



TIB KAT 417

Description

TIB KAT 417 (Diocetyl tin Oxide + Silane), also known as DOTO + Silane or Diocetyl tin oxide + silane is a liquid version of diocetyl tin oxide (DOTO) containing tetrapropyl ortho silane (TPOS) and is commonly used as a catalyst for silicone chemistries. As an octyltin-based catalyst, *TIB KAT 417* is a moderately active catalyst with low toxicological profile, that is ideal for use in adhesive and sealant formulations utilizing TPOS as an additive for increasing hydrolytic stability. *TIB KAT 417* is present on a wide range of international inventory lists, making it an ideal choice for international formula development.

TIB KAT 417 can be applied for the curing of silicones and silane systems, especially for

- 🔹 1 component MS / STP systems
- 🔹 curing of alkoxy based RTV-silicones, ideal in combination with *TIB Stab 115*
- 🔹 curing of oxime based RTV-silicones, ideal in combination with *TIB Stab 115*.

Given its high tin content, liquid form, and good compatibility with a wide range of raw materials, *TIB KAT 417* tends to be a moderately reactive catalyst across a broad range of silicone formulations. In regard to silicone reactions, *TIB KAT 417* like all tin-based catalysts, will catalyze the silanol/silane condensation reaction, thus acting as both a polymerization and crosslinking catalyst. *TIB KAT 417* is hydrolytically stable within typical formulation moisture levels, but this stability tends to break down with increasing moisture content. This characteristic hydrolytic stability is enhanced given *TIB KAT 417*'s octyl nature and is typically an improvement compared to the use of similar butyl- and methyl-

based organotin catalysts including *TIB KAT 437* and *TIB KAT 438*.

TIB KAT 417 is sensitive to moisture and therefore contact has to be minimized. At higher humidity weather conditions hydrolyses can occur and leads to decreasing flash points.

Product Data

Chemical Description	Diocetyl tin oxide blend with tetrapropyl ortho silane
CAS	870-08-6
Molecular weight	361.1 g/mol
Appearance	clear liquid
Solubility	miscible with alcohols, hydrolysis in water

Specification

Tin content	≥ 14.5 %
Density (20°C)	1.02 – 1.07 g/cm ³
Colour (Gardner)	≤ 5



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Storage

TIB KAT 417 can be stored at least 12 months from date of delivery if kept closed in the original packaging at ambient temperature and in a dry place protected against temperature raise and excessive of humidity. Inertisation of once opened drums with nitrogen is recommended.

Packaging

25 kg pail, 50 kg pail, 200 kg drum, 1000 kg IBC,
other packaging size upon request.

Packaging USA

44 lb (20 kg) plastic pail,
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.: 3815 9090



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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)	10,3	-	kg CO ₂ eq/kg
PCF excluding biogenic emissions	10,3	-	kg CO ₂ eq/kg
Biogenic emissions	7,93E-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.