

TECHNICAL DATA SHEET

Magnesium Hydroxide ACS

ACS

CAS NUMBER	ALLIANCE CODE	GENERATED
1309-42-8	magnesium-hydroxide-acs	2026-08-31
REVISION	REVIEWED	
1.1	2026-06-17 · Andre Taki	

IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
Magnesium Hydroxide ACS	magnesium-hydroxide-acs
GRADE	CONCENTRATION
ACS	—
CAS NUMBER	FORMULA
1309-42-8 PubChem	H2MgO2 PubChem
MOLECULAR WEIGHT	PRODUCT TYPE
58.320 PubChem	pure_substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay [Mg(OH)2]	95.00 - 100.5 %	97.75 %	—	Supplier specification
Arsenic (As)	3 ppm max	0.1 ppm	—	Supplier specification
Calcium (Ca)	1.50 % max	0.05 %	—	Supplier specification

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Carbonate (CO ₃)	To pass test	Passes test	—	Supplier specification
Heavy metals (as Pb)	0.01 % max	0.001 %	—	Supplier specification
Loss on drying @ 105 C	2.00 % max	0.4 %	—	Supplier specification
Loss on ignition	30 – 33.00 %	31.50 %	—	Supplier specification
Identification (magnesium)	To pass test	Passes test	ACS identification test – flame reaction and precipitation with ammonium phosphate	Interpreted
Insoluble in dilute hydrochloric acid	0.02 % max	0.005 %	Gravimetric – dissolve in dilute HCl, filter, ignite residue	Interpreted
Chloride (Cl)	0.03 % max	0.005 %	Turbidimetric comparison with AgNO ₃ against chloride standard	Interpreted
Sulfate (SO ₄)	0.10 % max	0.01 %	Turbidimetric comparison with BaCl ₂ against sulfate standard	Interpreted
Iron (Fe)	0.02 % max	0.002 %	Colorimetric, 1,10-phenanthroline (or ICP-OES)	Interpreted
Ammonium hydroxide precipitate (as R ₂ O ₃)	0.02 % max	0.005 %	Gravimetric – NH ₄ OH precipitation, ignition to mixed oxides	Interpreted

Specification values are guaranteed limits. Typical values are representative of production lots and are not guaranteed. Lot-specific certificates of analysis ship with every order.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE ACS	—	—	current
—	—	—	magnesium-hydroxide-technical

Typical assay shown is the rolling-window mean from the sibling product's most recent lots. Grade selection drives downstream end-use — verify the sibling grade matches your specification before substitution.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Dry Powder, Liquid; Pellets or Large Crystals; Liquid; Water or Solvent Wet Solid; Dry Powder; Other Solid	Published reference
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)	Published reference
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](#)

PACKING GROUP

Not regulated [Adjudicated](#)

HAZARD CLASS

Not regulated [Adjudicated](#)

PROPER SHIPPING NAME

Not regulated [Adjudicated](#)

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Not regulated [Adjudicated](#)

H-CODES (HAZARD STATEMENTS)

— [no canonical](#)

P-CODES (PRECAUTIONARY STATEMENTS)

— [no canonical](#)

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: ECHA CLP Annex VI for harmonised classifications, 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 [magnesiumspecialties.com](#)

Flame retardant and smoke suppressant in plastics [magnesiumspecialties.com](#)

Acid scavenger in elastomers [magnesiumspecialties.com](#)

Production of magnesium salts, ceramics, and specialty applications [magnesiumspecialties.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

Store in a dry place; exposure to moisture may cause caking

magnesiumspecialties.com

INCOMPATIBILITIES

moisture magnesiumspecialties.com

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.

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 2026-06-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
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). - countryOfOrigin · canonical adjudication / reground (coa.data_provenance) - dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance) - 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.