

DTBP

Di-Tert-Butyl Peroxide

CAS No.

110-05-4

TSCA Status

listed on inventory

Active oxygen content peroxide

10.94%

EINECS/ELINCS No.

203-733-6

Molecular weight

146.2

Characteristics

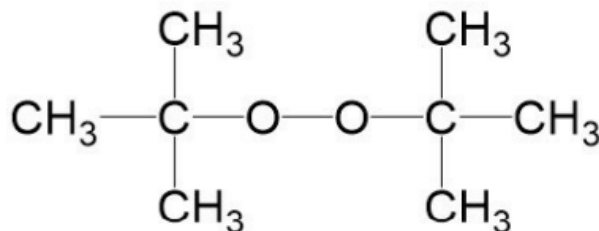
Clear liquid

Density, 20 °C

0.800 g/cm³

Viscosity, 20 °C

0.9 mPa.s



Polymerization of acrylate and methacrylate: Within the temperature range of 130-175 °C, it can be used as an initiator for solution polymerization or copolymerization of acrylate and methacrylate, especially in the production of coatings. It can also be used as an initiator for bulk and suspension polymerization or copolymerization of acrylate and methacrylate.

Applications

DTBP(Di-tert-butyl peroxide) can be used for the market segments: polymer production, polymer crosslinking 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 ($t_{1/2}$) at various temperatures. For DTBP in chlorobenzene half-life at other temperatures can be calculated by using the equations and constants mentioned below:

0.1 hr	at 164°C (327°F)
1 hr	at 141°C (286°F)
10 hr	at 121°C (250°F)
Formula 1	$k_d = A \cdot e^{-E_a/RT}$
Formula 2	$t_{1/2} = (\ln 2)/k_d$
E_a	153.46 kJ/mole
A	4.20E+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 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 80°C (176°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 will occur over a period of time. To minimize the loss of quality, Do Sender Chem recommends a maximum storage temperature (Ts max.) for each organic peroxide product.

Ts Max. 40°C (104°F) and

Ts Min. -30°C (-22°F) to prevent crystallization

Note When stored according to these recommended storage conditions, DTBP will remain within the Do Sender Chem specifications for a period of at least 6 months after delivery.

Packaging and transport

Polyethylene white plastic drum 20KG.

DTBP is classified as Organic peroxide type E; liquid, Division 5.2; UN 3107.

Major decomposition products

Acetone, Methane, tert-Butanol.