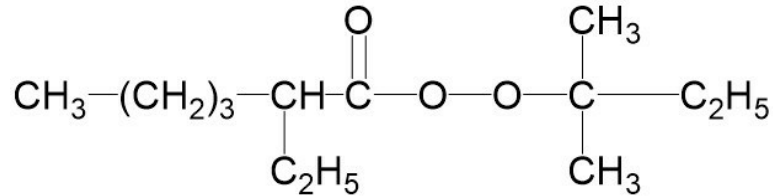


## Trigonox 121-C75

tert-Amyl peroxy-2-ethylhexanoate, 75% solution in isododecane



Trigonox® 121-C75 may be used for the polymerization of ethylene at high pressure in both autoclave and tubular processes. Trigonox® 121-C75 can be used as an initiator for the polymerization of styrene in the temperature range of 80-100°C. In practice, two or more peroxides with divergent activities may be combined to reduce residual monomer content and to increase reactor efficiency. Trigonox® 121-C75 can also be used to initiate the (co)polymerization of acrylates and methacrylates in the temperature range between 60°C and 100°C. Trigonox® 121-C75 can be applied in suspension as well as in solvent and bulk polymerization. Trigonox® 121-C75 may also be used in solution and non-aqueous dispersion polymerization of acrylates and methacrylates for the manufacture of coatings. In solution polymerization, Trigonox® 121-C75 is typically used in combination with two or more initiators with divergent activities. Initiators such as tert-Butylperoxy isopropyl carbonate (Trigonox® BPIC-C75) or Di-tert-butyl peroxide (Trigonox® B).

CAS number  
686-31-7

EINECS/ELINCS No.  
211-687-3

TSCA status  
listed on inventory

Molecular weight  
230.3

Active oxygen content  
peroxide  
6.95%

### Specifications

|   |              |
|---|--------------|
| Active oxygen                             | 5.14-5.28 %  |
| Appearance                                | Clear liquid |
| Assay                                     | 74.0-76.0 %  |
| Hydroperoxides as TAHP                    | ≤ 0.2 %      |
| Inorganic + organic hydrolysable chloride | ≤ 100 mg/kg  |

### Characteristics

|                |                        |
|----------------|------------------------|
| Density, 20 °C | 0.85 g/cm <sup>3</sup> |
|----------------|------------------------|

## Applications

Trigonox® 121-C75 can be used for the market segments: polymer production, thermoset composites and acrylics production with their different applications/functions. For more information please check our website and/or contact us.

## Half-life data

The reactivity of an organic peroxide is usually given by its half-life ( $t_{1/2}$ ) at various temperatures. For Trigonox® 121-C75 in chlorobenzene half-life at other temperatures can be calculated by using the equations and constants mentioned below:

|           |                             |
|-----------|-----------------------------|
| 0.1 hr    | at 111°C (232°F)            |
| 1 hr      | at 91°C (196°F)             |
| 10 hr     | at 73°C (163°F)             |
| Formula 1 | $k_d = A \cdot e^{-E_a/RT}$ |
| Formula 2 | $t_{1/2} = (\ln 2)/k_d$     |
| Ea        | 132.11 kJ/mole              |
| A         | 1.77E+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                            | 35°C (95°F)  |
| Emergency temperature ( $T_e$ ) | 25°C (77°F)  |
| Control temperature ( $T_c$ )   | 20°C (68°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.

|            |  |
|------------|--|
| $T_s$ Max. | 10°C (50°F)  |
| Note       | When stored according to these recommended storage conditions, Trigonox® 121-C75 will remain within the Nouryon specifications for a period of at least 3 months after delivery. |

## Packaging and transport

Trigonox® 121-C75 is packed in non-returnable, one gallon polyethylene containers of 7 lb net weight. Both packaging and transport meet the international regulations. For the availability of other packed quantities consult your Nouryon representative. Trigonox® 121-C75 is classified as Organic peroxide type D; liquid, temperature controlled; Division 5. 2; UN 3115.

## Safety and handling

Keep containers tightly closed. Store and handle Trigonox® 121-C75 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® 121-C75. 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, Methane, tert-Amyl alcohol, Heptane, Ethane, Acetone,

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 blue 'N' followed by the word 'ouryon' in a lowercase, sans-serif font. The 'N' is significantly larger and more prominent than the rest of the text.