

CAS 77-58-7 DABCO T-12 DBTDL Niaux D-22 Kosmos 19

Dibutyltin dilaurate

CAS No.77-58-7

Chemical Name:Dibutyltin dilaurate

SynonymsDBTDL;dbtl;t12;tn12;davainex;tinostat;butynorate;DIBUTYLTIN

LAURATE;Dibutyltin dilaurate;DI-N-BUTYLDILAURYLTIN

CBNumber:CB7416378

Molecular Formula:C₃₂H₆₄O₄Sn

Molecular Weight:631.56

MDL Number:MFCD00008963



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-12	The global industry-standard benchmark for dibutyltin dilaurate.
FASCAT (PMC Organometallics)	FASCAT 4202	The standard organotin catalyst designation under PMC's FASCAT line.
Jeffcat (Huntsman)	N/A (Not Applicable)	Huntsman reserves the Jeffcat brand 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 strictly 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.

Dibutyltin dilaurate Properties

Melting point 22-24°C

Boiling point >204°C/12mm

Density 1.066 g/mL at 25 °C(lit.)

vapor pressure 0.2 mm Hg (160 °C)

refractive index n₂₀/D 1.471(lit.)

Flash point >230 °F

storage temp. Store below +30°C.

solubility <1.43mg/l

form Oily Liquid

Specific Gravity 1.066

color Clear pale yellow

Water Solubility <0.1 g/100 mL at 20 °C

FreezingPoint 8°C

Merck 14,3038

BRN 4156980

Exposure limits PC-TWA:0.1 mg/m³; PC-STEL:0.2 mg/m³

Stability Stability Combustible. Incompatible with strong oxidizing agents. May be air sensitive.

InChI 1S/2C12H24O2.2C4H9.Sn/c2*1-2-3-4-5-6-7-8-9-10-11-12(13)14;2*1-3-4-2;/h2*2-11H2,1H3,(H,13,14);2*1,3-4H2,2H3;/q;;;+2/p-2

InChIKey UKLDJPRMSDWDSL-UHFFFAOYSA-L

SMILES

CCCCCCCCCCCC(=O)O[Sn](CCCC)(CCCC)OC(=O)CCCCCCCCCCCC

LogP 3.120

UNSPSC Code 12352103

NACRES NA.22

SAFETY

Signal word Danger

Hazard statements H330-H301-H315-H319-H360-H370-H372-H317-H341-H410

Precautionary statements P501-P273-P272-P270-P202-P260-P201-P271-P264-P280-P284-P302+P352-P391-P337+P313-P305+P351+P338-P308+P311-P362+P364-P333+P313-P301+P310+P330-P304+P340+P310-P403+P233-P405

target organs thymus, thymus, Immune system
PPE Eyeshields, Faceshields, Gloves, type ABEK (EN14387) respirator filter
Hazard Codes T+,N,C,T
Risk Statements 22-26-36/38-50/53-68-48/25-43-34-61-60
Safety Statements 26-28-36/37-45-60-61-36/37/39-24-53
RIDADR UN 2922 8/PG 3
WGK Germany 3
RTECS WH7000000
F 10-21
Autoignition Temperature >200 °C
TSCA TSCA listed
HazardClass 6.1
PackingGroup III
HS Code 29319090
Storage Class 6.1C - Combustible acute toxic Cat.3
toxic compounds or compounds which causing chronic effects
Hazard Classifications Aquatic Acute 1
Aquatic Chronic 1
Eye Irrit. 2
Muta. 2
Repr. 1B
Skin Sens. 1
STOT RE 1
STOT SE 1
Hazardous Substances Data 77-58-7(Hazardous Substances Data)
Toxicity LD50 orally in Rabbit: 175 mg/kg
REACH Registrations Active
Limited Quantities 5.0 L (1.3 gallons) (liquid) or 5.0 kg (11 lbs) (solid)
Excepted Quantities Max Inner Pack (30g or 30ml) and Max Outer Pack (1Kg or 1L)

Dibutyltin dilaurate Chemical Properties, Uses, Production

Organic tin additive

Dibutyltin dilaurate is an organic tin additives, and can be soluble in benzene, toluene, carbon tetrachloride, ethyl acetate, chloroform, acetone, petroleum ether and other organic solvents and all industrial plasticizers, but insoluble in water. Multipurpose

high-boiling organic tin catalyst circulation of dibutyltin dilaurate are usually specially treated liquefaction, and at room temperature as a pale yellow or colorless oily liquid, when low temperature as white crystals, and it can be used for PVC additives, it also has excellent lubricity, transparency, weather resistance, and better resistance for sulfide pollution. It can also used the stabilizer of the soft transparent products and efficient lubricants in hard transparent products, and can also be used acrylate rubber and rubber carboxyl crosslinking reaction, the catalyst of synthesis of polyurethane foam and polyester synthetic, and RTV silicone rubber.

