

D25

2,5-Dimethyl-2,5-di(tert-butylperoxy) hexane

CAS No.

78-63-7

TSCA Status

listed on inventory

EINECS/ELINCS No.

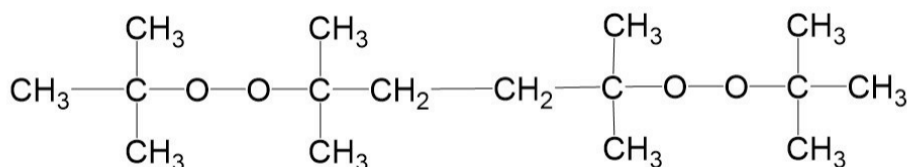
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Density, 20 °C

0.872 g/cm³

Viscosity, 20 °C

6.4 mPa.s



Perodox 101 is a bifunctional peroxide which is used for the crosslinking of natural rubber and synthetic rubbers, as well as polyolefins. Rubber compounds containing Perodox 101 have excellent scorch safety, and under certain conditions one step mixing is possible. Safe processing temperature: 135°C (rheometer ts2 > 20 min.). Typical crosslinking temperature: 175°C (rheometer t90 about 12 min.).

Specifications

Assay: ≥92%

Applications

Perodox 101 (2,5-Dimethyl-2,5-di(tert-butylperoxy) hexane) can be used for the market segments: polymer production, polymer crosslinking, acrylics production and polymer recycling 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 Perodox 101 in chlorobenzene:

0.1 hr	at 156°C (313°F)
1 hr	at 134°C (273°F)
10 hr	at 115°C (239°F)
Formula 1	$k_d = A \cdot e^{-E_a/RT}$
Formula 2	$t_{1/2} = (\ln 2)/k_d$
E _a	155.49 kJ/mole
A	1.68E+16 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	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 can be detected 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.	10°C (50°F)
Note	When stored under these recommended storage conditions, Perodox 42 will remain within the Do Sender Chem specifications for a period of at least 3 months after delivery.

Packaging and transport

20 kg.

Perodox 101 is classified as Organic peroxide type C; liquid, Division 5.2; UN 3103.

Major decomposition products

Acetone, Methane, tert-Amyl alcohol, tert-Butanol, Ethane