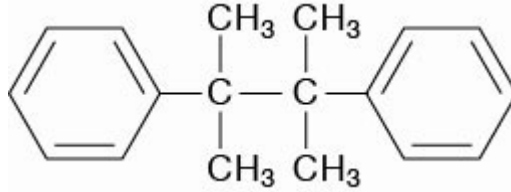


Perkadox 30

2,3-Dimethyl-2,3-diphenylbutane



Perkadox 30 is a flame-retardant synergist for polystyrene.

CAS number
1889-67-4

EINECS/ELINCS No.
217-568-2

TSCA status
listed on inventory

Molecular weight
238.4

Specifications

Active content	95.0 %
Appearance	White flakes

Characteristics

Bulk density	450 kg/m ³
Density	1.1 g/cm ³
Melting range	90-110 °C

Applications

Synergist in fire-retardant polystyrene: Polystyrene, especially expandable polystyrene, is made fire-retardant by the use of halogen-containing additives such as hexa-bromocyclododecane (HBCD). Initiators such as Perkadox 30 are commonly used as synergistic co-agents to reduce the amount of HBCD required. Perkadox 30 is well suited to this application as it has sufficient thermal stability at the temperatures used in suspension polymerization. The addition of Perkadox 30 to styrene monomer immediately before the onset of polymerization will not affect the polymerization process.

Polymerization of styrene: Perkadox 30 can also be used for the mass polymerization of styrene.

Half-life data

The reactivity of a C-C initiator is usually given by its half-life ($t_{1/2}$) at various temperatures. For Perkadox 30 in chlorobenzene:

0.1 hr	284°C (543°F)
1 hr	259°C (498°F)
10 hr	237°C (459°F)
Formula 1	$k_d = A \cdot e^{-E_a/RT}$
Formula 2	$t_{1/2} = (\ln 2)/k_d$
Ea	230.19 kJ/mole
A	7.34E+18 s ⁻¹
R	8.3142 J/mole-K
T	(273.15+°C) K

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 a C-C initiator.

Ts Max.	30°C (86°F)
Note	When stored under these recommended storage conditions, Perkadox 30 will remain within the Nouryon specifications for a period of at least three months after delivery.

Packaging and transport

In North America Perkadox 30 is packed in in non-returnable fiber drums containing 66 lb net weight. In other regions the standard packaging is a card-board box for 20 kg peroxide. Both packaging and transport meet the international regulations. For the availability of other packed quantities contact your Nouryon representative. Perkadox 30 is classified as a non-dangerous good according to national and international transport regulations.

Safety and handling

Keep containers tightly closed. Store and handle Perkadox 30 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 30. This information should be thoroughly reviewed prior to acceptance of this product. The SDS is available at nouryon.com/sds-search.

Major decomposition products

Cumene

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, all in blue.