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# Cadmium

Charles Henry MaGuire

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# CADMIUM

By C. H. MAGUIRE

Cadmium occurs associated with zinc, and is obtained as a by-product in the smelting of zinc ores. The metallurgical process employed abroad is fractional distillation of zinc ores. The first producer of cadmium in the United States was the Grasselli Chemical Co., who placed their product on the market in 1906. At present there are two producers—the American Smelting and Refining Co. and the Grasselli Chemical Co. During the year 1913 the total production of cadmium was about 26,250 lb. The Grasselli Co. obtains its cadmium from the cadmium-bearing blue powder; the American Smelting & Refining Co. gets its cadmium from the bag-house fume. The process used is not made public.

The imports of cadmium have steadily decreased since 1906 from a value of \$10,522 to a value of \$1,508 in 1913. The imports since 1908 are shown in the following table:

	Pounds.	Value.
1908.....	.....	\$2,166
1909.....	.....	4,643
1910.....	3,083	1,657
1911.....	5,956	3,718
1912.....	6,396	4,603
1913.....	1,999	1,508

The world's supply of cadmium comes chiefly from Upper Silesia, Germany. According to Messrs. Speier, of Breslau the production for the first quarter of 1913 totaled 9515 kg. During the corresponding period in the year 1912 the production was 10,881 kg. Because of the many small producers the exact production cannot be accurately determined.

A process for the production of electrodes for use in electric accumulators in alkaline electrolyte has been patented. (Ger. Pat. 250385; Ger. Pat. 252707.) Sponge cadmium is precipitated from a cadmium chloride solution by the use of zinc, magnesium, or aluminium and is then formed in the desired shapes.

Cadmium finds its most extensive use in the manufacture of fusible alloys, such as Wood's metal. (See BISMUTH.) It has been used to some extent for filling teeth. The sulphide is a valuable pigment.