**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

# ZINC STEARATE (MICRONISED)

## HIGH-EFFICIENCY INTERNAL + EXTERNAL LUBRICATION

**CAS Number**

**557-05-1**

**Chemical Name and Synonyms**

**IUPAC Chemical Name:**
Zinc bis(octadecanoate)

**Common Industry / Trade Synonyms:**
Zinc stearate
Zinc octadecanoate
Stearic acid, zinc salt

**Physical and Chemical Properties**

| Property | Description |
|---|---|
| Appearance | White to off-white fine powder |
| Density | ~1.09–1.15 g/cm$^3$ |
| Melting Range | 120–130 °C |
| Solubility | Insoluble in water<br>dispersible in non-polar polymers |
| Particle Size Distribution<br>(Micronised Grade) | D50: 3–7 µm<br>D90: <15 µm<br>D99: <25 µm |

### 5.1 Specific Benefits

Zinc stearate is selected for high-efficiency internal and external lubrication where controlled friction reduction is required both within the polymer melt and at the polymer–metal interface.

- Reduced internal friction within the polymer melt
- Reduced adhesion at polymer–metal interfaces
- Stable lubrication across polymer processing temperature ranges
- Cleaner processing with reduced tendency for metal surface fouling

### 5.2 End Uses

- Injection moulding of thermoplastics
- Extrusion of polyolefins and styrenics
- Rubber moulding and compression processes
- Masterbatch and additive concentrate production
- High-speed continuous polymer processing lines

### 5.3 Key Physical, Chemical & Performance Parameters

- Metal soap molecular structure
- Melting range aligned with polymer processing temperatures
- High hydrophobic character
- Very low water solubility
- Controlled interfacial migration behaviour

### 5.4 Known Limitations

- Not intended as a primary heat stabiliser
- Dosage-dependent influence on surface appearance in highly transparent systems
- Performance dependent on polymer type and processing conditions

## 6) Regulatory Note

Regulatory status depends on grade, purity, and intended use. Food-contact and regional compliance listings, where applicable, are addressed in separate regulatory documentation.

## 7) Disclaimer

Information provided is for technical reference only.
No warranty of fitness for a particular purpose is expressed or implied.
Users are responsible for validation, processing trials, and regulatory compliance.

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**END OF ARTICLE**