

Mineral Industry Surveys

For information, contact:

Deborah A. Kramer, Magnesium Commodity Specialist
U.S. Geological Survey
983 National Center
Reston, VA 20192
Telephone: (703) 648-7719, Fax: (703) 648-7722
E-mail: dkramer@usgs.gov

Jesse Inestroza (Data)
Telephone: (703) 648-7968
Fax: (703) 648-7975

MINES FaxBack: (703) 648-4999
Internet: <http://minerals.usgs.gov/minerals>

MAGNESIUM IN THE FOURTH QUARTER 1999

Domestic primary magnesium production in the fourth quarter was slightly lower than that in the previous quarter, according to the U.S. Geological Survey. Total 1999 production was significantly lower than that in 1998, primarily because of the closure of Dow Chemical Co.'s facility in November 1998. Producers' stocks at the end of the fourth quarter 1999 were 9% higher, and shipments were 14% lower than those in the third quarter of 1999.

Exports of magnesium through November 1999 were 19% less than those in the same period of 1998. Magnesium imports through November 1999 were 11% higher than those in the corresponding period of 1998.

Quoted prices of primary magnesium generally declined from those at the end of the third quarter. Prices are shown in the following table.

| | Units | Beginning of quarter | End of quarter |
|-------------------------------------|------------------------|----------------------|----------------|
| Metals Week U.S. spot Western | Dollars per pound | \$1.48-\$1.62 | \$1.40-\$1.55 |
| Metals Week U.S. spot dealer import | do. | 1.30-1.36 | 1.25-1.32 |
| Metals Week European free market | Dollars per metric ton | 2,450-2,550 | 2,250-2,350 |
| Metal Bulletin free market | do. | 2,400-2,500 | 2,450-2,550 |
| Metal Bulletin China free market | do. | 1,500-1,600 | 1,520-1,570 |

The International Trade Administration has extended the date for its 5-year sunset reviews of countervailing and antidumping duties on magnesium from Canada. The review date was extended to February 18, 2000, because the investigations are complicated (U.S. Department of Commerce, 1999).

The Environmental Protection Agency (EPA) is planning to collect information on sulfur hexafluoride (SF₆) emissions from companies that produce or cast magnesium. The data collection is part of EPA's SF₆ Emission Reduction Partnership for the Magnesium Industry, which is one of the agency's voluntary programs that contribute to the overall reduction of greenhouse gas emissions. By joining the partnership, a firm agrees to report an estimate of its SF₆ emissions to the EPA annually. The International Magnesium Association will act as third party by assembling the data and transmitting it to EPA to protect individual company proprietary data. EPA is soliciting public comments on its data gathering effort; the deadline for submitting comments is March 13 (U.S. Environmental Protection Agency, 2000).

In addition to its review of magnesium imports from China,

which has not been completed yet, but is expected by April, the European Commission is investigating imports of magnesium from Russia to determine whether the existing quota system is being circumvented. Under the quota system, only a specific quantity of magnesium can be imported into Europe from Russia before it is subject to a minimum price of 2,602 euros. Although the quota is confidential, Pechiney, the French magnesium producer, alleges that magnesium offered below the minimum price may have exceeded the quota. The Russian producers, Avisma and Solikamsk, maintain that they have been adhering to the quotas (Metal Bulletin, 1999a).

The Board of Directors of Israel Chemicals Ltd. approved the transfer of a majority stake (65%) in Dead Sea Magnesium (DSM) from Dead Sea Works Ltd. to Israel Chemicals, the parent company, at a cost of \$66.3 million; Volkswagen AG of Germany owns the remaining 35%. Israel Chemicals also will absorb DSM's \$111 million in bank debts. In addition to the financial restructuring, DSM plans to increase production capacity for magnesium alloys from 11,000 metric tons per year to 20,000 tons

per year by 2001. Primary magnesium production capacity will remain at 14,000 tons per year (Platt's Metals Week, 2000).

Avisma plans to more than double the production of magnesium at its Berezniki complex by 2003. The company plans to increase its annual capacity to 30,000 tons by 2000 and then gradually increase to 40,000 tons by 2003. Some of the existing capacity at the plant is expected to be converted to a process developed by the Russian Titanium & Magnesium Institute that can produce magnesium from synthetic carnallite made from brucite mined in the country's Khabarovsk region (Metal Bulletin, 1999b).

Instead of turning the Zaporozhye Titanium and Magnesium Works into a company eligible for privatization, the Ukraine Government has converted it into a public enterprise, which therefore can not be subject to lease or bankruptcy proceedings. There have been some problems with the country's Kalush complex, which is partly owned by the Canadian firm Shelton (See Magnesium in the Third Quarter 1999), so Ukraine decided not to risk the privatization of the 30,000-ton-per-year Zaporozhye plant as well (Interfax International Ltd., 1999).

