



TIB KAT 129

Description

TIB KAT 129 (Stannous Octoate) is an inorganic tin carboxylate consisting of one of the highest metal contents for a liquid-based inorganic tin carboxylate, often used for polylactide polymerization. Chemically, *TIB KAT 129* is commonly referred to as either stannous octoate, tin (II) octoate or 2-ethylhexanoate. Stannous Octoate is typically supplied in a neat form with very low levels of excess acid.

TIB KAT 129 is typically used in various catalysts and lubricant applications such as:

- 🔹 for esterifications in oleochemistry
- 🔹 for catalysis of polyurethane systems
- 🔹 for curing of silicone resins and silanes
- 🔹 for polymerisation of lactones to biodegradable polymers

As is typical of most organotin and inorganic tin catalysts, the specific ligand, in addition to the tin metal concentration, significantly influences overall reactivity. Due to its high metal content, Stannous Octoate is a good candidate for the above-mentioned chemistries and applications. In regard to polyurethanes, *TIB KAT 129* is the work-horse catalyst in TDI-based flexible forms. Similar to organotins, inorganic tins are more selective to NCO/OH reactions and are good gelation and polymerization catalysts. For catalyzing silicone condensations, Stannous Octoate has shown, for example, to provide faster reactivity when compared to *TIB KAT 218* in select acetoxy- and alkoxy-based formulations. Stannous Octoate has proven to be a viable replacement for organotins such as *TIB KAT 248*, in the synthesis of a wide range of esters. Given its inorganic tin nature, Stannous Octoate is a tin chemical that can be used in high-temperature applications > 160 °C.

In regard to stability, inorganic tins like REAXIS® C129 show greater sensitivity to oxidation degradation compared to organotins. This latter effect is due to the presence of the Sn (II) species present in all inorganic tin products.

TIB KAT 129 is a liquid catalyst, which distributes well in the reactant. It is stable with various diluents including plasticizers, polyols, esters, and mineral oils. Furthermore, *TIB KAT 129* makes an easy proportioning during the running reaction possible.

With *TIB KAT 129* it is possible to obtain light, clear products. In general, *TIB KAT 129* is used in concentrations of between 0.01 - 0.20 %.

The removal of *TIB KAT 129* from esters is apart from chemical methods, as e. g. by hydrolysis or oxidation, also possible by adsorption with *TIB TINEX*® -products.

Product Data

Chemical Name	Stannous Octoate
Cas No.	301-10-0
Molecular weight	405.1 g/mol
State of aggregation	liquid

Specification

Stannous tin (%)	27.2 - 29.3 %
Sn(II) : Total Sn	>= 97.0 %
Color (Gardner)	Max 3
Density (20°C)	1.23 - 1.27 g/cm ³
Viscosity (20°C)	Max 400 mPa*s



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Storage

TIB KAT 129 can be stored for at least one year if kept closed in the original packaging. The container should be closed tightly after each use to maximize shelf life. Characteristic of most stannous inorganic tins (Sn(II)), the primary cause of instability would be oxidation.

Packaging

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

Packaging USA

485 lb (220 Kg) steel drum,
55 lb (25 kg) plastic pail,
2756 lb IBC,
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.: 2915 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)	4,43	-	kg CO ₂ eq/kg
PCF excluding biogenic emissions	4,43	-	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.