



## TIB KAT 220

### Description

*TIB KAT 220* (Monobutyltin Tris-(2-Ethylhexanoate)) is a liquid organotin homogenous catalyst that is used primarily as an esterification catalyst. Alternatively, but less commonly, *TIB KAT 220* can be used as a polyurethane catalyst. *TIB KAT 220* is a monobutyltin-based organotin that is lower in toxicity compared to dibutyl-based organotins.

The main applications for *TIB KAT 220* are:

- 📦 alkyd resin synthesis
- 📦 production of plasticizers
- 📦 production of saturated and unsaturated polyesters
- 📦 curing of polyurethane systems

Like most organotins used in esterification, the key attributes *TIB KAT 220* are its high-temperature stability, low color as supplied, good reactivity evidenced by low acid number endpoints, and minimal reactivity-derived color effects on the final product. Compared to titanium catalysts, *TIB KAT 220* has improved hydrolytic stability, which is especially important during the initial stages of the esterification reaction. As tin concentration is more correlated with reactivity in esterification, the use of *TIB KAT 220* must be increased when compared to higher tin products such as *TIB KAT 248* and *TIB KAT 160*. Since these effects are formulation/raw material dependent, the negative effects of lower tin content on reactivity can be overcome, either when a liquid catalyst will compatibilize more efficiently with alcohol/acid raw materials used, or when there is related ligand compatibility.

### Product Data

Chemical name	Monobutyltin tris-(2-ethylhexanoate)
CAS No.	23850-94-4
Molecular weight	605.4 g/mol
Appearance	clear liquid

### Specification

Total tin content	18.8 - 20.6 %
Colour (Gardner)	≤ 3.0
Viscosity (20°C)	Max 180 mPa.s



## TIB KAT 220

### Storage

*TIB KAT 220* 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. Hydrolysis results in the formation of tin oxide insolubles leading to deactivation of *TIB KAT 220*.

### Packaging

25 kg pail, 50 kg pail, 200 kg drum, 220 kg drum, 1000 kg IBC, other packaging size upon request.

### Packaging USA

440 lb (220 kg) steel drum,  
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.: 2931 9000**



## TIB KAT 220

### Product Carbon Footprint (PCF)

Created by: KlimAktiv Consulting GmbH

PCF-results (emissions)	Value (Mannheim)	Value (Pittsburgh)	Unit
<b>Sum of PCFs (Cradle-to-gate)</b>	3,79	-	kg CO <sub>2</sub> eq/kg
<b>PCF excluding biogenic emissions</b>	3,78	-	kg CO <sub>2</sub> eq/kg
<b>Biogenic emissions</b>	7,93 E-03	-	kg CO <sub>2</sub> 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 CO<sub>2</sub>e/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.