

# Mineral Industry Surveys

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**For information, contact:**

John W. Blossom, Molybdenum Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4964, Fax: (703) 648-7757  
E-mail: [jblossom@usgs.gov](mailto:jblossom@usgs.gov)

Barbara J. McNair (Data)  
Telephone: (703) 648-7952  
Fax: (703) 648-7975

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

## MOLYBDENUM IN FEBRUARY 2002

Domestic production of molybdenum in concentrate in February 2002 was about 27% less than that of the previous month and was 28% less than that of February 2001, according to the U.S. Geological Survey (USGS). Producer stocks of molybdenum in concentrate, oxide, and other product forms were 9,740 metric tons at the beginning of 2002, and 7,600 metric tons at the end of February.

Included in this Mineral Industry Surveys are U.S. production and shipments of molybdenum concentrates and materials, plus U.S. consumption, by end use, and stocks, of molybdenum material in January and February 2002; also included are trade data for December 2001 and January 2002.

The Platts Metals Week U.S. February average price for dealer molybdenum oxide was \$6.187 per kilogram (\$2.806 per pound), and that for dealer ferromolybdenum was \$7.289 per kilogram (\$3.306 per pound). The USGS estimated February average price for molybdenum

concentrate was \$5.09 per kilogram (\$2.31 per pound). The Ryan's Notes worldwide oxide 4-week average price for February, was \$2.763 per pound; the U.S. ferromolybdenum 4-week average price for February was \$3.269 per pound.

### Update

For the week of April 15, 2002, the Platts Metals Week average price for dealer molybdenum oxide was \$5.732 per kilogram (\$2.650 per pound), and that for ferromolybdenum was \$7.606 per kilogram (\$3.450 per pound). The USGS estimated price for molybdenum concentrate was \$4.74 per kilogram (\$2.15 per pound).

The April 15, 2002, Ryan's Notes worldwide oxide 4-week average price was \$2.653 per pound; the U.S. ferromolybdenum 4-week average price was \$3.313 per pound.

TABLE 1  
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS 1/

(Metric tons, contained molybdenum)

	2001	2002		Year to date
	January-December p/	January r/	February	
Production	37,600	2,990	2,170	5,160
Shipments: 2/				
Domestic	20,700	1,840	1,750	3,590
Export	16,300	2,280	461	2,740

p/ Preliminary. r/ Revised.

1/ Data are rounded to no more than three significant digits.

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

TABLE 2  
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM PRODUCTS 1/

(Metric tons, contained molybdenum)

	2001	2002		Year to date
	January-December p/	January	February	
Gross production	40,300	2,910	2,390	5,300
Internal consumption 2/	24,600	1,800	1,980	3,780
Gross shipments	32,600	2,680 r/	1,580	4,260

p/ Preliminary. r/ Revised.

1/ Data are rounded to no more than three significant digits.

2/ 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 1/

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molybdenum 2/	Ammonium and sodium molybdate	Molybdenum scrap	Other	Total
2002, January:						
Steel:						
Carbon	8,580	22,400	--	--	1,810	32,800
High-strength low-alloy	24,500	6,690	--	--	11,300	42,500
Stainless and heat-resisting	164,000	20,700	--	--	8,520	194,000
Full alloy	83,000	154,000	--	--	2,330	239,000
Tool	80,700	W	--	--	1,450	82,100
Total	361,000	203,000	--	--	25,500	590,000
Cast irons (gray, malleable, and ductile iron)	W	22,100	--	--	W	22,100
Superalloys	101,000	W	--	(3/)	105,000	206,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	206	--	--	6	213
Other alloys	--	2,960	--	--	6,210	9,170
Mill products made from metal powder 4/	--	--	--	--	127,000	127,000
Cemented carbides and related products 5/	--	--	--	--	13	13
Chemical and ceramic uses:						
Pigments	--	--	W	--	W	W
Catalysts	77,300	--	W	--	14,900	92,200
Other	--	--	--	--	--	--
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	11,700	11,700
Other	1,390	42,900	77,200	--	1,240	123,000
Grand total	541,000	272,000	77,200	--	292,000	1,180,000
Stocks, January 31, 2002	489,000	175,000	4,930	9,830	867,000	1,550,000

See footnotes at end of table.

