U.S. Department of the Interior • Bureau of Mines

MINERAL INDUSTRY SURVEYS

810 7th Street, NW Washington, DC 20241

For information call:
Deborah A. Kramer, Commodity Specialist (202) 501-9394
Lillian M. Wood (data) (202) 501-9479
For MINES FaxBack call: (202) 219-3644 **(NEW TELEPHONE NUMBER)**

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MAGNESIUM IN THE FOURTH QUARTER 1993

U.S. primary magnesium production in the fourth quarter 1993 was 26,368 metric tons, a decline of 17% from that in the previous quarter, according to the U.S. Bureau of Mines. Total primary magnesium production in 1993 was 132,144 tons, 4% lower than production in 1992. Producers' shipments in the fourth quarter 1993 were 28,137 tons, and inventories declined to 17,827 tons. This was the first decrease in producer stock levels in more than 1 year.

Magnesium imports through November 1993 were almost two-and-one-half times higher than the level through November 1992. Imports of primary magnesium, which represented the bulk of the increase in total imports, came primarily from Russia, with 68% of the total, and Ukraine, with 19% of the total. Exports of magnesium through November 1993 were 27% less than the total through the same period of 1992.

Primary magnesium prices rose slightly during the fourth quarter. At the beginning of the quarter, Metals Week's quoted European free market price range was $2,000 to $2,050 per ton, and this range rose to $2,250 to $2,325 per ton by the end of the year. Metal Bulletin's free market price followed the same trend. At the beginning of the quarter, the quoted price range was $2,000 to $2,080 per ton. This price range also rose to reach $2,220 to $2,300 per ton by the end of the quarter.

The Metals Week U.S. spot Western price range widened from $1.45 to $1.46 per pound at the beginning of the fourth quarter to $1.43 to $1.46 by the end of the quarter. Metals Week's U.S. spot dealer import price range followed the same trend as the European price range, increasing from $1.13 to $1.16 per pound at the beginning of the quarter to $1.17 to $1.21 by yearend.

At the beginning of February 1994, Magnesium Corp. of America (MagCorp) announced that it would make a significant reduction in magnesium production, but declined to give an actual percentage or tonnage figure for the cutback. Company officials said that the production cut was in response to a continuing increase in magnesium imports from the former U.S.S.R. and China. Industry analysts estimated that the total cutback was about 20% to 25% of MagCorp's total output. As a result of the decrease in the production rate, MagCorp reportedly laid off more than 50 of the 560 employees at the Rowley, UT, plant.

Because of high inventory levels, Pechiney Electrometallurgie announced that it would close two-thirds of its 17,000-ton-per-year primary magnesium production capacity in November 1993, earlier than the company's normal winter closure. Pechiney was scheduled to shut down production completely at its Marignac, France, plant between Christmas and the beginning of March. With the high inventory levels, the company should be able to supply its customers needs despite the closure. Closure of the plant during the winter, which was initiated last year and occurred during January and February only, was originally intended to reduce electric power costs.

Japan Metal & Chemicals (JMC) reportedly liquidated its 5,000-ton-per-year primary magnesium plant in December, after it had been idle for more than 1 year. The plant was originally opened in 1987 and has been closed since mid-1992. Furnace problems were cited as the original reason for closure, but because of increased imports from China and the former U.S.S.R. and appreciation of the yen, the plant has remained closed. JMC announced that it would continue to market magnesium through remelting ingot consigned from Northwest Alloys Inc.

Dow Magnesium announced that its direct-chill con-

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tinuous magnesium caster came on-stream in November and that it was supplying T-bars to large aluminum customers on a trial basis. Although the caster was not intended to increase Dow's production levels, it was expected to eliminate some production bottlenecks. Dow initially will offer the T-bars in three sizes—250-pound, 500-pound, and 1,000-pound, and the company plans eventually to offer 500-pound and 750-pound round billets. A second caster was expected to be operational in January 1994. Dow is the only producer of the direct-chill-cast T-bars, which the company claims have a smoother surface and a lower likelihood of pockets than conventionally cast magnesium ingots.

