



# Mineral Industry Surveys

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## MOLYBDENUM IN JANUARY 2003

Domestic production of molybdenum in concentrate in January 2003 was about 6% more than that of the previous month and was about 4% less than that of January 2002, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 8,250 metric tons at the beginning of 2003, and 8,470 metric tons at the end of January.

According to Ryan's Notes (2003b), the January monthly averages for U.S. ferromolybdenum prices ranged from \$4.320 to \$4.678 per pound of molybdenum content, compared with \$4.291 to \$4.578 in December. European ferromolybdenum monthly averages ranged from \$9.550 to \$9.989 per kilogram of molybdenum content in January as compared with \$8.533 to \$8.833 in December. In January, worldwide molybdenum oxide prices ranged from \$3.556 to \$3.989 per pound versus \$3.278 to \$3.733 in December.

Molybdenum oxide prices made gains in January to about \$4 per pound due to continued tightness in supply. Overall, the immediate outlook for prices is strong, particularly as supply is expected to remain tight in the West owing to reduced byproduct and primary production.

China continued to have difficulty obtaining western concentrates to raise their oxide quality by blending (TEX Report, 2003). With Chilean producer Molibdenos y Metales SA (Molymet) acquiring the Sadaci conversion plant in Ghent, Belgium, from Eramet-Comilog (Ryan's Notes, 2003a), less South American concentrate may be available to China. In addition to boosting roasting and converting capacity for Molymet, this acquisition will increase Molymet's presence in Europe.

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 December 2002 and January 2003; also included are trade data for November and December 2002.

### References Cited

- Ryan's Notes, 2003a, Molymet to buy Sadaci: Ryan's Notes, v. 9, no. 1, January 6, p. 2.  
Ryan's Notes, 2003b, [untitled]: Ryan's Notes, v. 9, no. 5, February 3, p. 4.  
TEX Report, 2003, General review of molybdenum in 2002 and its outlook for new year: TEX Report, v. 35, no. 8205, January 27, p. 4.

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

	2002		2003	
	January- December p/	December	January	Year to date
Production	32,400	2,710	2,870	2,870
Shipments: 2/				
Domestic	21,100	1,730	1,800	1,800
Export	11,100	658	1,190	1,190

p/ Preliminary.

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

2/ As reported by producers.

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

(Metric tons, contained molybdenum)

	2002		2003	
	January- December p/	December	January	Year to date
Gross production	31,300	2,620	2,990	2,990
Internal consumption 2/	20,700	1,800	2,150	2,150
Gross shipments	27,500	1,880	1,980	1,980

p/ Preliminary.

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 molyb- denum 2/	Ammonium and sodium molybdate	Molyb- denum scrap	Other	Total
2002, December:						
Steel:						
Carbon	9,090 r/	W	--	--	W	9,090 r/
High-strength low-alloy	27,700 r/	7,160 r/	--	--	--	34,900 r/
Stainless and heat-resisting	174,000	43,500	--	--	8,520	226,000
Full alloy	84,400 r/	168,000 r/	--	--	2,380 r/	255,000 r/
Tool	70,400	W	--	--	W	70,400
Total	365,000 r/	219,000 r/	--	--	10,900	595,000 r/
Cast irons (gray, malleable, and ductile iron)	W	15,000 r/	--	--	W	15,000 r/
Superalloys	46,500	W	--	(3/)	89,898	136,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	154	1,790	--	--	6,350	8,290
Mill products made from metal powder 4/	--	--	--	--	45,800	45,800
Cemented carbides and related products 5/	--	--	--	--	3	3
Chemical and ceramic uses:						
Pigments	--	--	W	--	W	W
Catalysts	77,300	--	W	--	W	77,300
Other	--	--	--	--	--	--
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	14,300	14,300
Other	1,090	33,600	76,000	--	19,100 r/	130,000 r/
Grand total	490,000 r/	269,000 r/	76,000	--	186,000 r/	1,020,000 r/
Stocks, December 31, 2002	405,000 r/	346,000 r/	5,410	11,700	892,000	1,660,000 r/
2003, January:						
Steel:						
Carbon	11,400	W	--	--	W	11,400
High-strength low-alloy	31,800	11,200	--	--	--	43,000
Stainless and heat-resisting	157,000	58,200	--	--	8,520	223,000
Full alloy	104,000	165,000	--	--	2,380	272,000
Tool	70,500	W	--	--	W	70,500
Total	375,000	235,000	--	--	10,900	620,000
Cast irons (gray, malleable, and ductile iron)	W	17,300	--	--	763	18,100
Superalloys	82,600	W	--	(3/)	104,000	187,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	105	2,300	--	--	6,350	8,750
Mill products made from metal powder 4/	--	--	--	--	79,300	79,300
Cemented carbides and related products 5/	--	--	--	--	2	2
Chemical and ceramic uses:						
Pigments	--	--	W	--	W	W
Catalysts	77,300	--	W	--	W	77,300
Other	--	--	--	--	--	--
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	16,000	16,000
Other	1,090	40,600	75,800	--	19,300	137,000
Grand total	536,000	295,000	75,800	--	237,000	1,140,000
Stocks, January 31, 2003	397,000	294,000	3,750	16,200	897,000	1,610,000

