

Polymer Add (Thailand) Co.,Ltd.

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

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POLYETHYLENE WAX (FROM HDPE RESIN) – MICRONIZED TECHNICAL DATA SHEET

PRODUCT CLASSIFICATION

Item	Description
Chemical Name	POLYETHYLENE WAX HDPE (MICRONIZED)
CAS No.	9002-88-4
HS Code	3404.90.00
EINECS No.	Polymer Exempt
Molecular Formula	$-(C_2H_4)_n-$ (polymeric)
Molecular Weight	~1000–5000 g/mol (typical range)
Source	Derived from HDPE Resin
Synonyms	HDPE Wax, Polyethylene Wax, PE Wax (Micronized)

PHYSICAL & CHEMICAL PROPERTIES

Property	Typical Value / Description	Test Method
Appearance	White fine micronized powder	Visual
Odor	Mild waxy odor	Sensory
Drop Point (Melting Range)	100 – 120 °C	ASTM D3954 (Mettler)
Density @ 25 °C	0.94 – 0.98 g/cm ³	ASTM D1505
Penetration (Hardness)	1 – 5 dmm (at 25 °C)	ASTM D1321
Viscosity @ 140 °C	100 – 600 cps	ASTM D3236
Moisture Content	≤ 0.5 %	Oven drying (105 °C)
Acid Value	≤ 1 mg KOH/g	Titration
Solubility	Insoluble in water; Soluble in hot hydrocarbons	Visual Observation
Particle Size (D50)	3 – 6 µm	Laser Diffraction
Particle Size (D99)	< 30 µm	Laser Diffraction

➤ Commercial product specification may vary depending on micronization grade and application; above values are for technical reference.

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

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USES / APPLICATION

Industry	Commercial Application / Uses (Micronized Grade)
Plastics	External & internal lubricant in PVC, PE, PP
Masterbatch	Flow modifier and carrier for pigments/fillers
Compounding	Processing aid for extrusion and injection molding
Powder Coatings	Matting and flow control agent
Inks & Pigments	Surface modifier and dispersion aid
Rubber & Elastomers	Processing aid and anti-blocking agent

US FDA 21 CFR LISTING

CFR Section	Title / Description
177.1520	Olefin polymers – permitted in food contact applications
178.3710	Polyethylene wax – indirect food additive (as applicable)
175.105	Adhesives for food packaging – permitted with restrictions

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
Calcium (Ca)	≤ 200 ppm	ICP, AAS, XRF
Magnesium (Mg)	≤ 100 ppm	ICP, AAS, XRF
Sodium (Na)	≤ 100 ppm	ICP, AAS, XRF
Potassium (K)	≤ 100 ppm	ICP, AAS, XRF
Chloride (Cl ⁻)	≤ 100 ppm	Ion Chromatography
Sulfate (SO ₄ ²⁻)	≤ 100 ppm	Ion Chromatography

Disclaimer

This product is designed for industrial use. Food-contact compliance must be confirmed separately. Not suitable for applications involving prolonged human tissue contact or medical implants. Listed values are typical; actual batch specifications may vary and should be verified before use.

Month of Creation: February 2026

Month of Review: February 2028