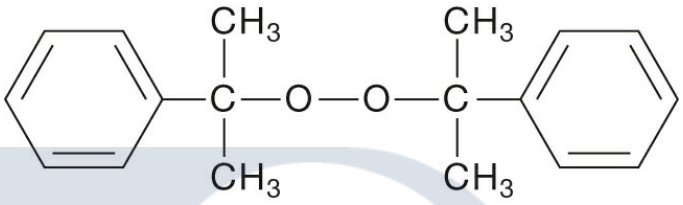
Perkadox BC-FF

Dicumyl peroxide



Perkadox BC-FF is a monofunctional peroxide which is used for the crosslinking of natural rubber and synthetic rubbers, as well as polyolefins. Rubber compounds containing Perkadox BC-FF have excellent scorch safety, and under certain conditions one step mixing is possible. Safe processing temperature: 130°C (rheometer ts2 > 20 min.). Typical crosslinking temperature: 170°C (rheometer t90 about 12 min.).

CAS number
80-43-3

EINECS/ELINCS No.
201-279-3

TSCA status
listed on inventory

Molecular weight
270.4

Active oxygen content peroxide
5.92%

Concentration
5.86% min.

Specifications

Appearance	White crystals
Assay	≥ 99.0 %

Applications

Perkadox BC-FF can be used for the market segments: polymer production, polymer crosslinking and thermoset composites 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 (t1/2) at various temperatures. For Perkadox BC-FF in chlorobenzene half-life at other temperatures can be calculated by using the equations and constants mentioned below:

0.1 hr	at 154°C (309°F)
1 hr	at 132°C (270°F)
10 hr	at 112°C (234°F)
Formula 1	kd = A·e-Ea/RT
Formula 2	t½ = (ln2)/kd
Ea	152.67 kJ/mole
A	9.24E+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	75°C (167°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 (Ts max.) for each organic peroxide product.

Ts Max.	30°C (86°F)
Note	When stored under the recommended storage conditions, Perkadox BC-FF will remain within the Nouryon specifications for a period of at least 12 months after delivery.

Packaging and transport

In North America Perkadox BC-FF is packed in non-returnable cartons containing 55. 1 lb net weight. In other regions the standard packaging is a non-returnable carton containing 5 x 5 kg peroxide. Both packaging and transport meet the international regulations. For the availability of other packed quantities contact your Nouryon representative. Perkadox BC-FF is classified as Organic peroxide type F; solid, Division 5. 2; UN 3110.

Safety and handling

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

Major decomposition products

Methane, Acetophenone, 2-Phenylisopropanol