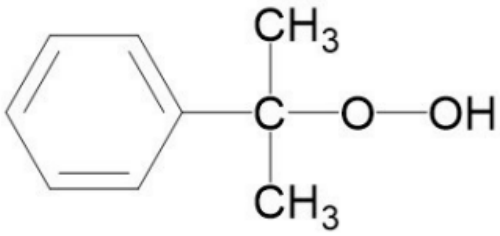
CHP90

Cumyl Hydroperoxide



CAS No.
80-15-9
TSCA Status
listed on inventory
EINECS/ELINCS No.
210-254-7
Molecular weight
152.2
Appearance
Clear liquid
Density, 20 °C
1.040 g/cm³
Viscosity, 20 °C
5 mPa.s

CHP is an initiator (90% active ingredient in aromatic solvent mixture) for (co)polymerization of (meth)acrylates.

Applications

For Polymer production and Poly(meth)acrylics: CHP may be used for various polymerization reactions. It can be used in emulsion, solution and bulk polymerizations. In emulsion processes, CHP may be activated by organic-soluble or water-soluble reducing agents, or by metal compounds to achieve polymerization at room temperature or lower. When no accelerators are used, effective polymerization can be obtained in the temperature range of 50-200°C. For example, styrene and methyl methacrylate can be polymerized in bulk in the temperature range of 60-100°C using CHP. CHP may also be used for emulsion polymerization of various vinyl monomers. In this case CHP may be used in combination with reducing agents to achieve reproducible results at low temperatures. For Thermoset: CHP may be used as an initiator for the room temperature cure of promoted unsaturated polyester and vinyl ester resins, and elevated temperature cure of non-promoted resins.

Thermal stability

Organic peroxides are thermally unstable substances which may undergo self-accelerating decomposition. The lowest temperature at which self-accelerating decomposition may occur with a substance in the packaging as used for transport is the Self-Accelerating Decomposition Temperature (SADT). The SADT is determined on the basis of the Heat Accumulation Storage Test.

SADT	60°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, Do Sender Chem recommends a maximum storage temperature

Ts Max.	25°C
Note	When stored under the recommended storage conditions, CHP90 will remain within the Do Sender Chem specifications for a period of at least 9 months after delivery.

Packaging and transport

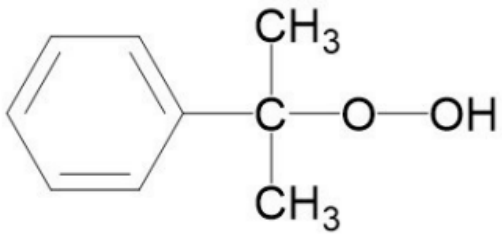
Packed in plastic drums with specifications of 1000kg, 200kg, and 25kg.
CHP90 is classified as Organic peroxide type F; liquid, Division 5.2; UN 3109.

Major decomposition products

Acetophenone, phenylisopropanol, methane, water.

CHP80

Cumyl Hydroperoxide



CAS No.
80-15-9
TSCA Status
listed on inventory
EINECS/ELINCS No.
210-254-7
Molecular weight
152.2
Appearance
Clear liquid
Density, 20 °C
1.06 g/cm³
Viscosity, 20 °C
10.4 mPa.s

CHP80 may be used for various polymerization reactions. It can be used in emulsion, solution and bulk polymerizations. In emulsion processes, CHP80 may be activated by organic-soluble or water-soluble reducing agents, or by metal compounds to achieve polymerization at room temperature or lower. When no accelerators are used, effective polymerization can be obtained in the temperature range of 50-200°C. For example, styrene and methyl methacrylate can be polymerized in bulk in the temperature range of 60-100°C using CHP80. CHP80 may also be used for emulsion polymerization of various vinyl monomers. In this case CHP90 may be used in combination with reducing agents to achieve reproducible results at low temperatures.

Applications

CHP80 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 (t1/2) at various temperatures. The half-life of CHP80 in chlorobenzene is:

0.1 hr	at 195°C
1 hr	at 166°C
10 hr	at 140°C
Formula 1	kd=A·e-Ea/RT
Formula 2	t½=(ln2)/kd
Ea	132.56 kJ/mole
A	1.15E+12 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 may occur with a substance in the packaging as used for transport is the Self-Accelerating Decomposition Temperature (SADT). The SADT is determined on the basis of the Heat Accumulation Storage Test.

SADT	75°C for small cans, 70°C for IBC's and 65°C for bulk tanks.
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, Do Sender Chem recommends a maximum storage temperature

Ts Max.	40°C
Ts Mix.	-30°C *
Note	When stored under the recommended storage conditions, CHP80 will remain within the Do Sender Chem specifications for a period of at least 6 months after delivery.

Packaging and transport

Packed in plastic drums with specifications of 1000kg, 200kg, and 25kg.
CHP is classified as Organic peroxide type F; liquid, Division 5.2; UN 3109.

Major decomposition products

Acetophenone, 2-Phenylisopropanol,Methane