Technical Data Sheet

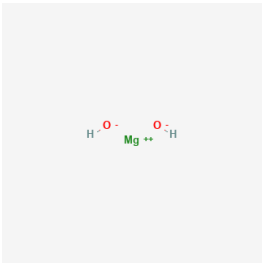
# Magnesium Hydroxide ACS

ACS

| Alliance Code | Revised | Revision |
|---|---|---|
| magnesium-hydroxide-acs | 2026-10-13 | 1.4 |

CAS number

1309-42-8



Structure · PubChem

Grade

ACS

## IDENTITY & COMPOSITION

PRODUCT NAME

Magnesium Hydroxide ACS

ALLIANCE CODE

magnesium-hydroxide-acs

GRADE

ACS

CONCENTRATION

—

CAS NUMBER

1309-42-8 PubChem

FORMULA

Mg(OH)2 PubChem

MOLECULAR WEIGHT

58.320 PubChem

PRODUCT TYPE

Pure substance

## SPECIFICATIONS

| TEST | SPECIFICATION | TYPICAL | METHOD | SOURCE |
|---|---|---|---|---|
| Assay [Mg(OH)2] | 95.00 - 100.5 % | — | — | Interpreted |
| Arsenic (As) | 3 ppm max | — | — | Interpreted |
| Calcium (Ca) | 1.50 % max | — | — | Interpreted |

| TEST | SPECIFICATION | TYPICAL | METHOD | SOURCE |
|---|---|---|---|---|
| Carbonate (CO3) | To pass test | — | — | Interpreted |
| Heavy metals (as Pb) | 0.01 % max | — | — | Interpreted |
| Loss on drying @ 105 C | 2.00 % max | — | — | Interpreted |
| Loss on ignition | 30 - 33.00 % | — | — | Interpreted |
| Identification (magnesium) | To pass test | — | ACS identification test - flame reaction and precipitation with ammonium phosphate | Interpreted |
| Insoluble in dilute hydrochloric acid | 0.02 % max | — | Gravimetric - dissolve in dilute HCl, filter, ignite residue | Interpreted |
| Chloride (Cl) | 0.03 % max | — | Turbidimetric comparison with AgNO3 against chloride standard | Interpreted |
| Sulfate (SO4) | 0.10 % max | — | Turbidimetric comparison with BaCl2 against sulfate standard | Interpreted |
| Iron (Fe) | 0.02 % max | — | Colorimetric, 1,10-phenanthroline (or ICP-OES) | Interpreted |
| Ammonium hydroxide precipitate (as R2O3) | 0.02 % max | — | Gravimetric - NH4OH precipitation, ignition to mixed oxides | Interpreted |

Values are reproduced from the current product reference. Source labels do not by themselves establish a supplier guarantee or a test result for your lot. Confirm applicable acceptance limits and request lot-specific documentation.

## AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

| GRADE | CONCENTRATION | TYPICAL ASSAY | SKU |
|---|---|---|---|
| THIS GRADE ACS | — | — | current |

| GRADE | CONCENTRATION | TYPICAL ASSAY | SKU |
|---|---|---|---|
| Technical | — | — | magnesium-hydroxide-technical |

Typical assay for each grade is the average of its recent lots. Confirm a grade meets your specification before substituting it.

## PHYSICAL & CHEMICAL PROPERTIES

| PROPERTY | VALUE | SOURCE |
|---|---|---|
| Appearance | Fine white crystalline powder, opaque | Adjudicated |
| Form | Solid | Published reference |
| Odor | Odorless | Published reference |
| pH | pH = 9.5-10.5 (aqueous slurry) | Published reference |
| Density | 2.36 g/mL | Published reference |
| Boiling Point | 350 | Published reference |
| Melting Point | 350 °C (decomposes) | Adjudicated |
| Flash Point | N/A | Published reference |
| Solubility (water) | Practically insoluble in water and in ethanol | Published reference |

## REGULATORY & TRANSPORT

### DOT / 49 CFR

UN NUMBER
Not regulated Adjudicated

HAZARD CLASS
Not regulated Adjudicated

PACKING GROUP
Not regulated Adjudicated

PROPER SHIPPING NAME
Not regulated Adjudicated

### GHS / OSHA HCS 2024

SIGNAL WORD
Not regulated Adjudicated

H-CODES (HAZARD STATEMENTS)
Not applicable Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)
Not applicable Adjudicated

### OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)
— no canonical

ACGIH TLV
— no canonical

NIOSH REL
— no canonical

NIOSH IDLH
— no canonical

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

## APPLICATIONS

Acid neutralization magnesiaspecialties.com

Flame retardant and smoke suppressant in plastics magnesiaspecialties.com

Acid scavenger in elastomers magnesiaspecialties.com

Production of magnesium salts, ceramics, and specialty applications magnesiaspecialties.com

Applications are drawn from published manufacturer and supplier documentation; each is sourced. Suitability for a specific use is the buyer's to confirm.

## STORAGE & HANDLING

RECOMMENDED STORAGE

Keep containers tightly closed in a dry, cool, well-ventilated place away from incompatible materials. Non-combustible solid; minimize dust formation and accumulation.

Adjudicated

HANDLING PRECAUTIONS

Use standard chemical PPE — splash goggles, gloves, lab coat. Refer to SDS for hazard-specific PPE requirements.

Class-level guidance — not product-specific; the SDS controls.

INCOMPATIBILITIES

Strong acids; strong oxidizing agents; phosphorus (spontaneous ignition); maleic anhydride.

Adjudicated

SHELF LIFE

Consult Technical Services for product-specific shelf life

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

## PACKAGING & LOGISTICS

### SHIPPING DESCRIPTION (US DOT)

```
Not regulated for transport.
```

Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS

70

## REVISION HISTORY

Last reviewed 2026-10-13 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

| VERSION | DATE | CHANGE | TRIGGER |
|---|---|---|---|
| 1.4 | 2026-10-13 | Canonical data updated: 4 fields changed via the provenance/adjudication pipeline.<br>• `storage_precautions` · canonical change (coa.data_provenance / adjudication)<br>• `incompatible_materials` · canonical change (coa.data_provenance / adjudication)<br>• `conditions_to_avoid` · canonical change (coa.data_provenance / adjudication)<br>• `hazardous_decomposition_products` · canonical change (coa.data_provenance / adjudication) | canonical_change |

| VERSION | DATE | CHANGE | TRIGGER |
|---|---|---|---|
| 1.3 | 2026-10-02 | Canonical data updated: 2 fields changed via the provenance/adjudication pipeline.<br>• hazard_h_codes · canonical change (coa.data_provenance / adjudication)<br>• hazard_p_codes · canonical change (coa.data_provenance / adjudication) | canonical_change |
| 1.2 | 2026-09-30 | Canonical data updated: 2 fields changed via the provenance/adjudication pipeline.<br>• meltingPoint · canonical change (coa.data_provenance / adjudication)<br>• appearance · canonical change (coa.data_provenance / adjudication) | canonical_change |
| 1.1 | 2026-06-17 | Canonical data re-verified: 3 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable).<br>• countryOfOrigin · canonical adjudication / reground (coa.data_provenance)<br>• dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance)<br>• hsCode · canonical adjudication / reground (coa.data_provenance) | canonical_change |
| 1.0 | 2026-05-20 | Initial URL-first TDS published from canonical chemistry registry. | initial |

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.