The above information is edited by the chemicalbook of Wang Xiaodong.

Chemical properties

It is pale yellow flammable liquid, and soluble in acetone and benzene, can not dissolve in water.

Uses

It can be used as PVC heat stabilizers, and it is the earliest used varieties in organotin stabilizers, heat resistance is less than tributyltin maleate, but it has excellent lubricity, weather resistance and transparency can be ok, and it has good compatibility with plasticizers, non-blooming, non-sulfide pollution, no adverse effects on heat sealing and printability. For it is liquid at room temperature, so the dispersion in plastic is better than solid stabilizer. The product is mainly used in soft transparent products or semi-soft products, generally in an amount of 1-2%. In hard products, the product can be used as lubricant, and when used with maleic acid organic tin or thiol-containing organic tin can improve the fluidity of the resin material. Compared with other organic tin, the goods early color large will cause yellow discoloration. The product can also be used as catalysts of synthesizing polyurethane, the curing agents of silicone rubber. In order to enhance the thermal stability, transparency, compatibility with resins, as well as improve the impact strength for hard products and its other properties, now it has developed a number of modified varieties. Lauric acid and other fatty acids is generally added in the category of pure, the epoxy ester or other metal soap stabilizer is also added in. The product is toxic materials. Rat oral is LD50 of 175mg/kg.

Production method

It is condensed by DBTO and lauric acid at 60°C. After condensation, vacuum

dehydration, cooling, pressure filtration derived products.

Category

Toxic Substances.

Toxicity grading

Highly toxic.

Acute toxicity

Oral-rat LD50: 175 mg/kg; oral-mouse LD0: 710 mg/kg.

Stimulus data

Skin-rabbit 100 mg/24 hours moderate.

Flammability hazard characteristics

Combustible fire.

Storage Characteristics

Treasury should be ventilated and low-temperature drying; and should transport separately with food materials.

Extinguishing agent

Carbon dioxide, sand, water, foam.

Occupational standards

TWA 0.1 mg (Sn)/cubic meter; STEL 0.2 mg (Sn)/cubic meter.

Chemical Properties

yellow liquid

Uses

PU catalyst, RTV silicone rubber

Uses

Stabilizer for polyvinyl chloride resins. Catalyst for curing certain silicones.

Uses

Di-n-butyltin dilaurate is used as a catalyst for the production of polyurethanes as well as for the transesterification reactions. It is involved in the vulcanization of silicones and a stabilizer in polyvinyl chloride (PVC). It acts as a rust inhibitor for polyurethanes, polyols, silicones and as a fuel additive.

Uses

Dibutyltin dilaurate has been used as a catalyst in a protocol for the covalent attachment of poly(ethylene glycol) (PEG) to silicon oxide to form a hydrophilic non-fouling surface. It can also be used as a catalyst in the preparation of polymers by reacting hydroxyl-terminated macromonomers and aliphatic diisocyanates.

General Description

Clear yellow viscous liquid.

Air & Water Reactions

Dibutyltin dilaurate may be sensitive to air or heat. . Insoluble in water.

Reactivity Profile

Dibutyltin dilaurate is strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents.

Fire Hazard

Dibutyltin dilaurate is combustible.

Safety Profile

Poison by ingestion and intraperitoneal routes. A skin and eye irritant. Avoid the vapor produced by heating. Combustible when exposed to heat or flame; reacts with oxidizers. When heated to decomposition it emits acrid smoke and fumes. See also TIN COMPOUNDS

Toxics Screening Level

The initial threshold screening level (ITSL) for dibutyl tin dilaurate is 5 µg/m³ (8-hr

averaging time).

Dibutyltin dilaurate Preparation Products And Raw materials

Raw materials

Lauric acid Dibutyltin oxide TETRABUTYLTIN

Preparation Products

methyl block RTV silicone rubber adhesive QD-200 series polyurethane finishes PUC series

Business and technology contact: sales@newtopchem.com