r/ Revised. 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		Year to date
	January- December	November	December	Year to date	
Australia	147,000	--	--	--	46,900
Belgium	3,380,000	359,000	209,000		4,380,000
Brazil	30,100	125	2,620		32,600
Canada	650,000	70,000	92,100		1,080,000
Chile	11,800	--	--		16,200
China	201,000	--	10,700		56,700
Germany	512,000	--	2,580		64,400
India	294,000	--	--		141,000
Italy	95,000	--	--		47,900
Japan	1,700,000	49,600	54,500		1,130,000
Korea, Republic of	29,200	1,180	3,580		70,600
Mexico	764,000	--	299,000		484,000
Netherlands	13,500,000	767,000	319,000		7,330,000
Spain	63,400	--	--		41,200
Sweden	48,200	--	--		35,000
Taiwan	6,320	--	--		12,600
United Kingdom	6,210,000	388,000	332,000		4,330,000
Other	181,000	5,140	850		153,000
Total	27,800,000	1,640,000	1,330,000		19,500,000

-- 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		Year to date
	January- December	November	December	Year to date	
Australia	599	--	--	--	--
Canada	442,000	35,900	37,900		597,000
Chile	--	--	--		240
China	11,500	--	--		--
Denmark	--	--	--		5,110
Germany	111,000	--	--		--
Korea, Republic of	876	--	--		--
Mexico	50,300	382	--		51,400
Netherlands	12,600	--	--		--
Switzerland	--	--	--		21,800
Taiwan	--	--	--		274
Total	629,000	36,200	37,900		676,000

-- Zero.

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

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS 1/

(Kilograms, unless otherwise specified)

Material	January-December 2001			December 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	506,000	312,000	\$2,520
Ore and concentrates other	10,000	11,600	73	--	--	--
Molybdenum chemicals:						
Oxides and hydroxides	1,010,000	NA	5,530	159,000	NA	1,000
Molydates of ammonium	2,740,000	1,610,000	15,100	169,000	96,300	1,050
Molydates (all others)	318,000	113,000	1,050	27,100	9,320	118
Molybdenum orange	1,120,000	NA	5,180	120,000	NA	413
Ferromolybdenum	5,570,000	3,580,000	21,400	237,000	156,000	1,290
Molybdenum powders	172,000	163,000	3,390	8,990	7,150	368
Molybdenum unwrought	24,700	24,400	267	7,380	100	490
Molybdenum waste and scrap	775,000	717,000	7,140	77,900	41,900	769
Molybdenum wire	16,900	NA	1,080	1,750	NA	90
Molybdenum other	14,400	NA	1,940	1,000	NA	135
Total	21,200,000	12,200,000	95,100	1,320,000	622,000	8,250

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.