



TIB KAT 188

Description

TIB KAT 188 (Stannous Oxide), commonly referred to by its formula of SnO or named called Tin(II) Oxide, is a high metal content inorganic stannous tin catalyst that is used in a wide range of esterification reactions. *TIB KAT 188* is manufactured with low stannic tin content while maximizing active stannous tin. *TIB KAT 188* is an ideal lower toxicity alternative for commonly used organotin catalysts such as *TIB KAT 248*. *TIB KAT 188* is present on most international regulatory lists, making it an ideal choice when developing global formulations.

TIB KAT 188 is supplied as a free-flowing white solid Stannous Oxide substance with a narrow particle size distribution range and low moisture content. It is a neutral and non-corrosive compound.

The quantities of *TIB KAT 188* to be added for esterification are generally between 0.01 and 0.10 wt.- %. *TIB KAT 188* shows the highest catalytic activity at reaction temperatures between 180 - 260°C. The use of *TIB KAT 188* can result in final ester products with low color.

TIB KAT 188 is easily removable from esters by chemical reactions or by adsorption with our *TIB TINEX*[®] -products.

Product Data

Chemical Name	Stannous Oxide
Cas No.	21651-19-4
Molecular weight	134.6 g/mol
State of aggregation	powdered, free-flowing
Colour	black
Solubility	insoluble in water and organic solvents soluble in strong acids and bases

Specification

Total tin content	87.0 – 88.1 %
Tin (II) content	86.5 – 87.5 %
Moisture	Max 0.6 %
Conductivity (10%)	300 mS/cm



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Storage

TIB KAT 188 can be stored for at least 18 months if kept closed in the original packaging. The container should be closed tightly after each use to maximize shelf life. Characteristic of most inorganic tins (Sn(II)), the primary cause of instability would be oxidation.

Packaging

25 kg drum, 1000 kg FIBC,
other packaging size upon request.

Packaging USA

55 lb (25 kg) 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.: 2825 9085



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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.