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

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molybdenum 2/	Ammonium and sodium molybdate	Molybdenum scrap	Other	Total
2002, February:						
Steel:						
Carbon	10,700	28,600	--	--	1,810	41,100
High-strength low-alloy	24,800	7,540	--	--	9,070	41,400
Stainless and heat-resisting	154,000	24,000	--	--	8,520	187,000
Full alloy	88,600	141,000	--	--	2,330	232,000
Tool	99,900	W	--	--	1,450	101,000
Total	378,000	201,000	--	--	23,200	602,000
Cast irons (gray, malleable, and ductile iron)	W	19,000	--	--	W	19,000
Superalloys	68,500	W	--	(3/)	99,000	167,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	177	2,490	--	--	6,210	8,870
Mill products made from metal powder 4/	--	--	--	--	135,000	135,000
Cemented carbides and related products 5/	--	--	--	--	10	10
Chemical and ceramic uses:						
Pigments	--	--	W	--	W	W
Catalysts	77,300	--	W	--	--	77,300
Other	--	--	--	--	14,900	14,900
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,800	10,800
Other	1,390	42,900	78,300	--	1,210	124,000
Grand total	525,000	265,000	78,300	--	290,000	1,160,000
Stocks, February 28, 2002	398,000	142,000	4,150	12,700	869,000	1,430,000

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

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

2/ Includes calcium molybdate.

3/ Included in "Other" of the "Superalloys" category.

4/ Includes ingot, wire, rod, and sheet.

5/ Includes construction, mining, oil and gas, metal working machinery.

TABLE 4  
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES  
(including roasted concentrate), BY COUNTRY 1/

(Kilograms, contained molybdenum)

Country	2001		2002	
	January-December	December	January	Year to date
Australia	147,000	3,000	5,600	5,600
Belgium	3,380,000	205,000	1,010,000	1,010,000
Brazil	30,100	3,230	2,800	2,800
Canada	650,000	34,600	81,800	81,800
Chile	11,800	--	3,670	3,670
China	201,000	--	--	--
Germany	512,000	23,500	12,000	12,000
India	294,000	22,200	67,800	67,800
Italy	95,000	35,500	--	--
Japan	1,700,000	116,000	195,000	195,000
Korea, Republic of	29,200	2,670	34,800	34,800
Mexico	764,000	270,000	112,000	112,000
Netherlands	13,500,000	927,000	692,000	692,000
Spain	63,400	12,000	--	--
Sweden	48,200	--	--	--
United Kingdom	6,210,000	581,000	595,000	595,000
Other	187,000	26,400	25,300	25,300
Total	27,800,000	2,260,000	2,830,000	2,830,000

-- Zero.

1/ 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 1/

(Kilograms, contained molybdenum)

Country	2001		2002	
	January- December	December	January	Year to date
Australia	599	--	--	--
Canada	442,000	16,600	33,600	33,600
China	11,500	--	240	240
Germany	111,000	--	--	--
Japan	--	--	--	--
Korea, Republic of	876	--	--	--
Mexico	50,300	987	1,300	1,300
Netherlands	12,600	--	--	--
Total	629,000	17,600	35,100	35,100

-- Zero.

1/ 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 1/

(Kilograms, unless otherwise specified)

Material	January-December 2001			January 2002		
	Gross weight	Contained molybdenum	Value (c.i.f.) (thousands)	Gross weight	Contained molybdenum	Value (c.i.f.) (thousands)
Ore and concentrates roasted	9,470,000	6,000,000	\$32,900	612,000	386,000	\$2,170
Ore and concentrates other	10,000	11,600	73	--	--	--
Molybdenum chemicals:						
Oxides and hydroxides	1,010,000	NA	5,530	26,400	NA	94
Molybdates of ammonium	2,740,000	1,610,000	15,100	113,000	66,600	561
Molybdates (all others)	318,000	113,000	1,050	79,300	15,200	311
Molybdenum orange	1,120,000	NA	5,180	99,100	NA	499
Ferromolybdenum	5,570,000	3,580,000	21,400	366,000	217,000	1,400
Molybdenum powders	172,000	163,000	3,390	1,000	997	10
Molybdenum unwrought	24,700	24,400	267	--	--	--
Molybdenum waste and scrap	776,000	749,000	7,160	--	--	--
Molybdenum wire	16,900	NA	1,080	--	NA	--
Molybdenum other	14,400	NA	1,940	2,360	NA	246
Total	21,200,000	12,200,000	95,100	1,300,000	685,000	5,280

NA Not available. -- Zero.

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

Source: U.S. Census Bureau.