

Polymer Add (Thailand) Co.,Ltd.

Office - 106, Chalarempriakiat, Lor 9, Soi 22, Yak 5, Nongbon, Prawet, Bangkok, Thailand 10250
Factory - 188/3, Moo 8, Tambon Bangpu Mai, Amphoe Muang Samut Prakan, Samutprakan, Thailand 10280
Mobile - Thai : 0804531391, English: 0839415475, E-mail – contact@polymeradd.co.th



TECHNICAL DATA SHEET MGST-557

PRODUCT CLASSIFICATION

Chemical Name	MAGNESIUM STEARATE (MICRONIZED)
Grade Name	MGST-557
CAS No.	557-04-0
HS Code	2915.70.00
EINECS No.	209-150-3
Molecular Formula	$Mg(C_{18}H_{35}O_2)_2$
Molecular Weight	~591.24 g/mol
Synonyms	Stearic acid magnesium salt, Magnesium distearate

PHYSICAL & CHEMICAL PROPERTIES

Property	Typical Value / Description	Test Method
Appearance	White, fine, free-flowing powder	Visual
Odor	Odorless or faint fatty odor	Sensory
Free Fatty Acid	≤ 3.0% (as stearic acid)	Titration
Magnesium Content (as Mg)	4.0 – 5.5%	Complexometric
Loss on Drying	≤ 3.0%	Oven drying (105 °C)
Melting Point	~130 – 150 °C (softens/decomposes)	Capillary
Solubility in Water	Insoluble	Observation
Solubility in Organic Solvents	Insoluble; dispersible in oils	Observation
Bulk Density	0.15 – 0.35 g/cm ³	Tapped Density
Particle Size (D50)	6 – 10 µm	Laser Diffraction
Particle Size (D99)	< 25 µm	Laser Diffraction

➤ Commercial values may vary by process. Above data are typical for technical micronized grade.

HEAVY METALS (EU REGULATION 10/2011 – CONTENT LIMITS IN ADDITIVES)

Element	Typical Limit	Test Method
Lead (Pb)	≤ 5 ppm	ICP, AAS, XRF
Cadmium (Cd)	≤ 1 ppm	ICP, AAS
Mercury (Hg)	≤ 1 ppm	ICP, CV-AAS
Arsenic (As)	≤ 1 ppm	ICP, AAS

USES / APPLICATION

Industry	Commercial Application / Uses (Micronized Grade)
Plastics	Lubricant and mold release agent in PVC, PP, PE
Rubber	Processing aid and mold release in NR and synthetic rubbers
Pharmaceuticals	Tablet lubricant and anti-adherent (pharma-grade only)

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Cosmetics	Opacifier, binder, and texture modifier in powders and creams
Coatings & Inks	Flatting and anti-settling agent
Food Packaging	Release agent (subject to food-grade certification)

US FDA 21 CFR LISTING

CFR Section	Title / Description
184.1440	Magnesium stearate – GRAS (food-grade, direct additive)
175.300	Resinous and polymeric coatings
178.2010	Stabilizers and lubricants in polymers
177.2600	Rubber articles intended for repeated use

COLOUR IMPACTING IMPURITIES

Element	Typical Max Limit (ppm)	Test Method
Iron (Fe)	≤ 100 ppm	ICP, AAS, XRF
Manganese (Mn)	≤ 30 ppm	ICP, AAS, XRF
Copper (Cu)	≤ 20 ppm	ICP, AAS, XRF
Nickel (Ni)	≤ 20 ppm	ICP, AAS, XRF
Chromium (Cr)	≤ 10 ppm	ICP, AAS, XRF

PRODUCT PERFORMANCE IMPACTING IONS / IMPURITIES

Ion / Element	Typical Max Limit (ppm)	Test Method
Sodium (Na)	≤ 100 ppm	ICP, AAS, XRF
Potassium (K)	≤ 100 ppm	ICP, AAS, XRF
Calcium (Ca)	≤ 300 ppm	ICP, AAS, XRF
Chloride (Cl ⁻)	≤ 100 ppm	Ion Chromatography
Sulfate (SO ₄ ²⁻)	≤ 100 ppm	Ion Chromatography

Disclaimer:

This product is intended for industrial use. Food, pharma, or cosmetic applications require grade-specific certification. Suitability for end-use must be validated by the customer. Values listed are typical and do not constitute a specification unless formally agreed.

Month of Creation: July 2025

Month of Review: July 2027