



CAS Registry Number: 7705-14-8

Molecular Formula: C₁₀H₁₆

Molecular Weight: 136.236

Accurate Mass: 136.1252

Percentage Composition: C 88.16%; H 11.84%

Biological Source: Constit. of *Oleum ciniae*, pine needle oil and many essential oils. Obt. comly. as by prod. in hydration of turpentine

Physical Description: Oil

Boiling Point: Bp 178°

Hazard & Toxicity: Flammable, fl. p. 45/53°, autoignition temp. 237°. Skin irritant

>> **Derivative:** Diepoxide

Synonym(s): 1-Methyl-4-(2-methyloxiranyl)-7-oxabicyclo[4.1.0]heptane, 9Cl. 1,2:8,9-Diepoxymethane. Dipentene diepoxide

CAS Registry Number: 96-08-2

Molecular Formula: C₁₀H₁₆O₂

Molecular Weight: 168.235

Accurate Mass: 168.11503

Percentage Composition: C 71.39%; H 9.59%; O 19.02%

Use/Importance: Used in polymerisations

Boiling Point: Bp 242°

Other Data: Coml. product undoubtedly a mixt. of diastereoisomers. Opt. active preparations, not fully characterised stereochemically, have also been reported

References:

- Aldrich Library of FT-IR Spectra*, 1st edn., 1985, **1**, 43B; 43C, (*ir*)
Aldrich Library of 13C and 1H FT NMR Spectra, 1992, **1**, 70C; 71A; 71B, (*nmr*)
Aldrich Library of FT-IR Spectra: Vapor Phase, 1989, **3**, 63D; 64A, (*ir*)
Thomas, A.F. *et al.*, *Helv. Chim. Acta*, 1964, **47**, 475, (*ms*)
Pawson, B.A. *et al.*, *Chem. Comm.*, 1968, 1057, (*abs config*)
Verghese, J., *Perfum. Essent. Oil Res.*, 1968, **59**, 439, (*rev*)
Karrer, W. *et al.*, *Konstitution und Vorkommen der Organischen Pflanzenstoffe*, 2nd edn., Birkhäuser Verlag, Basel, 1972, nos. 53; 54, (*occur*)
Morris, W.W., *J. Assoc. Off. Anal. Chem.*, 1973, **56**, 1037, (*ir*)
Nijaura, N. *et al.*, *Chem. Lett.*, 1974, 1411, (*synth*)
Mukhamedova, L.A. *et al.*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974, **23**, 404-406; 1977, **26**, 2066-2070; *Bull. Acad. Sci. USSR, Div. Chem. Sci. (Engl. Transl.)*, 1974, **23**, 370-373; 1977, **26**, 1911-1915, (*diepoxides*)
Opdyke, D.L.J., *Food Cosmet. Toxicol.*, 1975, **13**, 825; 1978, **16**, 809, (*rev, tox*)
Org. Synth., 1977, **56**, 101, (*synth*)
Thomas, A.F. *et al.*, *Nat. Prod. Rep.*, 1989, **6**, 291, (*rev*)
IARC Monog., 1993, **56**, 135, (*rev, tox*)
Pyun, H.-J. *et al.*, *J.O.C.*, 1993, **58**, 3998, (*biosynth*)
Coates, R.M. *et al.*, *Chem. Comm.*, 1997, 2079-2080, (*biosynth*)
Encyclopedia of Food and Color Additives, (ed. Burdock, G.A.), CRC Press, 1997, 1581-1584, (*occur, use*)
Rani, K. *et al.*, *Fitoterapia*, 1998, **69**, 337-348, (*biosynth*)
Hazards in the Chemical Laboratory, 3rd edn., (ed. Bretherick, L.), Royal Society of Chemistry, 1981, 313
Luxon, S.G., *Hazards in the Chemical Laboratory*, 5th edn., Royal Society of Chemistry, 1992, 376
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, LFU000; MCC250; MCC500