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LITHIUM STEARATE MICRONISED

ELECTRICAL-GRADE FOR HOMO POLYPROPYLENE

1. Product Identity

Chemical Name (IUPAC)	Lithium octadecanoate
Common Name	Lithium Stearate
CAS Number	4485-12-5

Grade Description

Micronised, ultra-high-purity Lithium Stearate developed specifically for electrical-grade Homo Polypropylene (HPP) used in dielectric, capacitor-film, and EV power-electronics applications.

2) Physical & Chemical Properties (Micronised Grade)

Property	Specification
Appearance	White to off-white ultra-fine powder
Bulk Density	0.30 – 0.45 g/cm^3
True Density	~1.00 – 1.05 g/cm^3
Melting / Decomposition Range	220 – 225 °C
Solubility	Insoluble in water highly dispersible in non-polar polymer melts
Moisture (LOD)	≤ 0.30 %
Particle Size Distribution	**D50:** 3 – 6 µm **D90:** ≤ 10 µm **D99:** ≤ 20 µm

3) Impurity & Ash Profile

Element	Maximum Typical Value
Calcium (Ca)	≤ **50 ppm**
Magnesium (Mg)	≤ **30 ppm**
Sodium (Na)	≤ **50 ppm**
Potassium (K)	≤ **50 ppm**
Iron (Fe)	≤ **10 ppm**
Aluminum (Al)	≤ **10 ppm**
Zinc (Zn)	≤ **10 ppm**

Ash & Insoluble

Parameter	Specification
Total Ash (600 °C)	≤ **0.30 % w/w**
Ash Variability (Lot-to-Lot)	≤ **±0.03 %**
Insoluble Residue	≤ **0.05 %**

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4) Targeted Polypropylene Resin Grade

Homo Polypropylene (HPP)

Capacitor-grade BOPP dielectric film	Electrical insulation films
EV DC-link capacitor film	High-reliability power-electronics assemblies
Laminated electrical components	

5) Functional Role of Micronised Lithium Stearate in This PP Grade

- High-temperature internal lubrication within PP melt
- Neutralization of residual acidic species from catalyst systems
- Reduction of polymer–metal adhesion at dies and screws
- Stabilization of melt torque and die pressure over long runs
- Statistical reduction of rare particulate and ionic defect sites

6) Typical Dosage in Electrical-Grade HPP

Application	**Typical Dosage**
Dielectric / Capacitor Film PP	300 – 800 ppm
Electrical Insulation Films	200 – 600 ppm

7) Regulatory & Qualification Note

This grade is intended for industrial, electrical, and electronics applications. Regulatory status depends on regional requirements and customer qualification protocols. Electrical and EV applications typically require customer-specific validation, traceability, and extended QC documentation.

8) Disclaimer

The information provided is for technical reference only. No warranty, express or implied, is given regarding fitness for a particular purpose. Final suitability must be confirmed through customer-specific trials and qualification programs.

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