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

MINERAL INDUSTRY SURVEYS

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Magnesium, Quarterly

MAGNESIUM IN THE FIRST QUARTER 1993

Domestic production of primary magnesium in the first quarter of 1993 was 37,085 metric tons, slightly lower than that in the previous quarter, according to the U.S. Bureau of Mines. Producers' magnesium shipments of 32,657 tons were 11% less than those in the fourth quarter of 1992. By the end of the first quarter of 1993, producer inventories rose significantly to 11,625 tons.

Exports of magnesium during the first 2 months of 1993 were 24% below those for the same period of 1992. Total 1992 exports of magnesium were 6% less than exports in 1991. In the first 2 months of 1993, imports were nearly four times as great as those in the corresponding period of 1992. Countries from the former U.S.S.R. became significant sources of imports in the last half of 1992 and into 1993. Of the primary magnesium imports in January and February 1993, 59% was received from Russia. Of the total 1992 imports of pure magnesium, 45% came from Russia. Kazakhstan and the Ukraine also were sources for imports of pure metal, scrap, and alloys in 1992 and 1993. According to press reports, the majority of the material coming from these countries is oxidized and sells for 7 to 14 cents per pound less than prime-grade metal.

Free market primary magnesium prices declined slightly during the first quarter of 1993. The Metals Week U.S. transaction price quotation declined from a range of $1.46 to $1.53 per pound at the beginning of the quarter to $1.42 to $1.46 per pound by the end of March. Metals Week's quoted European free market price range dropped from $1.19 to $1.21 per pound to $1.09 to $1.12 by the end of the quarter. Metal Bulletin's free market price quotation decreased from a range of $1.18 to $1.20 per pound to $1.12 to $1.15 per pound. U.S. producers maintained the quotation of $1.53 per pound for primary magnesium and $1.54 per pound for diecasting alloy AZ91D throughout the first quarter.

The U.S.-Canada Binational Secretariat scheduled hearings for the Canadian appeals of the antidumping and countervailing duty decisions in May. The secretariat has organized the hearings into three separate cases, each with its own panel. On May 20, one panel will review the countervailing duty determinations on pure and alloy magnesium. The hearing on the appeal of the antidumping duty determinations has not been scheduled yet, but is expected to take place in late May. Appeals on the two injury rulings by the International Trade Commission are scheduled for May 27. Final decisions on the appeals for each case are due in August.

On April 23, the Office of the Trade Representative of the United States announced the initiation of a review to consider whether Russia satisfies the criteria for designation as a beneficiary developing country under the Generalized System of Preferences (GSP) program. Countries designated as GSP beneficiary countries normally are granted a tariff reduction on goods that are imported into the United States. Public comments on this review were due to the Office of the Trade Representative by May 14.

Pechiney reportedly restarted production at its magnesium plant in Marignac, France, at the beginning of March. The plant had been closed for 2 months to avoid high electric power costs. A plant spokesperson said that the plant would shut down during January and February each year to avoid these costs.

Dead Sea Works, a subsidiary of Israel Chemicals Ltd. (ICL), reportedly is soliciting a contractor for the

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engineering, construction, and management of a 25,000-ton-per-year primary magnesium plant in Israel. In March, ICL's board of directors approved a $366 million investment for the plant and a new 110 megawatt power station. The new plant will be located at the southern tip of the Dead Sea in the town of Sdom and will be constructed in two phases. Construction on the initial phase with an anuual capacity of 25,000 tons was expected to begin at the end of 1993, with the first production scheduled in 1995. If expansion is warranted, construction of a second 25,000-ton-per-year phase is scheduled for 1998. The new plant will use Russian electrolytic technology with carnallite as the raw material.

Hydro Magnesium reportedly is constructing a preliminary study to build a magnesium recycling plant near Herøya, Norway. The proposed plant would have a capacity of 10,000 tons per year and would be the first magnesium recycling plant in Norway. In an effort to encourage European automakers to use magnesium, the plant would melt scrap returned from diecasters and return it in ingot form. Completion of the study was scheduled for the second or third quarter of 1993.

A feasibility study conducted for the Gulf Organization for Industrial Consultancy, an offshoot of the Gulf Corporation Council (GCC), suggested constructing a 10,000-ton-per-year primary magnesium plant in the Persian Gulf area. (The six Arab nations that form the GCC are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.) The study indicated that Saudi Arabia would be a likely location for the new plant, but both Oman and Qatar could be possible locations. Annual magnesium demand in the six nations was estimated to be 3,000 tons, but was expected to increase to 10,000 tons by 2000. Cost for building the new magnesium plant was calculated to be $85 million, and because of inexpensive fuel costs in the area, the consultancy estimated that the cost of producing 1 ton of magnesium would be $2,880.

The automotive industry continued to be a main target area for increasing magnesium usage. Port City Diecasting in Muskegon, MI, planned to complete construction on a 13,000-square-foot magnesium diecasting facility in the summer. The company, which has been casting aluminum and zinc, is installing two 600-ton cold-chamber diecasting machines dedicated to magnesium. About one-half of Port City's current customers are with the automotive industry, and the company expects to have the same product mix with magnesium. Magnesium Products of America Inc., a subsidiary of Canada's Meridian Technologies Inc., plans to install three 3,000-pound magnesium diecasting machines in its new facility in Eaton Rapids, MI. This new plant is expected to be operation in September.

Borg-Warner Corp. plans to increase its production of magnesium alloy 4-wheel drive transfer cases by more than 100%, to a level over 500,000 units annually, within 3 years. Production of the additional cases will require nearly 3,000 tons of magnesium annually. The transfer cases are among the largest automotive parts made of magnesium, and Borg-Warner expected to shift to a production ration of 90% magnesium-10% aluminum within 3 years.

The U.S. Bureau of Mines has introduced a new easy-to-use automated fax response system, MINES FaxBack. (See the phone number at the top of this publication.) Callers will be able to retrieve some of the Bureau's monthly and quarterly Mineral Industry Survey (MIS) publications as soon as they are released and sent to the printer. All that is required is a fax machine *with a touch-tone telephone*. The FaxBack number for this publication, Magnesium in the First Quarter 1993, is 400041. Document for subsequent magnesium MIS's will be coded in the following manner: the last two digits of the magnesium document number will be replaced by the appropriate quarterly code—41 for the first quarter, 42 for the second quarter, 43 for the third quarter, and 44 for the fourth quarter. In addition to the quarterly MIS, the 2-page magnesium summary from the Bureau's Mineral Commodity Summaries 1993 has been added to the FaxBack system. The document number for this publication is 400393. Any comments you may have on this new system are encouraged and can be sent to the specialist listed at the top of this publication.

Table 1.—U.S. imports for consumption and exports of magnesium

(Metric tons)

	1992	1993		
		Jan.	Feb.	Jan.-Feb.[1]
Imports:				
Metal	4,243	490	1,019	1,509
Waste and scrap	2,425	274	299	573
Alloys (magnesium content)	3,837	821	803	1,624
Sheet, tubing, ribbons, wire, powder, and other (magnesium content)	1,336	156	225	381
Total[1]	11,841	1,740	2,346	4,086
Exports:				
Metal	35,824	2,971	2,405	5,376
Waste and scrap	2,496	143	176	319
Alloys (gross weight)	1,473	71	48	119
Sheet, tubing, ribbons, wire, powder, and other (gross weight)	12,158	1,006	1,534	2,539
Total[1]	51,951	4,190	4,162	8,353

[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