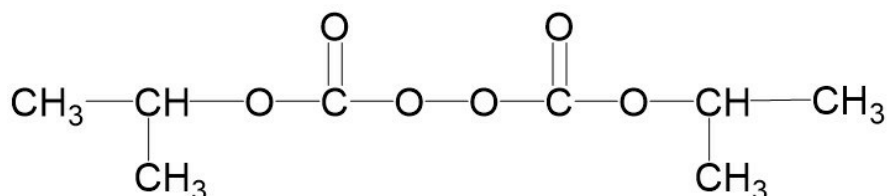


Perkadox IPP-RAV27

Diisopropyl peroxydicarbonate 27% solution in diethylene glycol bis(allyl carbonate), grade RAV7-AT



Perkadox® IPP-RAV27 is an initiator for the (co)polymerization of diethylene glycol bis(allyl carbonate) based optical monomers.

CAS number
105-64-6

EINECS/ELINCS No.
203-317-4

TSCA status
listed on inventory

Molecular weight
206.2

Active oxygen content
peroxide
7.76%

Specifications

Active oxygen	2.05-2.14 %
Appearance	Clear and colorless liquid
Assay	26.5-27.5 %
Inorganic + organic hydrolysable chloride	25 mg/kg
Organic hydrolyzable chloride	10 mg/kg
Water	≤ 0.15 %

Characteristics

Viscosity, -10 °C	41 mPa.s
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Applications

Perkadox® IPP-RAV27 can be used for the polymerization of diethylene glycol di(allylcarbonate) based optical monomers. The use level of Perkadox® IPP-RAV27 will depend on the particular cure parameters being used. Approximately 9.5-10.5% Perkadox® IPP-RAV27 is required. Perkadox® IPP-RAV27 is widely appreciated for its reactivity, efficiency, ease of handling and the highly transparent, colorless polymers. Perkadox® IPP-RAV27 can also be used for the copolymerization of diethylene glycol di(allylcarbonate) with other allyl monomers, methacrylates or vinylacetate.

Half-life data

The reactivity of an organic peroxide is usually given by its half-life ($t_{1/2}$) at various temperatures. For Perkadox® IPP-RAV27 in chlorobenzene half-life at other temperatures can be calculated by using the equations and constants mentioned below:

0.1 hr	at 82°C (180°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	$t_{1/2} = (\ln 2)/k_d$
E_a	124.01 kJ/mole
A	$3.35E+15 \text{ s}^{-1}$
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	5°C
Emergency temperature (T_e)	-5°C
Control temperature (T_c)	-15°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 ($T_s \text{ max.}$) for each organic peroxide product.

$T_s \text{ Max.}$	-15°C
$T_s \text{ Min.}$	-15°C to prevent crystallization
Note	When stored under these recommended storage conditions, Perkadox® IPP-RAV27 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 Nourytainer® for 25 kg peroxide solution. Both packaging and transport meet the international regulations. For the availability of other packed quantities contact your Nouryon representative. Perkadox® IPP-RAV27 is classified as Organic peroxide type D; liquid, temperature controlled; Division 5.2; UN 3115. Rail (RID) and air (ICAO-TI/IATA-DGR) transport are forbidden.

Safety and handling

Keep containers tightly closed. Store and handle Perkadox® IPP-RAV27 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 Perkadox® IPP-RAV27. This information should be thoroughly reviewed prior to acceptance of this product. The SDS is available at nouryon.com/sds-search.

Major decomposition products

Carbon dioxide, Ethane, Acetaldehyde, Isopropanol, 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.