

CAS 301-10-0 Stannous octoate DABCO T-9 TIB KAT 129

Stannous octoate

CAS No.301-10-0

Chemical Name: Stannous octoate

Synonyms TIN(II) 2-ETHYLHEXANOATE; TIN OCTOATE ;Stannous octanoate;
STANNOUS 2-ETHYLHEXANOATE; tin bis(2-ethylhexanoate); TIB KAT 129; Tin
dioctoate; Stannous Octoate T-9; Tin(II) 2-ethylhexanoate; BIS(2-
ETHYLHEXANOATE)TIN

CBNumber:CB0308694

Molecular Formula: $C_{16}H_{30}O_4Sn$

Molecular Weight: 405.12

MDL Number: MFCD00002676



Business and technology contact: sales@newtopchem.com

Brand Designation / Product Code Table

Brand / Manufacturer	Product Grade / Code	Notes
Dabco (Evonik / ex-Air Products)	Dabco T-9	The benchmark stannous octoate catalyst in the polyurethane industry.
FASCAT (PMC Organometallics)	FASCAT 2001 <i>(or FASCAT 4201)</i>	Standard stannous octoate grade for polyurethane and esterification applications.
Jeffcat (Huntsman)	N/A (Not Applicable)	Huntsman's Jeffcat brand is designated exclusively for amine/organic catalysts.
KAOLIZER (Kao Corporation)	N/A (Not Applicable)	KAOLIZER is Kao's brand line specifically for amine catalysts.
Lupragen (BASF)	N/A (Not Applicable)	BASF's Lupragen portfolio consists entirely of amine-based catalysts.
Polycat (Evonik)	N/A (Not Applicable)	Polycat is used for Evonik's specialty tertiary amine catalysts.
Tegoamin (Evonik)	N/A (Not Applicable)	Tegoamin is reserved for amine-based foam catalysts.
Toyocat (Tosoh)	N/A (Not Applicable)	Toyocat is Tosoh's proprietary amine catalyst brand line.
U-CAT (San-Apro)	N/A (Not Applicable)	U-CAT is used primarily for amine, imidazole, and specialty organic catalysts.

Stannous octoate Properties

Melting point <-20°C

Boiling point >200°C

Density 1.251 g/mL at 25 °C(lit.)

vapor pressure 0.3Pa at 20°C

refractive index n_{20/D} 1.493(lit.)

Flash point >110°C

pka 5.09[at 20 °C]

form liquid

Specific Gravity 1.251

Viscosity 306mm²/s

Water Solubility Miscible with water.

Hydrolytic Sensitivity 7: reacts slowly with moisture/water

Exposure limits ACGIH: TWA 0.1 mg/m³; STEL 0.2 mg/m³ (Skin)

NIOSH: IDLH 25 mg/m³; TWA 0.1 mg/m³

InChI 1S/2C₈H₁₆O₂.Sn/c2*1-3-5-6-7(4-2)8(9)10;/h2*7H,3-6H2,1-2H3,(H,9,10);/q;;+2/p-2

InChIKey KSBAEPSJVUENNK-UHFFFAOYSA-L

SMILES CCCCC(CC)C(=O)O[SnH2]OC(=O)C(CC)CCCC

LogP 2.64 at 25°C

UNSPSC Code 12161600

NACRES NA.22

SAFETY

Signal word Danger

Hazard statements H303-H316-H318-H361-H317-H411

Precautionary statements P501-P273-P272-P202-P261-P201-P280-P302+P352-P312-P391-P362+P364-P333+P313-P305+P351+P338+P310-P405

PPE Eyeshields, Gloves, type ABEK (EN14387) respirator filter

Hazard Codes Xi,Xn

Risk Statements 36/37/38-62-52/53-43-41-63

Safety Statements 26-36/37/39-61

WGK Germany 1

RTECS MO7870000
TSCA TSCA listed
PackingGroup III
HS Code 29159000
Storage Class 6.1C - Combustible acute toxic Cat.3
toxic compounds or compounds which causing chronic effects
Hazard Classifications Aquatic Chronic 3
Eye Dam. 1
Repr. 1B
Skin Sens. 1
REACH Registrations Active

Stannous octoate Chemical Properties,Uses,Production

Chemical Properties

White or light yellowish brown paste. Soluble in petroleum ether, insoluble in water.
low toxicity of Stannous octoate, oral acute poisoning data of rats LD50=3400mg/kg.
acute percutaneous poisoning data of rabbits LD50>2000mg/kg.

Uses

Stannous octoate is susceptible to hydrolysis and oxidation and cannot be used in combination polyethers (premixes). Its catalytic activity is higher than that of dibutyltin dilaurate.

Stannous octoate can be used as a catalyst for polyurethane, mainly in the production of soft block polyether type polyurethane foam, but also as a catalyst for polyurethane coatings, elastomers, room temperature curing silicone rubber, etc. As it is a divalent tin compound, it may be oxidized to tetravalent tin compound itself after foaming, and it remains in the foam body to play the role of an antioxidant, which stays in the foam after foaming and has no adverse effect on the foam performance.

Uses

Tin(II) 2-ethylhexanoate is used as a polymerization initiator in polylactic acid production. It acts as an intermediate as well as a catalyst for urethane foams, lubricants, addition agents and stabilizers for transformer oils.

Uses

A catalyst for polylactide polymerization.

Preparation

Stannous octoate is produced by reacting 2-ethylhexanoic acid with sodium hydroxide to form sodium 2-ethylhexanoate, which then undergoes a complex decomposition reaction with stannous chloride by heating in an inert solvent.

Hazard

Toxic material.

Flammability and Explosibility

Non flammable

reaction suitability

core: tin

reagent type: catalyst

reaction type: Ring-Opening Polymerization

Toxicology

Stannous octoate has influence to human health. It may cause an allergic skin reaction, and serious eye damage. In addition, it is suspected of damaging fertility or the unborn child, and harmful to aquatic life with long lasting effects.

Stannous octoate Preparation Products And Raw materials

Raw materials

Tin 2-Ethylhexanoic acid Stannous chloride Sodium hydroxide

Preparation Products

demulsifier SAP series main chain liquid crystalline polysiloxane polyurethane

hydrophilic silicone finishing agent

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