

## DHBP-75-PIC

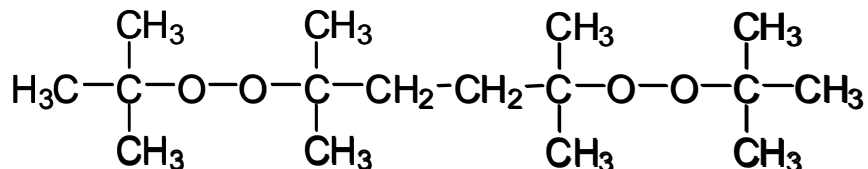
2,5-Dimethyl-2,5-di(tert.butylperoxy) hexane

CAS#78-63-7

72 %, paste in silicagel

Molar mass: 290.4 g/mol

### Structural Formula



### Description

White paste, consisting of approx. 72 % 2,5-dimethyl-2,5-di(tert.butylperoxy) hexane, desensitised with silica gel. This bifunctional dialkyl peroxide is used as an initiator (radical source) in the crosslinking of silicon rubbers at above 170°C.

### Technical Data

Appearance	white paste
Purity (GC)	approx. 75%
Active oxygen (calculated)	approx. 8.1% w/w
De-sensitising agent	silicagel
Critical temperature (SADT)	approx. 90 °C
Freezing point	below -20 °C
Recommended storage temperature	below 30 °C
Storage stability as from date of delivery	3 months

This product is in compliance with the ElektroG (E U-Directives: RoHS 2002/95/EG, WEEE 2002/96/EG)

### Half-life-time

10 h/1 h/1 min (0.1 m/benzene): 120/142/190 °C

### Application

#### POLYMER-CROSSLINKING:

A peroxidic crosslinking agent for many polymers and elastomers, especially silicone rubber (VMQ), but also for polyethylene (LDPE, HDPE), ethylene/vinyl acetate copolymer (EVA or EAM), ethylene/propylene/(diene)rubber (EPM, EPDM) and fluor elastomers (FKM). Crosslinking temperature: above 170°C. Below 140°C no premature crosslinking (scorch) occurs.

Usage level: 1-4 % of product as supplied on material to be crosslinked. With a few unreactive polymers, crosslinking efficiency can be improved by

the addition of 1-5% of coagents (e.g. TAC or EDMA).

**Special advantages:**

Efficient and very versatile. The paste form facilitates mixing and homogenisation. Volatile, odour free decomposition products, and no blooming on the vulcanisate surface.

## Crosslinking Performance

Influence of temperature on crosslinking time

Vulcanisation of EPDM. Light colour cable sheathing compound with 2,5 parts w/w

DHBP-75-PIC within Monsanto-rheometer 100-S (torsion angle 1°, chamber volume 7.3 cm<sup>3</sup>)\*

Temperature [°C]	140	150	160	170	180	190	200
Scorch-time [min]	18	6.0	3.5	2.0	1.3	1.0	0.7
Crosslinking time t <sub>50</sub> [min]	-	-	15	6.6	3.4	2.1	1.4
Crosslinking time t <sub>90</sub> [min]	-	-	38	20	8.3	4.3	2.4

Influence of peroxide level on properties of vulcanisates

Vulcanisation of EPDM at 180 °C. Light colour cable sheathing compound

Formulation (parts w/w): 100 EPDM, 120 kaolin, 30 chalk, 25 plasticiser

1 stabiliser, 1 vinyl silane, 3 wax, 5 zinc oxide, 1 TAC, 1,9-4,4 DHBP-75-PIC

DHBP-75-PIC [parts by weight]	1.9	2.5	3.1	3.8	4.4
Crosslinking time t <sub>90</sub> [min]	8.5	8.3	8.1	7.2	6.2
Torque T <sub>max</sub> (Nm)	4.1	4.5	4.9	5.3	5.4
Tensile strength [Nm/mm <sup>2</sup> ]	6.7	6.9	7.3	7.1	7.1
200 % Modulus [Nm/mm <sup>2</sup> ]	4.5	4.8	5.7	5.8	5.9
Elongation [%]	400	370	350	300	280
Shore A Hardness	66	69	70	71	72
Compression set *[%]	15	15	13	12	12

\*) 22 h at 100 °C

Further information on peroxides for polymer crosslinking can be found in our technical brochures on this subject.

## Standard Packaging

15 kg ( 33,1 lb ) in plastic buckets

## Disclaimer

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