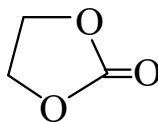




>>Entry Name: 1,3-Dioxolan-2-one, 9CI

ENTRY UNDER REVIEW

Synonym(s): Carbonic acid cyclic ethylene ester, 8CI. Ethylene carbonate. Glycol carbonate. Ethene carbonate



CAS Registry Number: 96-49-1

Molecular Formula: C₃H₄O₃

Molecular Weight: 88.063

Accurate Mass: 88.016045

Percentage Composition: C 40.92%; H 4.58%; O 54.50%

Source/Synthesis: Found in tobacco smoke. Manuf. by reaction of ethylene oxide and carbon dioxide

Use/Importance: Used as a solvent, in hair-waving compositions and in the printing of textiles and other materials

Physical Description: Needles (Et₂O)

Melting Point: Mp 38.5-39°

Boiling Point: Bp₃₀ 152°. Bp₁₀₀ 177°. Bp₁ 67-68°

Hazard & Toxicity: Fl. p. 143° (oc). Skin and eye irritant. LD₅₀ (rat, orl) 10000 mg/kg

Aldrich: E2625-8

Fluka: 3519

References:

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **1**, 612A, (ir)

Aldrich Library of 13C and 1H FT NMR Spectra, 1992, **1**, 932A, (nmr)

Aldrich Library of FT-IR Spectra: Vapor Phase, 1989, **3**, 635A, (ir)

Vorlander, D., *Annalen*, 1894, **280**, 167, (synth)

Allpress, C.F. *et al.*, *J.C.S.*, 1924, **125**, 2259, (synth)

Djerassi, C. *et al.*, *Tetrahedron*, 1968, **24**, 2949, (ms)

Fortunato, B. *et al.*, *Spectrochim. Acta A*, 1971, **27**, 1917, (ir, Raman)

Geiger, F., *Drugs Made Ger.*, 1972, **15**, 34; 36, (props)

Hechler, G., *Inf. Chim.*, 1972, **111**, 133, (rev, bibl)

Ger. Pat., 1976, 2 611 087; *CA*, **86**, 29791, (manuf)

Soga, K. *et al.*, *J. Polym. Sci., Polym. Chem. Ed.*, 1979, **17**, 517, (synth)

Venturello, C. *et al.*, *Synthesis*, 1985, 33, (synth)

Kisch, H. *et al.*, *Chem. Ber.*, 1986, **119**, 1090, (synth)

Riddick, J.A. *et al.*, *Tech. Chem. (N.Y.)*, 4th edn., Wiley-Interscience, 1986, **2**, 433, (props)

Dostovalora, V.I. *et al.*, *Magn. Reson. Chem.*, 1987, **25**, 1, (cmr)

Mizuno, T. *et al.*, *Synthesis*, 1989, 636, (synth, ir, pmr, ms)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials, 8th edn.*, Van Nostrand Reinhold, 1992, GHM000