



TIB KAT 300

Description

TIB KAT 300 (Dimethyltin Dineodecanoate), also known as Dimethylbis[(1-oxoneodecyl)oxy]stannane, is a methyl-based Sn (IV) organotin that finds use mainly as a homogenous catalyst for polyurethanes and silicones. *TIB KAT 300* is known for its relatively high reactivity, owing mainly to the presence of the reduced steric methyl group and the related high tin content. *TIB KAT 300*, has been a commonly used product for many years and is present on most global regulatory lists, making it an ideal choice for international formulation development.

Typical of most metal-based catalysts, *TIB KAT 300*, like most tin catalysts, will preferentially catalyze the urethane reaction (NCO/OH or gelation reaction), with minimal catalysis of the water reaction. Methyl organotins are used for the relatively high reactivity compared to butyl- and octyl-organotins. Steric effects and compatibility with the raw materials on reactivity can be enhanced by the inclusion of the ideal ligand. *TIB KAT 300* includes a ligand based on neodecanoic acid which will have the effect of enhancing reactivity across a broad range of formulations. In regard to silicone reactions, *TIB KAT 300*, like all tin-based catalysts, will catalyze the silanol/silane condensation reaction thus acting as both a polymerization and crosslinking catalyst. *TIB KAT 300* and its neodecanoate-based analogues are preferentially used in formulations with oxime functionality.

TIB KAT 300 is used in concentrations between 0.01 – 1 wt.-%.

Product Data

Chemical Name	Dimethyltin dineodecanoate
CAS	68928-76-7
Molecular weight	491.29 g/mol
Aggregation state	liquid

Specification

Tin content	22.5 – 25.1 %
Colour (Gardner)	≤ 3.0
Appearance	clear



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Storage

TIB KAT 300 can be stored at least one year if kept closed in the original packaging; sensitive to frost. The container should be closed tightly after each use to maximize shelf life. Characteristic of most Sn (IV) organotin, the primary cause of instability would be hydrolysis. Hydrolysis results in the formation of tin hydroxide insolubles leading to deactivation of *TIB KAT 300*.

Packaging

25 kg pail, 200 kg drum, 220 kg drum,
1000 kg IBC, other packaging size upon request.

Packaging USA

44 lb (20 kg) plastic pail,
485 lb (220 kg) steel drum,
other packaging size upon request.

Special advice for Security

Information concerning

- ❖ classification and labelling according to the regulations governing transport and hazardous chemicals
- ❖ protective measures for storage and handling
- ❖ safety measures in case of accident and fire
- ❖ toxicity and ecological effects

is given in our material safety data sheet.

Customs Tariff No.: 2931 9000



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Product Carbon Footprint (PCF)

Created by: KlimAktiv Consulting GmbH

PCF-results (emissions)	Value (Mannheim)	Value (Pittsburgh)	Unit
Sum of PCFs (Cradle-to-gate)	7,03	-	kg CO ₂ eq/kg
PCF excluding biogenic emissions	7,02	-	kg CO ₂ eq/kg
Biogenic emissions	7,93 E-03	-	kg CO ₂ eq/kg

The Product Carbon Footprint (PCF) covers one of several environmental impacts of chemical products. The PCF does not allow comprehensive conclusions about the overall environmental performance of the product. Comparisons of PCFs from different data sources are only possible to a limited extent. The PCF presented here applies to the product sold by TIB Chemicals.

The PCF is based on data of the accounting year 2024 and follows the calculation method outlined in ISO 14067, the TfS Guideline, the BASF Guideline, the cradle-to-gate system boundaries, the declared unit kg CO₂e/kg product (excl. packaging) and the sum of different emissions from Scope 1, 2 and 3 (raw material and preliminary products (e.g. secondary data), transportation of purchased products and inbound logistics, as well as company- and site-specific processes including primary energy consumption, electricity and heat consumption). The emissions from biogenic carbon and land-use changes are considered as far as data sources are available.