Light Magnesium Oxide

Specialty MgO · **CAS 1309-48-4** · **Grade HD-8 / HD-9**

1. PRODUCT DESCRIPTION

Manufactured via chemical carbonization of magnesium salts followed by controlled calcination, Light Magnesium Oxide exhibits a voluminous structure (4-8 ml/g) with exceptional surface reactivity. Its high specific surface area (40-60 m^2/g) and fine particle size (D50 1.5-10μm) enable rapid dispersion in polymer matrices. In rubber applications, it acts as a dual-function additive: accelerating vulcanization in chloroprene (CR) and EPDM while neutralizing acidic degradation products. For ceramics, it reduces sintering temperature by 50-100°C, lowering energy costs. In electrical applications, its high dielectric strength (15-20 kV/mm) makes it ideal for cable insulation and heating element cores.

2. TYPICAL PROPERTIES

Columns: **HD-8 · HD-9** — values are per grade.

PROPERTY	TYPICAL VALUE
Appearance	White powder
MgO Content, %, min	98.8
Ca Content, %, max	0.05
Fe Content, %, max	0.005
Chloride (Cl-), %, max	0.4
SiO2 Content, %, max	0.01
Particle Size D50, μm	40-60 / 1-2
Bulk Density, g/ml, min	0.5 / 0.3
K Content, %, max	0.01
Na Content, %, max	0.001
Whiteness, min	95
Loss on Ignition, %, max	29.2
Al2O3 Content, %, max	0.01
Arsenic (As), ppm, max	2
Lead (Pb), ppm, max	4

> **Typical values, not a purchase specification.** A batch-specific Certificate of Analysis is issued for every shipment. Confirm acceptance limits for your application with us before ordering.

3. MATERIAL CONSTANTS

PROPERTY	VALUE	SOURCE
True density	3.58 g/cm³	Literature value
Melting point	2,852 °C	Literature value
Mohs hardness	5.5	Literature value
Refractive index	1.736	Literature value

4. TYPICAL APPLICATIONS AND KEY PROPERTIES

- Accelerates Rubber Cure by 15-30% (shortens molding cycles)
- Two grades: HD-8 coarse (D50 40-60 μm) and HD-9 fine (D50 1-2 μm)
- Whiteness ≥ 95, suitable for light-coloured filled plastics
- Low heavy metals (As ≤ 2 ppm, Pb ≤ 4 ppm) for sensitive applications

5. HANDLING NOTES

- **Dispersion.** Dry-blend or side-feed depending on loading; avoid moisture pickup before compounding.
- **Storage.** MgO is hygroscopic — reseal opened bags and use within the recommended period.
- **Dosage.** Confirm the addition level against your compound formulation; over-dosage can scorch or affect cure.
- **Safety.** Dust mask and eye protection when handling powder. See the SDS for full information.

6. PACKAGING AND STORAGE

ITEM	DETAIL
Packaging	25 kg PP woven bag with PE liner; larger packaging on request
Storage	Cool, dry, sealed — keep away from acids and moisture
Shelf life	24 months in unopened original packaging
Loading port	Tianjin (Xingang) / Qingdao

7. REGULATORY STATUS

ITEM	STATUS
REACH SVHC	Base material screened — no SVHC above 0.1 % w/w (SGS SHAEC2008188708). Treated grades can be tested on request.
RoHS (EU) 2015/863	Base material compliant (SGS NGBEC25004227002 / CZXEC1900477942). Treated grades on request.
Quality system	ISO 9001:2015 — certificate 21726Q00302R001, valid to 2029-04-15