

Mineral Industry Surveys

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MOLYBDENUM IN DECEMBER 2008

Domestic production of molybdenum (Mo) in concentrate in December 2008 was slightly less than the output of the previous month and about 9% less than that of December 2007, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 5,770 metric tons (t) at the beginning of 2008 and about 5,610 t at the end of December 2008.

According to Ryan's Notes (2009), the December monthly average price range for U.S. ferromolybdenum (FeMo) was from \$11.400 to \$12.000 per pound of molybdenum content, compared with \$13.200 to \$14.179 in November. European FeMo monthly averages ranged from \$24.206 to \$24.938 per kilogram (kg) of molybdenum content in December compared with \$25.786 to \$27.357 per kg in November. In December, worldwide molybdenum oxide (MoO₃) prices ranged from \$9.644 to \$10.056 per pound compared with \$10.371 to \$11.643 per pound in November.

The Chinese government announced that the export tariff on molybdenum powder and ammonium molybdate was to be cut to 10% from 15% effective January 1, 2009, while the tariffs on

other molybdenum bearing products were to be left unchanged. China's Jinduicheng Molybdenum Co., Ltd., the largest molybdenum producer in Asia, announced that it would greatly benefit from the export tax reduction especially during the current global financial crisis (Metal-Pages Ltd., 2008).

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 November and December 2008. Export data for October and November 2008 and import data for November 2008 are also included.

References Cited

- Metal-Pages Ltd., 2008, Chinese molybdenum major will benefit from export tax reduction: Metal-Pages Ltd., December 22. (Accessed July 31, 2009 via <http://www.metal-pages.com/>.)
Ryan's Notes, 2009, [untitled]: Ryan's Notes, v. 14, no. 52, January 5, p. 10.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS¹

(Metric tons, contained molybdenum)

	2007	2008		
	January- December	November	December	January- December
Production	57,000	3,960	3,910	55,800
Shipments: ²				
Domestic	40,600	1,990	2,080	41,100
Export	16,400	905	1,050	12,900

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)

	2007	2008		
	January- December	November	December	January- December
Gross production	72,800	5,410	4,770	72,300
Internal consumption ²	41,700	2,910	2,310	39,400
Gross shipments	48,700	3,650	3,580	50,700

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

²Includes molybdic 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 molyb- denum ²	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2008, November:						
Steel:						
Carbon	35,400	W	--	--	W	35,400
High-strength low-alloy	39,100	7,840	--	--	11,300	58,300
Stainless and heat-resisting	157,000	62,900	--	W	6,510	227,000
Full alloy	245,000	257,000	--	--	1,510	503,000
Tool	W	W	--	--	--	W
Total	477,000	328,000	--	W	19,400	824,000
Cast irons (gray, malleable, and ductile iron)	W	20,700	--	--	763	21,500
Superalloys	58,900	W	--	W	83,000	142,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	W	647	--	--	--	647
Mill products made from metal powde ³	13,300	--	--	--	186,000	199,000
Cemented carbides and related product ⁴	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	345	345
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	66,900	28,900	72,600	114,000	16,800	299,000
Grand total	693,000	378,000	72,600	114,000	317,000	1,570,000
Stocks, November 30, 2008	312,000	325,000	2,150	7,860	858,000	1,510,000
2008, December:						
Steel:						
Carbon	30,600	W	--	--	W	30,600
High-strength low-alloy	39,100	7,840	--	--	11,300	58,300
Stainless and heat-resisting	148,000	61,600	--	W	6,510	216,000
Full alloy	249,000	307,000	--	--	1,510	557,000
Tool	W	W	--	--	--	W
Total	466,000	376,000	--	W	19,400	862,000
Cast irons (gray, malleable, and ductile iron)	W	20,700	--	--	763	21,500
Superalloys	47,800	W	--	W	76,900	125,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	W	382	--	--	2,870	3,250
Mill products made from metal powde ³	--	--	--	--	172,000	172,000
Cemented carbides and related product ⁴	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	236	236
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	66,800	28,200	72,600	81,500	16,800	266,000
Grand total	658,000	425,000	72,600	81,500	300,000	1,540,000
Stocks, December 31, 2008	312,000	301,000	2,150	20,200	877,000	1,510,000

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

-- Zero.

