Sustainable Innovation for a Better Future

PowerCat™ DOTO Tin Catalyst

Introduction

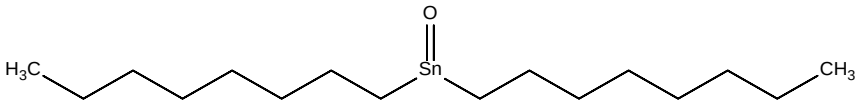
PowerCat™ DOTO is a dioctyltin oxide (DOTO) catalyst supplied as an amorphous white solid powder. It exhibits high catalytic activity and excellent thermal stability, making it particularly suitable for esterification, transesterification, and polycondensation reactions.

PowerCat™ DOTO is widely used in automotive coatings, cathodic electrodeposition (CED) coatings, polyester and alkyd resin synthesis, and specialty monomer production.

Chemical Name

Dioctyltin Oxide (DOTO)

Chemical Structure



Physical Properties

CAS No.	870-08-6
EC No.	212-791-1
Formula	$C_{16}H_{34}OSn$
Molecular Weight	361.15
Appearance	White Powder
Sn (%)	32.4-33.4
Volatile (%)	Max.0.5
Total Chloride (ppm)	Max. 200
Inorganic Chloride (ppm)	Max. 45
Conductivity (μS/cm, 25°C)	Max. 30

These values are typical and are not intended for use as specifications.

Features & Benefits

- High efficiency for esterification and transesterification reactions
- Excellent thermal stability, suitable for high-temperature processing
- Forms stable dispersions in aqueous coating systems
- Enables shorter reaction times and lower processing temperatures
- Lower toxicological profile compared with dibutyltin analogues

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Application

PowerCat™ DOTO catalyst is a versatile dioctyltin oxide catalyst used in automotive coatings, resin synthesis, polyurethanes, and chemical intermediates.

PowerCat™ DOTO catalyst is used to cross-link aqueous cathodic electrodeposition (E-coat) systems for the automotive and industrial primer coatings.

PowerCat™ DOTO catalyst is used as a catalyst in high-temperature esterification and transesterification reactions for the production of polyester and alkyd resins.

PowerCat™ DOTO catalyst is used as a stable catalyst in waterborne polyurethane dispersions (PUDs) and select silicone curing systems.

PowerCat™ DOTO catalyst is used as a key intermediate raw material for the synthesis of octyltin-based PVC heat stabilizers.

PowerCat™ DOTO catalyst is used as a lower-toxicity alternative to dibutyltin counterparts where regulatory compliance requires reduced organotin toxicity.

Handling & Storage

In accordance with good industrial practice, handle with care and avoid unnecessary personal contact. Avoid continuous or repetitive breathing of dust. Use only with adequate ventilation. Protect skin. Avoid dust formation and ignition sources.

Store in a cool, dry, and well-ventilated warehouse. Keep containers tightly closed and away from moisture, heat, and ignition sources. Shelf life is 12 months from the date of production when stored in original unopened packaging.

For more detailed information please refer to the material safety data sheet.

Packing

PowerCat™ DOTO is supplied in 25 kg pails, with inner plastic liner and outer fiber drum.

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Note

All information in the leaflet is based on our present knowledge and experience. We reserve the right to make any changes according to technological progress or further developments. Performance of the product described herein should be verified by testing.

We specifically disclaim any other express or implied warranty of fitness for a particular purpose or merchantability.

We disclaim liability for any incidental or consequential damages.