

Polymer Add (Thailand) Co.,Ltd.

Office - 106, Chalarempriat, 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

ZINC GLYCEROLATE- MICRONISED

PRODUCT CLASSIFICATION

Chemical Name	ZINC GLYCEROLATE (MICRONISED)
Grade Name	ZGLY-557
CAS No.	557-48-0
HS Code	2918.19.90
EINECS No.	209-184-5
Molecular Formula	$C_3H_5O_3Zn$
Molecular Weight	155.45 g/mol
Synonyms	Zinc glycerate; Zinc salt of glycerol; Zinc(II) glycerolate

PHYSICAL & CHEMICAL PROPERTIES

Property	Typical Value / Description	Test Method
Appearance	White to off-white fine powder	Visual
Odor	Neutral / faint	Sensory
Assay (as Zn-glycerolate)	≥ 98.0%	Titration
Zinc Content	40–45%	Complexometric
Moisture Content	≤ 1.0%	Oven Drying (105°C)
pH (1% dispersion)	6.0 – 8.0	pH Meter
Melting Point	> 300°C (decomposes)	Capillary
Solubility in Water	Insoluble	Observation
Solubility in Organic Solvents	Sparingly soluble in alcohols	Observation
Bulk Density	0.25 – 0.45 g/cm ³	Tapped Density
Particle Size (D50)	8–12 µm	Laser Diffraction
Particle Size (D90)	≤ 25 µm	Laser Diffraction

**HEAVY METALS

(EU Regulation 10/2011 – Content Limits in Additives)**

Element	Typical Max 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

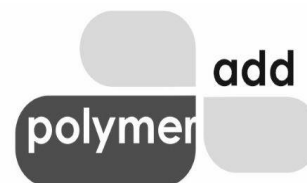
USES / APPLICATION

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Industry	Commercial Application / Uses (Micronised Grade)
Biodegradable Polymers (PLA)	Highly effective heterogeneous nucleating agent; accelerates crystallisation; increases HDT, stiffness, and dimensional stability; reduces moulding cycle time.
Bioplastics Masterbatch	Functional additive for crystallinity control in PLA masterbatch systems; improves dispersion due to glycerolate chemistry.
Polyester Processing	Enhances crystal uniformity; improves clarity in films by controlling haze-inducing crystal growth.
Composites	Increases rigidity and thermal stability of PLA-based composites.
Medical / Food-Contact Biopolymers	Biocompatible zinc salt—suitable for controlled crystallisation where regulatory compliance is required (subject to regional approvals).

TYPICAL DOSAGE RANGE IN PLA

Dosage Level	Effect
0.1–0.3%	Mild nucleation, slight increase in crystallisation rate; maintains optical clarity.
≈0.5%	Balanced crystallisation and transparency; ideal for transparent packaging films.
1.0%	Strong nucleating effect; highest crystallisation rate; used for high-HDT PLA, automotive trims, rigid packaging.

US FDA 21 CFR LISTING (APPLICABLE BY ANALOGY TO ZINC SALTS)

(No explicit listing exists for Zinc Glycerolate; refer to Zinc salts used in polymers.

Customer must verify end-use compliance.)

CFR Section	Title / Description
175.300	Resinous and polymeric coatings — Zinc compounds permitted as additives
178.2010	Stabilizers and lubricants for polymers — zinc salts included in permitted list

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)	≤ 10 ppm	ICP, AAS, XRF
Chromium (Cr)	≤ 10 ppm	ICP, AAS, XRF

PRODUCT-PERFORMANCE-IMPACTING IONS / IMPURITIES

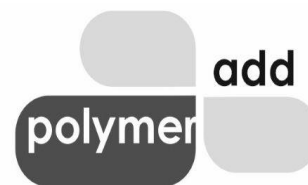
Ion / Element	Typical Max Limit (ppm)	Test Method
Sodium (Na)	≤ 100 ppm	ICP, AAS, XRF

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Potassium (K)	≤ 100 ppm	ICP, AAS, XRF
Calcium (Ca)	≤ 300 ppm	ICP, AAS, XRF
Magnesium (Mg)	≤ 200 ppm	ICP, AAS, XRF
Chloride (Cl ⁻)	≤ 100 ppm	Ion Chromatography
Sulfate (SO ₄ ²⁻)	≤ 100 ppm	Ion Chromatography

DISCLAIMER

Zinc Glycerolate (Micronised) is intended for **industrial use only**.

It is **not suitable for pharmaceutical, cosmetic, or implant applications**.

For **food-contact or biopolymer applications**, users must verify compliance with regional regulations.

Typical values are for reference only and **not specifications** unless confirmed in writing.

Month of Creation: December 2025

Month of Review: December 2027