MgO for Magnesium Stearate

Chemical Synthesis · **CAS 1309-48-4** · **Grade M411**

1. PRODUCT DESCRIPTION

Engineered for direct reaction with stearic acid ($C_{17}H_{35}COOH$) to produce magnesium stearate [$Mg(C_{17}H_{35}COO)_2$]—a critical lubricant in tablet manufacturing. This grade's controlled particle size and low iron content (<100 ppm) prevent discoloration and ensure reaction completion within 2-3 hours at 110-130°C. The resulting magnesium stearate meets stringent pharmaceutical purity standards (USP <530>, EP 2.4.17) with residual MgO <0.5%. Its low chloride content (<0.05%) prevents equipment corrosion during synthesis. High whiteness (98+) transfers to the final product, maintaining tablet aesthetics. Batch-to-batch consistency in bulk density (0.3-0.5 g/ml) ensures reproducible feeding rates in continuous reactors.

2. TYPICAL PROPERTIES

PROPERTY	TYPICAL VALUE
MgO Content	≥ 98.0%
Fe	≤ 0.01%
Reaction Efficiency	High
Cl Content	≤ 0.05%

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

- High Conversion Yield (99%+ reaction completion in 2-3h)
- Pharmaceutical Purity (Fe <100 ppm, meets USP/EP standards)
- Low Chloride (<0.05%) prevents reactor corrosion
- Consistent Bulk Density (0.3-0.5 g/ml for automated dosing)

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