



TIB KAT 314

Description

TIB KAT 314 (Diocetyl tin bis-2-ethylhexyl maleate) is a member of the dialkyl family of organotins. As an octyltin carboxylate with a unique ligand, *TIB KAT 314* is characterized by an improved hydrolytic stability and lower toxicity versus its dibutyl-based analogue, *TIB KAT 317*. *TIB KAT 317* is primarily used as a Lewis Acid-based homogeneous catalyst in a wide range of silicone (condensation reactions) and polyurethane applications. *TIB KAT 317* is present on most international regulatory lists including US TSCA and Canada DSL.

As a octyltin with large ligand, the reactivity of *TIB KAT 314* is best characterized as balanced, with moderate front and back-end reactivity in both silicone and polyurethane applications. *TIB KAT 314* is a good catalyst for applications that require moderate front-end reactivity or require a gradual curing process, such as coatings, adhesives, sealants, and elastomers. In regard to silicone reactions, *TIB KAT 314* will catalyze the silanol/silane condensation reaction, acting as both a polymerization and crosslinking catalyst. As a polyurethane catalyst, *TIB KAT 314* will more selectively catalyze the isocyanate-polyol reaction in addition to some catalysis of the water reaction. Thus, in polyurethanes, *TIB KAT 314* acts as a polymerization and gelation catalyst. If a catalyst with a higher reactivity is required, the butyl analogue, *TIB KAT 317*, is recommended. To a limited extent, reactivity can be controlled via adjusting the dosing concentration.

Product Data

Chemical name	Diocetyl tin bis-(2-ethylhexyl maleate)
CAS No.	10039-33-5
Molecular weight	799.71 g/mol
State of aggregation	clear liquid

Specification

Tin content	≤ 15.4 %
Colour (Gardner)	≤ 3
Density (20°C)	1.08 – 1.11 g/ml
Viscosity (20°C)	≤ 400 mPa.s
Water content	≤ 0.5%



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Storage

TIB KAT 314 should be stored in the original packaging at moderate temperatures and kept from freezing. 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 the formation of tin oxide insolubles leading to deactivation of *TIB KAT 314*.

Packaging

Packaging size upon request.

Packaging USA

44 lb (20 kg) plastic pail,
440 lb (200 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)	-	-	kg CO ₂ eq/kg
PCF excluding biogenic emissions	-	-	kg CO ₂ eq/kg
Biogenic emissions	-	-	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.