TIBCHEMICALS

TIB KAT 214

Description

TIB KAT 214 Dioctyl bis-(isooctyl mercaptoacetate), also known as Dioctyl tin-S,S'-bis(isooctylmercaptoacetate), is an octyl-based dialkyl organotin with added functionalities. Dioctyl bis-(isooctyl mercaptoacetate) has the characteristic reactivity of Sn (IV) organotin catalyst with improved upfront delay and improved hydrolytic stability due to the presence of a ligand with thiol functionality. Used primarily in polyurethane applications, *TIB KAT 214* imparts more controlled reactivity when compared to standard metal carboxylates such as *TIB KAT 218* (Dibutyltin Dilaurate), *TIB KAT 216* (Dioctyltin Dilaurate), and *TIB KAT 300* (Dimethyltin Dineodecanoate).

Catalysts such as *TIB KAT 214* tend to be inactive in regard to reactivity when used in silicone and esterification-related applications. Since the sulfur ligand acts as a blocking agent, thermal deblocking is required to initiate the back-end cure. Thus, catalysts such as *TIB KAT 214* tend to perform best in adhesive, elastomer, and foam applications with adequate exotherms. For coatings applications, *TIB KAT 214* can be used in baked cured systems in contrast to ambient cured systems. As *TIB KAT 214* is an octyltin-based mercaptoacetate catalyst, its delay should be more pronounced when compared with mercaptans such as *TIB KAT 319* and *TIB KAT 213*.

In regard to the reactivity of the various urethane reactions, catalysts like *TIB KAT 214* will selectively catalyze the isocyanate-polyol reaction with less effect on the water reaction. The use in water-based systems is possible within certain limits.

Product Data

Chemical name	Dioctyl bis-(isooctyl mercaptoacetate)
CAS	26401-97-8
Molecular weight	751.79 g/mol
Appearance	clear liquid
Solubility	nearly insoluble in water

Specification

Tin content	14.5 – 16.0 %
Colour (Gardner)	≤ 3.0
Density (20°C)	1.045 – 1.072 g/cm^3
Refractive index (20°C)	1.485 – 1.500

TIB Chemicals AG | P. O. Box 810220 | 68202 Mannheim | Germany | Phone +49 621 8901-811 | kat@tib-chemicals.com I www.tib-chemicals.com
TIB Chemicals Corporation| 2120 William Pitt Way B3 | Pittsburgh | 15238 Pennsylvania | USA | Phone +1 800 426 7273| sales@tib-chemicals.com

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Storage

TIB KAT 214 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) organotins, the primary cause of instability would be hydrolysis. Although more stable compared to organotin carboxylates, long term contact with moisture could result in hydrolysis with the formation of tin oxide insolubles leading to deactivation of *TIB KAT 214*.

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.

Packaging

25 kg pail, 200 kg drum,

other packaging size upon request.

Customs Tariff No.: 2930 9098

Packaging USA

44 lb (20 kg) plastic pail,

485 lb (220 kg) steel drum,

other packaging size upon request.

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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)	7,83		kg CO_2eq/kg
PCF excluding biogenic emissions	7,82		kg CO_2eq/kg
Biogenic emissions	7,93 E-03		kg CO_2eq/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.

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