Meridian Technologies, along with its joint-venture partner Teksid of Italy, reportedly will construct a 100,000-square-foot magnesium diecasting plant in Europe. The two companies plan to form a new European company called Meridian International. The new plant was planned to provide magnesium for a European automotive components manufacturer that will supply components for four European automakers. Meridian Technologies also announced that construction at its Eaton Rapids, MI, diecasting plant was complete, and the casting machines were being installed. Initial production was scheduled for September 1994.

General Motors Corp. reportedly was completing plans for three new magnesium alloy automobile components that are projected to consume about 5,000 tons of magnesium alloys annually. The new component, instrument panel support beams in three different vehicle lines, were scheduled to be introduced over a 2-year period, beginning in late 1995. The largest of the support beams, to be installed in standard-size vans, will weigh 33 pounds each, and will be the largest magnesium alloys components produced in high volumes in North America. Industry sources estimated that the new components will replace at least 17,000 tons of steel that is currently being used in these applications.

TABLE 1

U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF MAGNESIUM

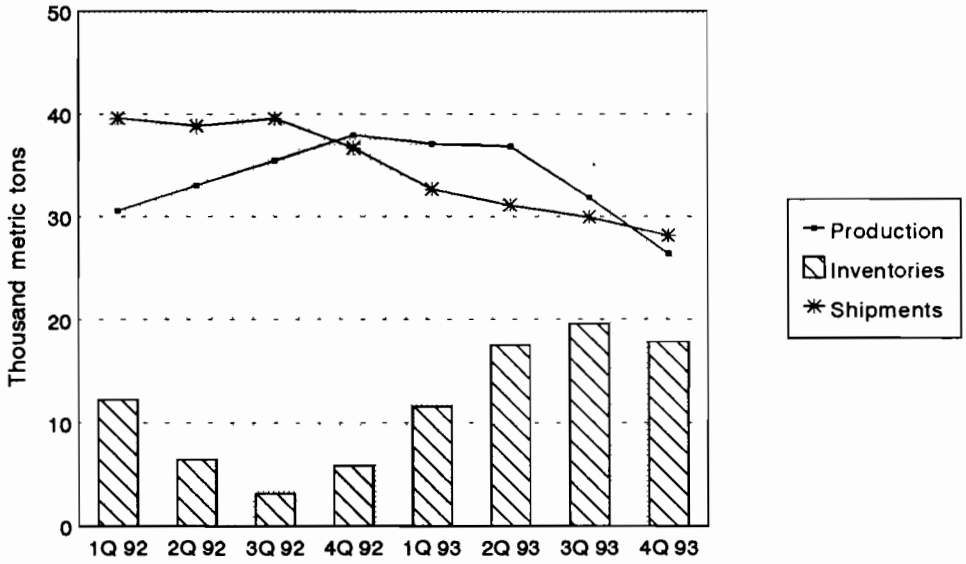
(Metric tons)

	1992 final	1993				
		Jan.-Aug.	Sept.	Oct.	Nov.	Jan.-Nov.[1]
Imports:						
Metal	4,243	10,658	5,619	1,996	1,792	20,065
Waste and scrap	2,425	2,131	381	331	313	3,156
Alloys (magnesium content)	3,837	5,504	560	696	771	7,531
Sheet, tubing, ribbons, wire, powder, and other (magnesium content)	1,336	1,191	69	86	28	1,374
Total	11,841	19,484	6,629	3,109	2,904	32,126
Exports:						
Metal	35,824	18,612	1,695	1,860	1,795	23,962
Waste and scrap	2,496	1,374	223	168	140	1,906
Alloys (gross weight)	1,473	1,155	180	248	178	1,762
Sheet, tubing, ribbons, wire, powder, and other (gross weight)	12,158	6,009	377	602	459	7,448
Total[1]	51,951	27,150	2,476	2,878	2,572	35,077

[1]Data may not add to totals shown because of independent rounding.

Source: Bureau of the Census.

Figure 1.—U.S. primary magnesium production, shipments, and inventories



Average magnesium metal prices in 1993