

PRODUCT IDENTIFICATION



Product Name: Magnesium Hydroxide ACS

CAS Number: 1309-42-8

Molecular Formula: H_2MgO_2

Molecular Weight: 58.320 g/mol

Grade: ACS Grade

Purity / Concentration: Not Available

Synonyms: Milk of Magnesia, Magnesium Hydroxide Powder

PRODUCT OVERVIEW

Magnesium Hydroxide ACS Grade is a high-purity, fine white crystalline powder essential for precision applications requiring strict chemical compliance. With an assay of 96.5% and exceptionally low impurity levels, such as 1 ppm for heavy metals, this reagent-grade material is ideal for sensitive pH adjustment and pharmaceutical-grade formulations.

Grade Significance: ACS Grade signifies that this product meets the rigorous purity standards set by the American Chemical Society, ensuring reliability and consistency for laboratory and high-stakes industrial use.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	99.18	95	—	Titration
Arsenic As	ppm	0.0001	0	0.0003	ICP-MS
Calcium	%	0.26	—	1.5	Per specification
Calcium Ca	%	0.26	0	0.5	ICP-MS
Heavy Metals As Pb	ppm	6	—	20	ICP-MS (as Pb)
Iron	ppm	0.1	—	0.12	ICP
Manganese Mn	ppm	0.0020	0	0.0050	ICP-MS
Chloride (Cl^-)	ppm	0.01	0	0.03	Ion chromatography
Sulfate (SO_4^{2-})	ppm	0.05	0	0.1	Ion chromatography
Acid Insoluble Substances	%	0.02	0	0.05	Gravimetric

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Fine white crystalline powder, opaque	Odor	Odorless
Form	Solid	Boiling Point	350°C (662°F)
Melting / Freezing Point	350 °C (decomposes)	Specific Gravity	2.36
Solubility	Low water solubility, insoluble in alcohol	Molecular Formula	H_2MgO_2
Molecular Weight	58.320 g/mol	Density (25°C)	2.36 g/mL

APPLICATIONS

1. **Pharmaceutical** — Used as a primary active ingredient in antacids to neutralize stomach acid and as an osmotic laxative to relieve constipation.
2. **Water Treatment** — Acts as an effective alkaline agent to adjust and stabilize the pH levels of water in industrial and municipal treatment processes.
3. **Plastics and Polymers** — Incorporated as a flame retardant additive, it helps enhance fire resistance in various plastic and textile products.
4. **Chemical Manufacturing** — Serves as a high-purity precursor for the synthesis of other magnesium compounds and specialty chemicals.

STORAGE & HANDLING

Magnesium Hydroxide should be stored in a cool, dry, and well-ventilated area in a tightly sealed container to prevent moisture absorption. Maintaining these conditions ensures the chemical remains free-flowing and prevents potential degradation that could compromise its purity and shelf life.

- Store in a cool, dry place away from moisture.
- Use containers made of HDPE or glass to prevent contamination.
- Avoid exposure to incompatible materials such as strong acids.
- Ensure proper ventilation when handling to minimize dust inhalation.
- Use appropriate personal protective equipment (PPE) such as gloves and masks.

AVAILABLE PACKAGING

- 2 lbs.
- 5 Lbs.
- 55 Lbs.

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **WARNING**

No GHS pictograms assigned.

Hazard Statements:

- Not Classified
- Reported as not meeting GHS hazard criteria by 630 of 736 companies

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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