Polymer Add (Thailand) Co.,Ltd.

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MAGNESIUM STEARATE (MICRONISED)

KEY APPLICATIONS

1) Identification & Chemical Information

Item	Details
CAS Number	**557-04-0**
IUPAC Chemical Name	Magnesium bis(octadecanoate)
Common Industry / Trade Synonyms	Magnesium stearate; Stearic acid, magnesium salt

2) Physical and Chemical Properties

Property	Description
Appearance	White to off-white fine powder
Density	~1.0–1.1 g/cm^3
Melting Range	~130–150 °C
Solubility	Insoluble in water; dispersible in organic and non-polar systems
Particle Size Distribution (Micronised Grade)	D50: ~2–6 µm / D90: <15 µm / D99: <25 µm
Hydrophobicity	High

3) Application-Specific Technical Discussion

3.1 Specific Benefits

Magnesium stearate (micronised) is selected where controlled lubrication, flow improvement, and surface coverage are required at very low addition levels without adversely affecting formulation stability or appearance.

- Effective lubrication at low dosages
- Improved powder flow and anti-sticking behaviour
- Reduced friction at material–equipment interfaces
- Consistent performance due to fine particle size

3.2 End Uses

- Pharmaceutical tablet and capsule lubrication
- Nutraceutical and dietary supplement formulations
- Powdered food and food-contact processing aids
- Polymer masterbatches and additive concentrates
- Cosmetic and personal care powder formulations

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3.3 Key Physical, Chemical & Performance Parameters

- Metal soap molecular structure
- High hydrophobic character
- Fine, uniform particle size distribution
- Low reactivity with active ingredients
- Low moisture interaction due to water insolubility

3.4 Known Limitations

- Excessive dosage may affect tablet dissolution profiles
- Potential for over-lubrication in sensitive formulations
- Performance dependent on mixing sequence and shear conditions

4) Regulatory Note

Regulatory status depends on grade, purity, and intended use. Food-contact and regional compliance listings, where applicable, are addressed in separate regulatory documentation.

5) Disclaimer

Information provided for technical reference only.
No warranty of fitness for a particular purpose.
User responsible for validation, trials, and regulatory compliance.

6) Creation and Review

Creation: January 2026
Next Technical Review: January 2028

END OF ARTICLE