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ZINC STEARATE (MICRONISED)

MASTERBATCHES, PIGMENT CONCENTRATES & POWDER COATINGS

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 polymer systems
Particle Size Distribution (Micronised Grade)	D50: 3–7 µm / D90: <15 µm / D99: <25 µm

3) Application-Specific Technical Discussion

3.1 Specific Benefits for the Highlighted Application

Zinc stearate is selected in masterbatches, pigment concentrates, and powder coatings where uniform dispersion of solids and stable processing behaviour are required without agglomeration or equipment fouling.

- Improved wetting and dispersion of pigments and mineral fillers
- Reduced agglomeration in high-loading concentrate systems
- Improved flow and process stability during compounding and coating application
- Cleaner processing with reduced build-up on processing equipment

3.2 End Uses Directly Related to the Article Heading

- Pigment masterbatches for thermoplastics
- Additive and filler concentrates
- Powder coating formulations
- Colour concentrates for PE, PP, PS, ABS
- Highly filled polymer compounds

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3.3 Key Physical, Chemical & Performance Parameters Relevant to This Application

- Metal soap molecular structure
- Affinity for inorganic pigment and filler surfaces
- Hydrophobic character compatible with non-polar matrices
- Low moisture interaction due to water insolubility
- Fine particle size enabling intimate contact with dispersed solids

3.4 Known Limitations

- Not a replacement for chemically surface-treated pigments in all systems
- Effectiveness dependent on pigment/filler surface chemistry and loading level
- Dosage optimisation required to balance dispersion and lubrication effects

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