

**Product Name:** Lithium Magnesium Silicate

**CAS No.:** 53320-86-8

### 1. PRODUCT DESCRIPTION

Lithium Magnesium Silicate is a synthetic layered silicate with a structure similar to natural hectorite. It is a high-purity, white, free-flowing powder that functions as a rheological additive in aqueous systems. When dispersed in water, it forms highly thixotropic, transparent gels. It provides excellent suspension for pigments and fillers, preventing sedimentation while maintaining superior flow and leveling.

### 2. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Property	Specification
Appearance	White free-flowing powder
Chemical Composition	SiO <sub>2</sub> , MgO, Li <sub>2</sub> O, Na <sub>2</sub> O
Whiteness	≥90%
pH (2% aqueous suspension)	9.0 – 11.0
Moisture Content (105°C, 2h)	≤10.0%
Viscosity (2% aqueous soln.)*	400 – 1200mPa·s
Bulk Density	0.8 – 1.0 g/cm
Sieve Residue (100 mesh)	≤0.5

*\*Viscosity measured by Brookfield RVT at 25°C after full dispersion.*

### 3. PERFORMANCE FEATURES

**Superior Thixotropy:** High low-shear viscosity for excellent anti-settling and anti-sagging properties.

**Optically Clear:** Forms transparent gels, making it ideal for clear-coat applications and high-end cosmetics.

**Inertness:** Highly resistant to microbial attack and chemical degradation.

**Ease of Use:** Synergistic when combined with organic thickeners (e.g., HEC, Xanthan Gum) to enhance stability and skin feel.

#### 4. APPLICATIONS

**Coatings & Paints:** Multi-color (granite effect) paints, waterborne industrial coatings, and architectural paints.

**Personal Care:** Toothpaste, facial masks, shampoos, and sunscreens.

**Household & Industrial:** Liquid detergents, cleaners, and agrochemical suspensions.

**Ceramics:** Glaze stabilization and suspension.

#### 5. DISPERSION GUIDELINES

To ensure full hydration and optimal rheological performance:

Add the powder slowly into the vortex of water under high-speed stirring (1000-2000 revolutions per minute).

Maintain agitation for 20–40minutes until the dispersion becomes a clear, uniform liquid.

**Note:** The presence of salts (electrolytes) can accelerate gelation but may hinder initial hydration. It is recommended to hydrate the silicate in deionized water before adding other ingredients.

#### 6. STORAGE & HANDLING

**Storage:** Store in a cool, dry, and well-ventilated area.

**Caution:** The product is hygroscopic. Keep the container tightly sealed when not in use.

**Shelf Life:** 24 months from the date of manufacture in original, unopened packaging.