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

²Includes calcium molybdate.

³Includes ingot, wire, rod, and sheet.

⁴Includes 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	2007			2008		
	January- December	November	January- November	October	November	January- November
Argentina	--	--	--	19,000	19,000	191,000
Belgium	6,730,000	335,000	5,780,000	666,000	330,000	6,530,000
Brazil	119,000	--	110,000	8,410	--	9,700
Canada	2,580,000	236,000	2,430,000	173,000	38,500	1,980,000
Chile	1,270,000	--	1,270,000	42,900	--	316,000
China	71,500	--	71,400	--	--	242,000
Finland	38,000	38,000	38,000	--	--	--
India	119,000	1,670	119,000	10,500	--	32,700
Italy	19,000	19,000	19,000	--	--	12,000
Japan	2,230,000	236,000	2,090,000	197,000	238,000	1,970,000
Korea, Republic of	232,000	85,000	180,000	30,300	32,800	642,000
Mexico	4,760,000	407,000	4,420,000	274,000	339,000	4,070,000
Netherlands	9,660,000	554,000	8,840,000	1,470,000	758,000	9,140,000
Niger	--	--	--	17,400	--	17,400
Pakistan	75,600	--	75,600	--	--	--
Switzerland	1,630	--	1,630	--	--	--
Taiwan	17,900	--	17,900	--	--	--
Thailand	9,620	--	9,620	--	--	--
United Kingdom	5,800,000	523,000	5,460,000	695,000	495,000	4,600,000
Vietnam	4,990	--	4,130	284,000	5,290	331,000
Other	80,800	868	50,100	116	--	34,400
Total	33,800,000	2,440,000	31,000,000	3,890,000	2,260,000	30,100,000

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	2007			2008		
	January- December	November	January- November	October	November	January- November
Australia	25,000	--	25,000	174	--	174
Canada	838,000	52,100	710,000	93,500	18,600	919,000
Colombia	--	--	--	--	904	1,090
Denmark	394	--	394	--	--	454
India	1,090	132	1,090	302	--	1,150
Korea, Republic of	--	--	--	--	--	14,000
Mexico	23,700	3,230	23,700	3,980	6,610	48,400
Netherlands	145,000	--	145,000	--	70,100	280,000
Philippines	735	--	735	--	--	700
Saudi Arabia	149,000	55,900	149,000	--	--	--
South Africa	13,500	--	13,500	--	--	68
United Kingdom	24,900	--	24,900	--	--	--
Total	1,220,000	111,000	1,090,000	97,900	96,200	1,260,000

-- 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 2007			November 2008			January-November 2008		
	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	8,680,000	5,430,000	\$181,000	952,000	584,000	\$14,800	9,750,000	5,950,000	\$247,000
Ore and concentrates other	15,000,000	6,960,000	372,000	472,000	200,000	12,400	8,700,000	3,970,000	254,000
Molybdenum chemicals:									
Oxides and hydroxides	211,000	NA	8,020	62,100	NA	2,250	286,000	NA	11,100
Molybdates of ammonium	915,000	515,000	30,400	21,100	11,800	927	340,000	192,000	13,400
Molybdates (all others)	179,000	51,400	2,190	1,180	799	47	89,100	30,300	1,020
Molybdenum orange	600,000	NA	4,040	35,700	NA	251	367,000	NA	3,040
Ferromolybdenum	6,360,000	4,100,000	270,000	224,000	150,000	9,540	3,390,000	2,270,000	164,000
Molybdenum powders	72,900	60,800	4,990	12,300	10,200	1,500	73,100	61,800	6,950
Molybdenum unwrought	117,000	117,000	7,460	5,000	4,990	305	216,000	215,000	14,100
Molybdenum waste and scrap	574,000	554,000	34,800	26,700	26,400	2,150	577,000	535,000	30,000
Molybdenum wire	17,900	NA	2,740	905	NA	161	17,200	NA	2,830
Molybdenum other	164,000	NA	20,900	56,000	NA	4,600	459,000	NA	46,100
Total	32,900,000	XX	938,000	1,870,000	XX	48,900	24,300,000	XX	794,000

NA Not available. XX Not applicable.

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

²Customs value.

Source: U.S. Census Bureau.