MAGNESIUM COMPOUNDS[1]

[Data in thousand metric tons, magnesium oxide (MgO) content,[2] unless otherwise specified]

Domestic Production and Use: In 2025, most U.S. magnesium compounds were produced from seawater and natural brines. The value of shipments of all types of magnesium compounds (excluding magnesium chloride) was estimated to be $350 million compared with $349 million in 2024. Magnesium compounds were recovered from seawater by one company in California and another company in Delaware, from well brines by one company in Michigan, and from lake brines by two companies in Utah. Magnesite was mined by one company in Nevada. One company in Washington sold and processed stockpiled olivine. In July, a U.S. magnesia producer acquired another manufacturer of magnesia-based products that operated a magnesite mine in Nevada.

In the United States, about 78% of magnesium compounds were consumed in the form of caustic-calcined magnesia, magnesium chloride, magnesium hydroxide, and magnesium sulfates across the following industries and uses, in descending order of quantity, environmental, deicing, chemical, and agricultural. The remaining magnesium compounds were consumed for refractories in the form of dead-burned magnesia, fused magnesia, and olivine.

Salient Statistics—United States:	2021	2022	2023	2024	2025[e]
Production	432	412	428	398	400
Shipments (gross weight)	634	606	616	674	680
Imports for consumption	647	591	490	496	640
Exports	95	104	89	62	60
Consumption, apparent[3]	984	899	830	832	980
Employment, plant, number[e]	270	280	270	270	280
Net import reliance[4] as a percentage of apparent consumption	56	54	48	52	59

Recycling: Some magnesia-based refractories are recycled as construction aggregate, reused in refractory, and as foundry sand.

Import Sources (2021–24): Caustic-calcined magnesia: China,[5] 74%; Canada, 21%; and other, 5%. Crude magnesite: China,[5] 91%; Japan, 5%; and other, 4%. Dead-burned and fused magnesia: China,[5] 69%; Brazil, 17%; and other, 14%. Magnesium chloride: Israel, 56%; Netherlands, 21%; Austria, 7%; and other, 16%. Magnesium hydroxide: Mexico, 61%; Netherlands, 14%; Israel, 13%; and other, 12%. Magnesium sulfates: China,[5] 53%; Germany, 12%; India, 11%; Mexico, 7%; and other, 17%. Total imports: China,[5] 58%; Brazil, 8%; Canada, 8%; Israel, 8%; and other, 18%.

Tariff: Item	Number	Normal Trade Relations 12–31–25
Crude magnesite	2519.10.0000	Free.
Dead-burned and fused magnesia	2519.90.1000	Free.
Caustic-calcined magnesia	2519.90.2000	Free.
Kieserite	2530.20.1000	Free.
Epsom salts	2530.20.2000	Free.
Magnesium hydroxide and peroxide	2816.10.0000	3.1% ad valorem.
Magnesium chloride	2827.31.0000	1.5% ad valorem.
Magnesium sulfate (synthetic)	2833.21.0000	3.7% ad valorem.

Depletion Allowance: Brucite, 10% (domestic and foreign); dolomite, magnesite, and magnesium carbonate, 14% (domestic and foreign); magnesium chloride (from brine wells), 5% (domestic and foreign); and olivine, 22% (domestic) and 14% (foreign).

Government Stockpile: None.

Events, Trends, and Issues: In 2025, China was the leading producer and principal source of magnesia and magnesite imports to the United States. Based on domestic import data for the year through August, imports from China of caustic-calcined magnesia increased by 66% to 201,000 tons, and imports of dead-burned and fused magnesias from China increased by 9% to 77,200 tons compared with those in the same period in 2024. According to an industry study, most of China's magnesia and magnesite production were concentrated in Liaoning Province. In recent years, the Provincial government has issued guidance that aimed to consolidate the sector and manage output. From 2020 through 2024, the number of magnesite-mining enterprises in Liaoning decreased from 114 to 63, with further consolidation expected to reduce the number of operators to 56 by yearend 2025.

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MAGNESIUM COMPOUNDS

In October, 14,000 tons of magnesite was mined and shipped to a Japan-based steel refiner from a trial open pit mine in Australia. The producer expects to develop an open pit magnesite mine with a crushing and screening plant and a kiln to process the ore to downstream magnesium oxide.

World Magnesite Mine Production and Reserves (gross weight):[6] Significant revisions were made to the 2024 production for Canada, Greece, India, Russia, and Turkey based on company and Government reports. Reserves for China were revised based on Government reports. In addition to magnesite reserves, vast reserves of magnesium exist in well and lake brines and seawater from which magnesium compounds can be recovered.

	Mine production[e]		Reserves[7]
	2024	2025	
United States	W	W	35,000
Australia	410	400	[8]280,000
Austria	664	650	49,000
Brazil	1,850	1,800	200,000
Canada	230	230	NA
China	12,900	12,700	700,000
Greece	134	130	280,000
India	[9]117	85	66,000
Iran	200	200	10,000
Russia	1,690	1,700	2,300,000
Slovakia	[9]334	330	1,200,000
Spain	655	640	35,000
Turkey	[9]1,600	1,600	110,000
Other countries	341	340	2,500,000
World total (rounded)	[10]21,100	[10]21,000	7,800,000

World Resources:[7] Resources from which magnesium compounds can be recovered range from large to virtually unlimited and are globally widespread. Identified world magnesite and brucite resources total 13 billion tons and several million tons, respectively. Resources of dolomite, forsterite, magnesium-bearing evaporite minerals, and magnesia-bearing brines are estimated to constitute a resource of billions of tons. Magnesium hydroxide can be recovered from seawater. Serpentine could be used as a source of magnesia but global resources, including in tailings of asbestos mines, have not been quantified but are estimated to be very large.

Substitutes: Alumina, chromite, and silica substitute for magnesia in some refractory applications.

[e]Estimated. NA Not available. W Withheld to avoid disclosing company proprietary data.

[1]See also the Magnesium Metal chapter.

[2]Reported as magnesium content through Mineral Commodity Summaries 2016. Based on input from consumers, producers, and others involved in the industry, reporting magnesium compound data in terms of magnesium oxide (MgO) content was determined to be more useful than reporting in terms of magnesium content. Calculations were made using MgO contents: magnesite, 47.8%; magnesium chloride, 42.3%; magnesium hydroxide, 69.1%; and magnesium sulfate, 33.5%.

[3]Defined as production + imports – exports.

[4]Defined as imports – exports.

[5]Includes Hong Kong.

[6]Gross weight of magnesite (magnesium carbonate) in thousand tons.

[7]See Appendix C for resource and reserve definitions and information concerning data sources.

[8]For Australia, Joint Ore Reserves Committee-compliant or equivalent reserves were 37 million tons.

[9]Reported.

[10]Excludes U.S. production.