

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 OPEW-68441

PRODUCT CLASSIFICATION

Chemical Name	OXIDIZED POLYETHYLENE WAX (MICRONIZED)
Grade Name	OPEW-68441
CAS No.	68441-17-8
HS Code	3404.90.00
EINECS No.	Polymer Exempt
Molecular Formula	-- (polymeric)
Molecular Weight	~1500–5000 g/mol (typical)
Synonyms	Oxidized PE Wax, Functionalized Polyethylene Wax, OPE Wax

PHYSICAL & CHEMICAL PROPERTIES

Property	Typical Value / Description	Test Method
Appearance	White to off-white fine powder	Visual
Odor	Mild waxy odor	Sensory
Acid Value	10 – 25 mg KOH/g	Titration
Saponification Value	15 – 30 mg KOH/g	Titration
Drop Point	100 – 115 °C	ASTM D3954 (Mettler)
Density @ 25 °C	0.95 – 1.00 g/cm ³	ASTM D1505
Hardness (Penetration)	1 – 3 dmm (at 25 °C)	ASTM D1321
Moisture Content	≤ 0.5%	Oven drying (105 °C)
Solubility	Insoluble in water; soluble in hot hydrocarbons	Visual Observation
Particle Size (D50)	3 – 5 µm	Laser Diffraction
Particle Size (D99)	< 30 µm	Laser Diffraction

➤ Commercial product specification may vary depending on 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

USES / APPLICATION

Industry	Commercial Application / Uses (Micronized Grade)
Plastics	Dispersing agent, lubricant, and mold release agent in PVC, PE, PP
Masterbatch	Carrier and flow modifier for pigments and fillers

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Inks & Pigments	Surface modifier and dispersion aid
Powder Coatings	Flow modifier and degassing agent
Adhesives	Internal lubricant and anti-blocking aid
Rubber & Elastomers	Process aid for compounding and extrusion

US FDA 21 CFR LISTING

CFR Section	Title / Description
178.3710	Oxidized polyethylene – in food contact plastics (with limitations)
175.105	Adhesives for food packaging – permitted with restrictions
177.1520	Polyethylene in contact with food – listed for indirect additives

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: July 2025

Month of Review: July 2027