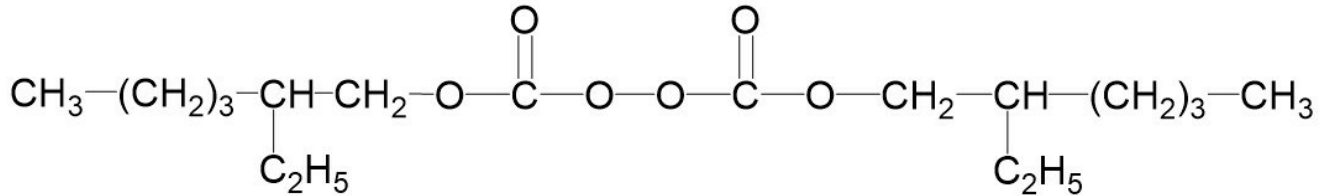


# Trigonox EHP

Di(2-ethylhexyl) peroxydicarbonate



Trigonox® EHP is an initiator for the (co)polymerization of ethylene, vinyl chloride, vinylidene chloride, acrylates and methacrylates.

CAS number  
16111-62-9

EINECS/ELINCS No.  
240-282-4

TSCA status  
listed on inventory

Molecular weight  
346.5

Active oxygen content  
peroxide  
4.62%

## Specifications

Active oxygen	4.53 %
Appearance	Clear liquid
Appearance, -20 to -10°C	Clear liquid
Assay	≥ 98.0 %
Inorganic + organic hydrolysable chloride	≤ 100 mg/kg

## Characteristics

Density, -10 °C	0.995 g/cm <sup>3</sup>
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## Applications

Polymerization of ethylene: Trigonox® EHP is an efficient initiator for the production of Low Density Polyethylene (LDPE). It is used both for tubular and autoclave processes. In most cases a combination with other peroxides is used to ensure a broad reactivity range. Polymerization of vinyl chloride: Trigonox® EHP is applied as an initiator for the suspension and mass polymerization of vinyl chloride in the temperature range between 40°C and 65°C. Trigonox® EHP can be used alone or in combination with other peroxides, such as 1,1,3,3-Tetramethylbutyl peroxyneodecanoate Trigonox® 423), Cumyl peroxyneodecanoate (Trigonox® 99) or Dilauroyl peroxide (Laurox), to increase reactor efficiency.

## Half-life data

The reactivity of an organic peroxide is usually given by its half-life ( $t_{1/2}$ ) at various temperatures. For Trigonox® EHP in chlorobenzene:

0.1 hr	at 83°C (181°F)
1 hr	at 64°C (147°F)
10 hr	at 47°C (117°F)
Formula 1	$k_d = A \cdot e^{-E_a/RT}$
Formula 2	$t_{1/2} = (\ln 2)/k_d$
Ea	122.45 kJ/mole
A	1.83E+15 s <sup>-1</sup>
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	0°C (32°F)
Emergency temperature ( $T_e$ )	-10°C (14°F)
Control temperature ( $T_c$ )	-20°C (-4°F)
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.

Ts Max.	-20°C (-4°F)
Note	When stored under these recommended storage conditions, Trigonox® EHP will remain within the Nouryon specifications for a period of at least three months after delivery.

## Packaging and transport

Trigonox® EHP is packed in non-returnable, one gallon polyethylene containers of 8 lb net weight (4 per case). Both packaging and transport meet the international regulations. For the availability of other packed quantities consult your Nouryon representative. Trigonox® EHP 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® EHP 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® EHP. 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-Ethylhexanol

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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## Contact Us

Polymer Specialties Americas  
[polymer.amer@nouryon.com](mailto:polymer.amer@nouryon.com)

Polymer Specialties Europe, Middle East, India and Africa  
[polymer.emeia@nouryon.com](mailto:polymer.emeia@nouryon.com)

Polymer Specialties Asia Pacific  
[polymer.apac@nouryon.com](mailto:polymer.apac@nouryon.com)

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