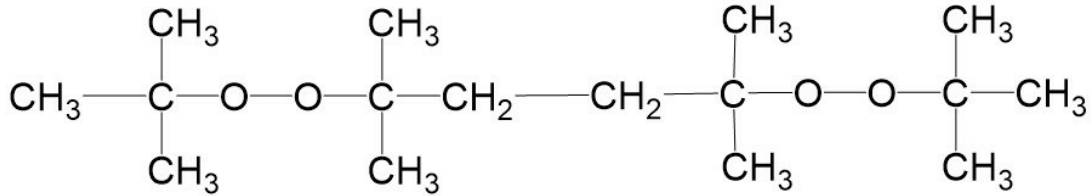


Trigonox 101-E32

2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane, 32% solution in mineral oil



Initiator for the production of controlled rheology polypropylene (CR-PP).

CAS number
78-63-7

EINECS/ELINCS No.
201-128-1

TSCA status
listed on inventory

Molecular weight
290.4

Active oxygen content
peroxide
11.02%

Specifications

Appearance	Clear liquid
Assay	31-33 %
Color	50 Pt-Co / APHA max.

Characteristics

Density, 20 °C	0.865 g/cm ³
Viscosity, 20 °C	6.4 mPa.s

Applications

Controlled rheology polypropylene: Trigonox® 101-E32 is an efficient peroxide for the degradation of polypropylene (CR-PP) in the temperature range of 200-250°C. The diluted form of Trigonox® 101-E32 in mineral oil allows a more accurate dosage of the peroxide to the polymer. Also a more homogeneous distribution of the peroxide throughout the polymer is of advantage. The white oil acts in PP also as a plasticizer to facilitate molding, e.g. for the fabrication of syringes for injectors.

Half-life data

The reactivity of an organic peroxide is usually given by its half-life ($t_{1/2}$) at various temperatures. For Trigonox® 101-E32 in chlorobenzene half-life at other temperatures can be calculated by using the equations and constants mentioned below:

0.1 hr	at 156°C (313°F)
1 hr	at 134°C (273°F)
10 hr	at 115°C (239°F)
Formula 1	$k_d = A \cdot e^{-E_a/RT}$
Formula 2	$t_{1/2} = (\ln 2)/k_d$
E_a	155.49 kJ/mole
A	1.68E+16 s ⁻¹
R	8.3142 J/mole-K
T	(273.15+°C) K

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	70°C
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.	40°C
Note	When stored under these recommended storage conditions, Trigonox® 101-E32 will remain within the Nouryon specifications for a period of at least three months after delivery.

Packaging and transport

The standard packaging is a 200 liter plastic drum for 165 kg peroxide solution. Both packaging and transport meet the international regulations. For the availability of other packed quantities contact your Nouryon representative. Trigonox® 101-E32 is classified as Organic peroxide type F, liquid; Division 5.2; UN 3109.

Safety and handling

Keep containers tightly closed. Store and handle Trigonox® 101-E32 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® 101-E32. This information should be thoroughly reviewed prior to acceptance of this product. The SDS is available at nouryon.com/sds-search.

Major decomposition products

Acetone, Methane, tert-Amyl alcohol, tert-Butanol, Ethane

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 logo for Nouryon, featuring a stylized blue 'N' followed by the word 'ouryon' in a blue sans-serif font.