000 ^r	64,500	--	W	6,510	238,000 ^r
Full alloy	150,000	287,000	--	--	1,510	439,000
Tool	56,000	W	--	--	--	56,000
Total	426,000 ^r	359,000 ^r	--	W	19,400	804,000 ^r
Cast irons (gray, malleable, and ductile iron)	W	6,860	--	--	763	7,620
Superalloys	66,500	W	--	W	76,000	142,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	220	3,980	--	--	--	4,200
Mill products made from metal powder ³	--	--	--	--	197,000	197,000
Cemented carbides and related products ⁴	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	581 ^r	581 ^r
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	2,000	29,600 ^r	72,800 ^r	78,700	30,100	213,000 ^r
Grand total	572,000 ^r	399,000 ^r	72,800 ^r	78,700	335,000	1,460,000 ^r
Stocks, October 31, 2007	547,000 ^r	305,000 ^r	4,240 ^r	16,000	858,000 ^r	1,730,000
2007, November:						
Steel:						
Carbon	13,900	W	--	--	W	13,900
High-strength low-alloy	37,900	7,540	--	--	11,300	56,800
Stainless and heat-resisting	190,000	65,400	--	W	6,510	262,000
Full alloy	155,000	300,000	--	--	1,510	456,000
Tool	63,800	W	--	--	--	63,800
Total	460,000	373,000	--	W	19,400	853,000
Cast irons (gray, malleable, and ductile iron)	W	6,860	--	--	763	7,620
Superalloys	83,400	W	--	W	76,000	159,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	121	6,750	--	--	--	6,870
Mill products made from metal powder ³	--	--	--	--	188,000	188,000
Cemented carbides and related products ⁴	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	584	584
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	2,000	29,000	72,800	86,400	30,100	220,000
Grand total	623,000	416,000	72,800	86,400	326,000	1,520,000
Stocks, November 30, 2007	533,000	299,000	4,240	16,200	859,000	1,710,000

¹Revised. W Withheld to avoid disclosing company proprietary data; included in "Other" of the "Miscellaneous and unspecified uses" category. -- Zero.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Includes calcium molybdate.

⁴Includes ingot, wire, rod, and sheet.

⁵Includes construction, mining, oil and gas, metalworking machinery.

TABLE 4
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES
(including roasted concentrate), BY COUNTRY¹

(Kilograms, contained molybdenum)

Country	2006		2007		January- October
	January- December	January- October	September	October	
Australia	88,800	88,800	--	--	800
Belgium	7,490,000	6,580,000	696,000	464,000	5,440,000
Brazil	113,000	94,300	--	9,970	110,000
Canada	2,680,000	2,280,000	144,000	204,000	2,190,000
Chile	259,000	160,000	--	--	1,270,000
China	405,000	398,000	--	--	71,400
India	82,800	58,800	11,500	--	117,000
Japan	2,260,000	1,880,000	251,000	252,000	1,850,000
Korea, Republic of	45,000	45,000	32,300	38,000	95,000
Mexico	6,070,000	5,300,000	396,000	273,000	4,020,000
Netherlands	10,300,000	8,290,000	352,000	1,080,000	8,280,000
Pakistan	--	--	--	--	75,600
Sweden	20,000	--	--	--	--
Switzerland	25,200	25,200	--	--	1,630
Taiwan	53,400	29,600	--	--	17,900
Thailand	9,740	9,740	--	--	9,620
United Kingdom	7,280,000	5,810,000	585,000	620,000	4,930,000
Vietnam	14,100	13,800	--	--	4,130
Other	9,420	7,240	25,100	204	49,300
Total	37,200,000	31,100,000	2,490,000	2,940,000	28,500,000

-- Zero.

¹Data 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 COUNTRY¹

(Kilograms, contained molybdenum)

Country	2006		2007		January- October
	January- December	January- October	September	October	
Argentina	14,500	14,500	--	--	--
Australia	24,500	24,100	--	--	25,000
Brazil	37,700	37,700	--	--	--
Canada	1,760,000	1,680,000	96,100	47,900	658,000
Denmark	57	57	--	--	394
India	667	367	--	--	953
Japan	60	60	--	--	--
Mexico	143,000	141,000	--	--	20,500
Netherlands	14,000	--	--	--	145,000
Philippines	--	--	--	735	735
Saudi Arabia	--	--	47,900	--	93,400
Singapore	1,630	1,630	--	--	--
South Africa	--	--	--	--	13,500
Switzerland	12,000	12,000	--	--	--
United Kingdom	--	--	--	--	24,900
Total	2,010,000	1,910,000	144,000	48,600	982,000

-- Zero.

¹Data 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 PRODUCTS¹

(Kilograms, unless otherwise specified)

Material	January-December 2006			October 2007			January-October 2007		
	Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)	Gross weight	Contained molybdenum	Value ² (thousands)
Ore and concentrates roasted	9,570,000	5,900,000	\$167,000	600,000	371,000	\$14,200	7,330,000	4,600,000	\$151,000
Ore and concentrates other	10,900,000	5,000,000	227,000	796,000	383,000	24,200	12,900,000	6,110,000	328,000
Molybdenum chemicals:									
Oxides and hydroxides	629,000	NA	24,300	20,300	NA	965	188,000	NA	6,850
Molybdates of ammonium	1,430,000	844,000	34,100	40,000	22,500	914	717,000	405,000	22,900
Molybdates (all others)	241,000	72,700	2,810	15,800	2,670	178	149,000	49,700	1,850
Molybdenum orange	822,000	NA	5,110	59,900	NA	427	516,000	NA	3,340
Ferromolybdenum	4,810,000	3,060,000	165,000	554,000	357,000	25,400	5,360,000	3,450,000	226,000
Molybdenum powders	367,000	270,000	17,600	8,020	695	451	58,400	48,600	4,050
Molybdenum unwrought	191,000	191,000	10,800	401	400	44	106,000	105,000	6,670
Molybdenum waste and scrap	452,000	445,000	27,800	49,600	49,100	3,300	435,000	417,000	26,200
Molybdenum wire	18,600	NA	2,550	1,750	NA	283	15,500	NA	2,310
Molybdenum other	130,000	NA	17,000	15,100	NA	2,330	125,000	NA	16,000
Total	29,600,000	15,800,000	701,000	2,160,000	1,190,000	72,700	27,900,000	15,200,000	795,000

NA Not available.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Customs value.

Source: U.S. Census Bureau.