Polymer Add (Thailand) Co.,Ltd.

Office - 106, Chalaremprakiat, 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 PHENYLPHOSPHONATE (MICRONIZED)

PRODUCT CLASSIFICATION

Field	Information
Chemical Name	Zinc Phenylphosphonate (Micronized)
CAS No.	34335-10-9
HS Code	2924.29.90
EINECS No.	251-975-3
Molecular Formula	$C_6H_5O_3PZn$
Molecular Weight	221.47 g/mol
Synonyms	Phenylphosphonic acid zinc salt (1:1); Zinc phenyl phosphonate

PHYSICAL & CHEMICAL PROPERTIES

Property	Typical Value / Description	Test Method
Appearance	White, fluffy micronized powder	Visual
Odor	Odorless	Sensory
Assay (as Zn-PPO)	≥ 98.0%	Titration / ICP /AAS
Moisture Content	≤ 0.5%	Oven Drying (105°C)
pH (1% dispersion)	6.5 – 7.2	pH Meter
Melting Range	~400°C (high thermal stability)	Capillary
Particle Size (D50)	4 – 8 µm (micronized grade)	Laser Diffraction
Particle Size (D90)	≤ 20 µm	Laser Diffraction

HEAVY METALS (EU 10/2011 CONTENT LIMITS – 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

Industry	Commercial Application / Use
Bioplastics	High-performance nucleating agent for PLA, PHAs
Masterbatches	PLA nucleating MB; crystallinity enhancer
Packaging	Improves HDT, tensile strength, rigidity
Injection Molding	Reduces molding cycle time; improves crystallization
Thermoforming	Enhances heat resistance and transparency control
Medical-grade Polymers	For specific PLA/PHA blends where high crystalline structure is needed

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ADDITION LEVEL

0.7 – 1.5 parts by weight per 100 parts resin

(Exact dosage depends on PLA grade, melt temperature, and cooling profile.)

COLOUR-IMPACTING IMPURITIES

Element	Typical Max Limit (ppm)	Test Method
Iron (Fe)	≤ 80 ppm	ICP, AAS
Copper (Cu)	≤ 20 ppm	ICP, AAS
Nickel (Ni)	≤ 10 ppm	ICP, AAS
Chromium (Cr)	≤ 10 ppm	ICP, AAS
Manganese (Mn)	≤ 20 ppm	ICP, AAS

PRODUCT PERFORMANCE IMPACTING IONS / IMPURITIES

Ion / Element	Typical Max Limit (ppm)	Test Method
Sodium (Na)	≤ 100 ppm	ICP, AAS
Potassium (K)	≤ 100 ppm	ICP, AAS
Calcium (Ca)	≤ 200 ppm	ICP, AAS
Magnesium (Mg)	≤ 150 ppm	ICP, AAS
Chloride (Cl^-)	≤ 100 ppm	Ion Chromatography
Sulfate (SO_4^{2-})	≤ 100 ppm	Ion Chromatography

Disclaimer

Zinc Phenylphosphonate is intended for industrial polymer applications only. It is not suitable for pharmaceutical, cosmetic, or medical implant use. For food-contact applications (PLA containers), regional regulatory compliance must be verified. Typical data are not specifications unless confirmed in writing.

Month of Creation: February 2025

Month of Review: February 2027