According to the general secretary of the China Magnesium Association, China's production of magnesium in 1999 was expected to be 140,000 tons, an increase from the 1998 figure of 120,000 tons. China's current annual magnesium production capacity was estimated to be between 170,000 and 180,000 tons, with about 85 plants operating; this is believed to be the country's combined capacity for producing primary magnesium, magnesium alloys, and magnesium powder. Four plants have annual primary magnesium capacities greater than 10,000 tons—Wenxi Yinguang Magnesium Group Corp., Jilin Linjiang Magnesium Co., Shanxi Tongxiang Magnesium Co., and Shanxi Yiwei Magnesium Co. China also has the capacity to produce 50,000 tons of magnesium alloys annually (from 25 plants) and 45,000 tons of magnesium powder (from 38 plants) (Furukawa, 1999).

The 5,000-ton-per-year primary magnesium plant in Serbia reportedly restarted production at the end of 1999. The plant had been shut down because of the NATO bombing in the area. Although small quantities of magnesium were produced, it is uncertain whether commercial quantities of magnesium will be produced again (Metal Bulletin, 2000b).

In November 1999, Intermet Corp. entered into an agreement to buy Ganton Technologies and its unit Diversified Diemakers Inc. Specific terms of the agreement were not announced. The acquisition of Ganton Technologies, which is a diecaster of

aluminum, magnesium, and zinc will add to Intermet's product base, which is primarily iron castings. Diemakers is one of the largest magnesium casters in North America (Platt's Metals Week, 1999).

Twin City Die Castings, Minneapolis, MN, a manufacturer of aluminum and zinc diecastings, announced that it would build a new magnesium diecasting facility in Monticello, MN, by June 2000. Initial plans call for the installation of two 600- to 900-ton cold-chamber diecasting machines in 2000, and increasing this number to four by 2001 (Wrigley, 1999).

Norsk Hydro A/S and Taiwan's CS Aluminium are in discussions for the construction of a magnesium recycling plant in Taiwan. Although the project is in the planning stage and no details have been disclosed, the project is expected to collect magnesium diecasting scrap from Taiwanese firms and recover it in the form of high-purity alloys. The talks are expected to be completed by the beginning of the second quarter (Metal Bulletin, 2000a).

References Cited

- Furukawa, Tsukasa, 1999, Chinese magnesium is surging: American Metal Market, v. 107, no. 230, December 1, p. 5.
- Interfax International Ltd., 1999, Ukraine turns Zaporozhye titanium plant into public enterprise: Mining & Metals Report, v. 8, no. 52, December 17-23, p. 11.
- Metal Bulletin, 1999a, EU examines Russian magnesium imports: Metal Bulletin, no. 8430, November 29, p. 6.
- 1999b, Russian plants to expand Mg production by 2003: Metal Bulletin, no. 8428, November 22, p. 11.
- 2000a, CS Aluminium and Hydro in magnesium recycling project: Metal Bulletin, no. 8446, January 31, p. 13.
- 2000b, Magnesium market remains under pressure: Metal Bulletin, no. 8441, January 13, p. 8.
- Platt's Metals Week, 1999, Intermet targets diecaster Ganton for aluminum: Platt's Metals Week, v. 70, no. 47, November 22, p. 9.
- 2000, Israel Chemicals takes over Dead Sea Mg: Platt's Metals Week, v. 71, no. 5, January 31, p. 12.
- U.S. Department of Commerce, International Trade Administration, 1999, Extension of time limit for preliminary results of full five-year reviews: Federal Register, v. 64, no. 229, November 30, p. 66879-66880.
- U.S. Environmental Protection Agency, 2000, Agency information collection activities—Proposed collection comment request; reporting and recordkeeping activities associated with EPA's SF₆ emission reduction partnership for the magnesium industry: Federal Register, v. 65, no. 8, January 12, p. 1861-1862.
- Wrigley, Al, 1999, Magnesium—Singular sensation at Twin City: American Metal Market, v. 107, no. 227, November 24, p. 5.

TABLE 1
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF MAGNESIUM 1/

(Metric tons)

| | 1999 | | | | | |
|---|--------|--------------------|-----------|---------|----------|----------------------|
| | 1998 | January- August | September | October | November | January- November |
| Imports: | | | | | | |
| Metal | 26,500 | 17,600 | 2,600 | 2,370 | 1,910 | 24,500 |
| Waste and scrap | 5,720 | 4,200 | 494 | 680 | 605 | 5,980 |
| Alloys (magnesium content) | 49,600 | 34,000 | 6,880 | 5,840 | 4,580 | 51,300 |
| Sheet, tubing, ribbons, wire, powder, and other (magnesium content) | 757 | 408 | 20 | 41 | 107 | 576 |
| Total | 82,500 | 56,300 | 9,990 | 8,930 | 7,200 | 82,400 |
| Exports: | | | | | | |
| Metal | 11,500 | 3,890 | 259 | 277 | 319 | 4,750 |
| Waste and scrap | 13,200 | 10,300 | 1,640 | 2,010 | 1,350 | 15,300 |
| Alloys (gross weight) | 9,230 | 1,610 | 181 | 162 | 463 | 2,420 |
| Sheet, tubing, ribbons, wire, powder, and other (gross weight) | 1,470 | 3,260 | 314 | 866 | 274 | 4,710 |
| Total | 35,400 | 19,100 | 2,390 | 3,320 | 2,410 | 27,200 |

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.