Polymer Add (Thailand) Co.,Ltd.

Office - 106, Chalaremprakiat, Lor 9, Soi 22, Yak 5, Nongbon, Prawet, Bangkok, Thailand 10250

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MGS-100	**TECHNICAL DATA SHEET**

Chemical Name	MAGNESIUM SILICATE SYNTHETIC (MICRONIZED)
Grade Name	MS-100
CAS No.	1343-88-0
HS Code	2519.90.00
EINECS No.	215-681-1
Molecular Formula	$MgSiO_3$ (for typical synthetic magnesium silicate)
Molecular Weight	100.39 g/mol
Synonyms	Synthetic Talc, Hydrated Magnesium Silicate, Precipitated Magnesium Silicate

Property	**Typical Value / Description**	**Test Method**
Appearance	Fine white to off-white powder	Visual
Odor	odourless	Sensory
pH (10% slurry)	8.0 – 10.0	pH meter
Moisture Content	≤ 2.0%	Oven drying at 110 °C until constant weight
Bulk Density	0.2 – 0.4 g/cm^3	Tapped density method
Whiteness	≥ 92 (CIE L*)	CIE method (paste in mineral oil base)
Oil Absorption (DBP)	40 – 60 g/100g	Spatula rub-out method with Mineral Oil
Melting Point	>1000 °C (decomposes)	Literature / Estimation
Solubility in Water	Insoluble	Visual observation in distilled water
Loss on Ignition (LOI)	10 – 20% (at 1000 °C)	Heating in muffle furnace above 900 °C
Particle Size (D50)	Typically, 5 µm (grade-dependent)	Laser diffraction (wet method)
Particle Size (D99)	Typically, 20 µm (grade-dependent)	Laser diffraction (wet method)

Heavy Metals (EU Regulation 10/2011 (content limits in additives) Plastics (Food-Grade / Repeated Use)		
Element	**Typical Limit**	**Test Method**
Lead (Pb)	≤ 10 ppm	ICP, AAS, XRF
Cadmium (Cd)	≤ 1 ppm	ICP, AAS
Mercury (Hg)	≤ 0.1 – 1 ppm	ICP, AAS, CV-AAS
Arsenic (As)	≤ 1 – 3 ppm	ICP, AAS
Chromium (VI)	ND – 0.1 ppm (if present)	UV-Vis (after extraction with NaOH)

Colour impacting impurities		
Element	**Typical Max Limit (ppm)**	**Test Method**
Iron (Fe)	≤ 2000 ppm	ICP, AAS, XRF
Manganese (Mn)	≤ 100 ppm	ICP, AAS, XRF
Chromium (Cr)	≤ 50 ppm	ICP, AAS, XRF
Copper (Cu)	≤ 50 ppm	ICP, AAS, XRF
Nickel (Ni)	≤ 30 ppm	ICP, AAS, XRF
Cobalt (Co)	≤ 20 ppm	ICP, AAS, XRF
Vanadium (V)	≤ 20 ppm	ICP, AAS, XRF

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Product performance impacting impurities		
Ion / Element	**Typical Max Limit (ppm)**	**Test Method**
Calcium (Ca)	≤ 500 ppm	ICP, AAS, XRF
Sodium (Na)	≤ 300 ppm	ICP, AAS, XRF
Potassium (K)	≤ 200 ppm	ICP, AAS, XRF
Chloride (Cl^-)	≤ 100 ppm	Ion Chromatography
Sulphate (SO_4^{2-})	≤ 100 ppm	Ion Chromatography
Titanium (Ti)	≤ 150 ppm	ICP, AAS, XRF

Disclaimer:

This product is manufactured in accordance with general industrial quality standards. While typical batches comply with EU 10/2011 heavy metal limits for additives and are monitored for key colour-impacting impurities, these parameters are not routinely tested and are not included in standard Certificates of Analysis unless specifically requested at time of order. Customers requiring guaranteed compliance for food-contact or colour-critical applications should request analytical certification prior to dispatch.

USES / APPLICATION

Industry	**Commercial Application / Uses (Micronized Grade)**
Plastics	Functional filler in polyolefins, PVC, and engineering plastics; improves heat resistance and dimensional stability
Rubber	Reinforcing filler in EPDM and other synthetic rubbers; enhances elasticity and tear strength
Paints & Coatings	Matting agent, anti-settling aid, extender pigment; improves scrub resistance and dispersion
Paper (Coating Grade)	Coating and filler pigment in specialty papers; improves smoothness, opacity, and ink absorbency
Adhesives & Sealants	Rheology modifier and functional filler to reduce shrinkage and improve application properties
Inks	Filler and rheology control agent in printing inks, especially for water-based and solvent systems

US FDA 21 CFR LISTING

CFR Section	**Title / Description**
182.2431	Magnesium silicate — *Generally Recognized As Safe (GRAS)* for direct use in food
177.1200	Cellophane — May be used as a component in cellophane intended for food contact
177.2600	Rubber articles intended for repeated use — permitted as filler in rubber formulations

Product Disclaimer : This statement supersedes any Buyers documents. Seller makes no representation, Warranty, Express or Implied, Including of Merchantability of Fitness for a particular use, or purpose. No statement herein is to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential or indirect damages for alleged negligence breach of warranty, strict liability, and tort or contact rising in connection with product(s). Buyers sole remedy and Sellers sole Liability for any claims shall be buyers purchase price. Data and results are based on controlled or lab work and must be confirmed by the buyer by testing for its indented conditions of use. This product is not tested for, and is therefore not recommended for, use for which prolonged contact with mucous membranes, abraded skin, or blood is intended, or for use for which implantation within human body is intended.

Month of Creation	May 2025
Month of Review	May 2027