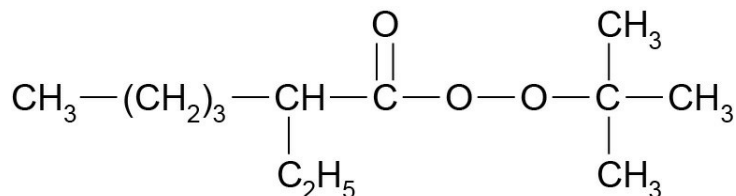


# Trigonox 21LS

tert-Butyl peroxy-2-ethylhexanoate



Trigonox 21LS is a peroxide formulation containing a special inhibitor. Used as kicker peroxide in high-temperature cure systems, while also allowing for long storage stability of the BMC and SMC pre-preg.

**CAS number**  
3006-82-4

**EINECS/ELINCS No.**  
221-110-7

**TSCA status**  
listed on inventory

**Molecular weight**  
216.3

**Active oxygen content peroxide**  
7.40%

**Concentration**  
6.44-6.69

## Specifications

|            |              |
|------------|--------------|
| Appearance | Clear liquid |
| Assay      | 87.0-90.5 %  |
| Color      | ≤3 G         |

## Characteristics

|                  |                         |
|------------------|-------------------------|
| Density, 20 °C   | 0.900 g/cm <sup>3</sup> |
| Viscosity, 20 °C | 4 mPa.s                 |

## Applications

Trigonox 21LS is a perester formulation based on tert-butylperoxy-2-ethylhexanoate, which is used for the curing of unsaturated polyester resin at elevated temperatures. Trigonox 21LS is preferred for the curing of UP resin based Hot Press Moulding formulations (SMC, DMC, BMC, etc) in the temperature range of 120 - 160°C. As Trigonox 21LS is a high reactive peroxide, it is very suitable as a kicker in formulations for pultrusion and SMC/BMC in combination with peroxides like Trigonox C and Trigonox 29-B50. Trigonox 21LS gives in comparison with Trigonox 21 a long shelf life stability of the compound, without affecting the cure speed, even when iron oxides or carbon black are used as pigment.

## Thermal stability

Organic peroxides are thermally unstable substances, which may undergo self-accelerating decomposition. The lowest temperature at which self-accelerating decomposition of a substance in the original packaging may occur is the Self-Accelerating Decomposition Temperature (SADT). The SADT is determined on the basis of the Heat Accumulation Storage Test.

|                                 |  |
|---------------------------------|--|
| SADT                            | 35   |
| Emergency temperature ( $T_e$ ) | 25   |
| Control temperature ( $T_c$ )   | 20   |
| Method                          | The Heat Accumulation Storage Test is a recognized test method for the determination of the SADT of organic peroxides (see Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria – United Nations, New York and Geneva). |

## Storage

Due to the relatively unstable nature of organic peroxides a loss of quality can be detected over a period of time. To minimize the loss of quality, Nouryon recommends a maximum storage temperature ( $T_s$  max.) for each organic peroxide product.

|            |   |
|------------|---|
| $T_s$ Max. | 20°C  |
| Note       | When stored according to these recommended storage conditions, Trigonox 21 LS will remain within the Nouryon specifications for a period of at least 3 months after delivery. |

## Packaging and transport

The standard packaging is a 30-liter HDPE can (Nourytainer) for 25 kg peroxide content. Both packaging and transport meet the international regulations. For the availability of other packed quantities consult your Nouryon representative. Trigonox 21 LS is classified as Organic peroxide type C; liquid, temperature controlled, Division 5.2; UN 3113.

## Safety and handling

Keep containers tightly closed. Store and handle Trigonox 21 LS in a dry well-ventilated place away from sources of heat or ignition and direct sunlight. Never weigh out in the storage room. Avoid contact with reducing agents (e.g. amines), acids, alkalis and heavy metal compounds (e.g. accelerators, driers and metal soaps). Please refer to the Safety Data Sheet (SDS) for further information on the safe storage, use and handling of Trigonox 21 LS. This information should be thoroughly reviewed prior to acceptance of this product. The SDS is available at [nouryon.com/sds-search](http://nouryon.com/sds-search)

## Major decomposition products

Carbon dioxide, 2-Ethyl hexanoic acid, tert-Butanol, Acetone, Methane, Ethane, n-Heptane, 5,6-Diethyldecane

All information concerning this product and/or suggestions for handling and use contained herein are offered in good faith and are believed to be reliable. Nouryon, however, makes no warranty as to accuracy and/or sufficiency of such information and/or suggestions, as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Nouryon does not accept any liability whatsoever arising out of the use of or reliance on this information, or out of the use or the performance of the product. Nothing contained herein shall be construed as granting or extending any license under any patent. Customer must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes. The information contained herein supersedes all previously issued information on the subject matter covered. The customer may forward, distribute, and/or photocopy this document only if unaltered and complete, including all of its headers and footers, and should refrain from any unauthorized use. Don't copy this document to a website.

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The Nouryon logo consists of a stylized orange 'N' followed by the word 'ouryon' in a lowercase, sans-serif font, all in orange.