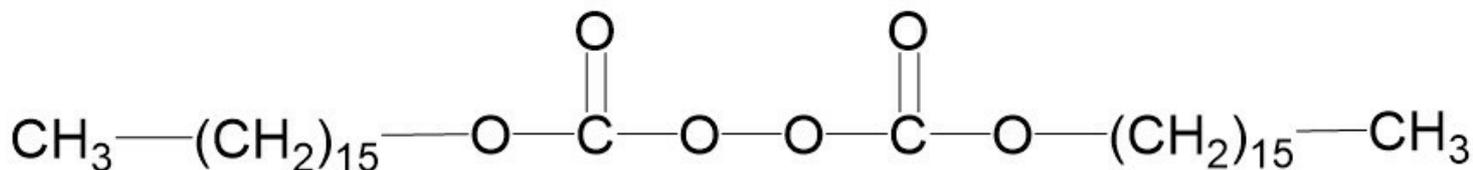


Perkadox 24L

Dicetyl peroxydicarbonate



Perkadox® 24L is an initiator for (co)polymerization of vinyl chloride, vinylidene chloride, acrylates and methacrylates. Used to increase melt strength of polypropylene to make high melt strength polypropylene (HMS-PP) by reactive extrusion process.

CAS number
26322-14-5

EINECS/ELINCS No.
247-611-0

TSCA status
listed on inventory

Molecular weight
570.9

Active oxygen content
peroxide
2.80%

Concentration
2.52-2.61%

Specifications

Appearance	White powder
Assay	90.0-93.0 %
Inorganic + organic hydrolysable chloride	≤ 3000 mg/kg

Characteristics

Bulk density	600 kg/m ³
Melting point	52 °C

Applications

Perkadox® 24L is applied as an initiator for the suspension and mass polymerization of vinyl chloride in the temperature range between 45°C and 65°C. Perkadox® 24L may be used 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. Perkadox® 24L has low water solubility, low vapor pressure and is quickly and evenly distributed into the monomer. There are important properties when a PVC resin of low fish-eye content and narrow particle size distribution is to be produced and autoclaves are to be kept free of crusts and scale.

Half-life data

The reactivity of an organic peroxide is usually given by its half-life (t_{1/2}) at various temperatures. For Perkadox® 24L in chlorobenzene half-life at other temperatures can be calculated by using the equations and constants mentioned below:

0.1 hr	at 84°C (183°F)
1 hr	at 65°C (149°F)
10 hr	at 48°C (118°F)
Formula 1	kd = A·e ^{-Ea/RT}
Formula 2	t _{1/2} = (ln2)/kd
Ea	124.30 kJ/mole
A	3.02E+15 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	40°C (104°F)
Emergency temperature (T _e)	35°C (95°F)
Control temperature (T _c)	30°C (86°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.	20°C (68°F)
Note	When stored under these recommended storage conditions, Perkadox® 24L will remain within the Nouryon specifications for a period of at least 3 months after delivery.

Packaging and transport

The standard packaging is 25 kg peroxide in a PE bag in a cardboard box. Both packaging and transport meet the international regulations. For the availability of other packed quantities contact your Nouryon representative. Perkadox® 24L is classified as Organic peroxide type F; solid, temperature controlled, Division 5. 2; UN 3120.

Safety and handling

Keep containers tightly closed. Store and handle Perkadox® 24L 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® 24L. 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, Hexadecanol

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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