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ZINC STEARATE (MICRONISED)

HIGH-PERFORMANCE DISPERSING AGENT (PIGMENTS & FILLERS)

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

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

5) Application-Specific Technical Discussion

5.1 Specific Benefits for the Highlighted Application

Zinc stearate is selected as a dispersing agent where uniform distribution of pigments and mineral fillers is required in non-polar polymer systems without agglomeration or processing instability.

- Improved wetting of pigment and filler surfaces
- Reduced agglomeration of fine inorganic particles
- More uniform distribution of pigments and fillers in polymer matrices
- Improved processing consistency in filled formulations

5.2 End Uses Directly Related to the Article Heading

- Pigment masterbatch production
- Filled polymer compounds
- Colour concentrates for thermoplastics
- Mineral-filled PE, PP, PS, and ABS systems
- Powder coatings and dry-blend formulations

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

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

5.4 Known Limitations

- Not a substitute for surface-treated pigments or fillers in all systems
- Effectiveness dependent on filler surface chemistry and particle size
- Dosage optimisation required to avoid over-lubrication effects

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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