



>>Entry Name: Di-*tert*-butyl peroxide

Synonym(s): Bis(1,1-dimethylethyl) peroxide, 9CI. DTBP. *tert*-Butyl peroxide. Kayabutyl D. Perbutyl D. Interlox DTP

CAS Registry Number: 110-05-4

$(\text{H}_3\text{C})_3\text{COOC}(\text{CH}_3)_3$

Molecular Formula: $\text{C}_8\text{H}_{18}\text{O}_2$

Molecular Weight: 146.229

Accurate Mass: 146.13068

Percentage Composition: C 65.71%; H 12.41%; O 21.88%

Use/Importance: Polymerisation catalyst, methyl radical source

Physical Description: Liq.

Melting Point: Fp -40°

Boiling Point: Bp $109-111^\circ$. Bp₂₈₄ 80°

Solubility: V. spar. sol. H_2O

Density: d^{20}_4 0.796

Refractive Index: n^{20}_D 1.3891

Hazard & Toxicity: Highly flammable, fl. p. 12° . Prepn. may result in explosion. Skin, eye and respiratory tract irritant

Aldrich: 16852-1

Fluka: 34790

References:

Aldrich Library of FT-IR Spectra: Vapor Phase, 1989, **3**, 267B, (*ir*)

Milas, N.A. *et al.*, *J.A.C.S.*, 1946, **68**, 205, (*synth*)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 211

Schenach, T.A., *Chem. Eng. News*, 1973, **51**, 29, (*haz*)

Davis, S.A. *et al.*, *J.O.C.*, 1984, **49**, 3415, (*props*)

Sime, R.J., *Chem. Eng. News*, June 13, 1988, 4, (*haz*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, BSC750

Bretherick, L., *Handbook of Reactive Chemical Hazards*, 4th edn., Butterworths, 1990, 2878

Luxon, S.G., *Hazards in the Chemical Laboratory*, 5th edn., Royal Society of Chemistry, 1992, 405

Patty's Ind. Hyg. Toxicol., 4th edn., Vol. 2, Wiley, 1993, 570, (*tox*)