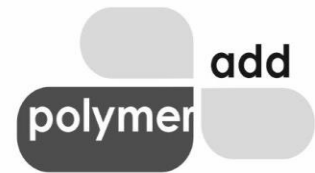


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ZINC STEARATE (MICRONISED)

CAPS, CLOSURES, SEALS & HIGH-SPEED INJECTION-MOULDED PARTS

1) Identification & Chemical Information

Item	Details
CAS Number	557-05-1
IUPAC Chemical Name	Zinc bis(octadecanoate)
Common Industry / Trade Synonyms	Zinc stearate; Zinc octadecanoate; Stearic acid, zinc salt

2) 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 Dispersible in non-polar polymers
Particle Size Distribution (Micronised Grade)	D50: 3–7 µm D90: <15 µm D99: <25 µm

3) Application-Specific Technical Discussion

3.1 Specific Benefits

Zinc stearate is selected for caps, closures, seals, and high-speed injection-moulded parts where consistent demoulding, smooth surfaces, and low assembly friction are required under short cycle times.

- Clean and reliable mould release in high-cavity tooling
- Reduced surface friction for improved torque and assembly behaviour
- Stable processing under short cycle, high-shear injection conditions
- Reduced risk of surface defects related to sticking or drag marks

3.2 End Uses

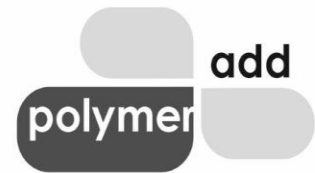
- Bottle caps and closures (PE, PP)
- Seals and liners
- High-cavity injection-moulded packaging components
- Pharmaceutical and food packaging closures
- Precision moulded consumer packaging parts

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3.3 Key Physical, Chemical & Performance Parameters

- Metal soap molecular structure
- Controlled interfacial migration behaviour
- Melting range compatible with injection moulding temperatures
- High hydrophobic character
- Low affinity for permanent adhesion to steel mould surfaces

3.4 Known Limitations

- Dosage optimisation required to balance release and surface appearance
- Not intended to replace external spray release agents in all mould designs
- Performance influenced by mould finish, venting, and processing conditions

4) 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.

5) Disclaimer

Information provided for technical reference only.

No warranty of fitness for a particular purpose.

User responsible for validation, trials, and regulatory compliance.

6) Creation and Review

Creation: January 2026

Next Technical Review: January 2028

END OF ARTICLE