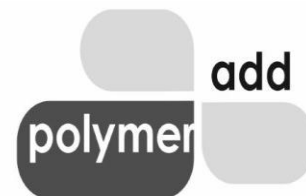


Polymer Add (Thailand) Co.,Ltd.

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TECHNICAL DATA SHEET

Product Name - MICROSTAN ZS7025

Surface-treated micronized Zinc Stannate for halogenated and halogen-free flame-retardant polymer systems.

1. Product Identification

Parameter	Details
Chemical Name	Zinc Stannate (ZnSnO_3 / Zn_2SnO_4)
CAS Number	12036-37-2 / 12036-38-3
Appearance	Fine white/off-white powder
Surface Treatment	Vinyl-functional silane (VTES-based)
Product Form	Free-flowing, coated micronized powder
Brand Code	FR-STANNABLEND ZS7025

2. Typical Physical & Chemical Properties

Parameter	Specification
Particle Size (D90)	$\leq 7 \mu\text{m}$
Particle Size (D50)	$\sim 2-3 \mu\text{m}$
Bulk Density	$0.5-0.7 \text{ g/cm}^3$
Specific Gravity	$\sim 5.3-5.5 \text{ g/cm}^3$
Purity (Zn + Sn oxide basis)	$\geq 99\%$
Moisture Content (105 °C)	$\leq 0.3\%$
Loss on Ignition (800 °C)	$\leq 1.0\%$
Surface Coating Level	0.8–1.2% (by weight)
pH in Aqueous Slurry (10%)	6.5–8.5
Thermal Stability	Stable up to 550 °C

3. Applications

- Plastics & Polymers: Flame retardant synergist in halogenated and HFFR compounds
- Wire & Cable Compounds: Smoke suppressant in PVC and halogen-free sheaths
- Masterbatches: FR masterbatch for PE, EVA, TPU, PA6/PA66
- Thermosets: Epoxy boards, FR coatings, potting compounds
- Elastomers: Low-smoke, low-toxicity FR rubber compounds
- E&E Components: Casings, switchgear parts, FR molded components

4. Recommended Dosage

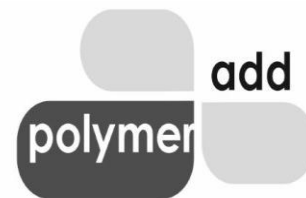
- PE, PP (with Br-FR): 2–8 phr
- HFFR (with $\text{Mg}(\text{OH})_2$): 5–12 phr
- PVC (FR compounds): 3–8 phr
- PA6, PA66: 5–10 phr

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Pre-dispersion or masterbatching improves processing performance.

5. Advantages

- RoHS-compliant, antimony-free flame retardant
- Low smoke generation, synergistic with Br- and HFFR systems
- Surface-treated for excellent dispersion in PE, EVA, PA
- High thermal stability and excellent char formation
- Suitable for both halogenated and halogen-free FR formulations

6. Replaces / Alternatives and Cost Comparison

Replaced Product	Reason for Replacement	Price (USD/kg)	Typical Dosage (phr)	Cost per 100 kg Resin (USD)
Sodium Antimonate	Toxic metal, RoHS concern, smoke emission	\$6–10	5–10	\$30–100
Antimony Trioxide (Sb ₂ O ₃)	Smoke toxicity, REACH restricted in E&E	\$5–8	5–10	\$25–80
Zinc Borate	Lower thermal stability, limited FR synergy alone	\$4–7	8–15	\$32–105
FR-STANNABLEND ZS7025	RoHS compliant, low smoke, high synergy	\$10–18	3–8	\$30–144

7. Packaging & Storage

- Standard Packaging: 15 kg or 20 kg HDPE-lined paper sacks
- Shelf Life: 24 months in sealed packaging
- Storage Conditions: Store in a cool, dry place away from moisture

8. Regulatory Compliance

- RoHS Directive (EU)
- REACH-registered components
- Halogen-free compatible
- Does not contain SVHCs (per latest ECHA list)

This preblend is offered as a dry additive system designed for technical use in polymer processing. The user is responsible for determining the appropriate dosage, processing parameters, and compatibility with their specific polymer and equipment. Polymer Add Thailand shall not be liable for any consequential or incidental damages arising from incorrect use or unverified end-application performance