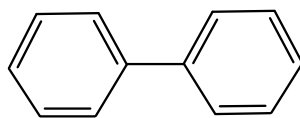




>>Entry Name: Biphenyl, 8CI, BSI, ISO

ENTRY UNDER REVIEW

Synonym(s): 1,1'-Biphenyl, 9CI. Phenylbenzene. Diphenyl. Bibenzene. E 230. FEMA 3129



CAS Registry Number: 92-52-4

Related CAS Registry Numbers(s): 8004-13-5

Molecular Formula: C₁₂H₁₀

Molecular Weight: 154.211

Accurate Mass: 154.07825

Percentage Composition: C 93.46%; H 6.54%

Use/Importance: Fungistat, esp. for citrus fruits. Used as food preservative

Physical Description: Monoclinic cryst. with faint pleasant odour

Melting Point: Mp 71°

Boiling Point: Bp 254-255°. Bp₂₂ 145°. Bp_{0.2} 70-78°

Other Data: Planar in the cryst. state at -233°, dihedral angle 10° in cryst. state >-233°, 25° in molten state, 32° in soln., 42° in gas phase

Hazard & Toxicity: Fl. p. 113°, autoignition temp. 540°. Eye and mucous membrane irritant. Prolonged or repeated skin contact may cause sensitisation and dermatitis.

Occup. exposure causes changes to central and peripheral nervous systems, and gastrointestinal disturbances. LD₅₀ (rat, orl) 3280 mg/kg. OES: long-term 0.2 ppm; short-term 0.6 ppm

Aldrich: W31290-8

Fluka: 14410

Rare Chemicals Library: S40558-2

Sigma: B6890

Supelco: 44-2487

References:

Aldrich Library of 13C and 1H FT NMR Spectra, 1992, **2**, 28C, (nmr)

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **1**, 948A, (ir)

Aldrich Library of FT-IR Spectra: Vapor Phase, 1989, **3**, 871B, (ir)

Forrest, J., *J.C.S.*, 1960, 574, (synth)

Brownlee, R.T.C. *et al.*, *J.A.C.S.*, 1968, **90**, 1757, (ir)

Laseter, J.L. *et al.*, *Org. Mass Spectrom.*, 1970, **4**, 599, (ms)

Nordén, B. *et al.*, *Acta Chem. Scand.*, 1972, **26**, 429, (uv)

Kamezawa, N., *J. Magn. Reson.*, 1973, **11**, 88, (pmr)

Schulman, E.M. *et al.*, *J.O.C.*, 1974, **39**, 2686, (cmr)

Charbonneau, G.P. *et al.*, *Acta Cryst. B*, 1976, **32**, 1420; 1977, **33**, 1586, (cryst struct)

Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **7**, 782, (rev)

Takagi, K. *et al.*, *Chem. Lett.*, 1979, 917, (synth)

Cook, I.B., *Aust. J. Chem.*, 1989, **42**, 1493, (cmr)

Pesticide Manual, 9th edn., 1991, 1010

Agrochemicals Handbook, 3rd edn., Royal Society of Chemistry, 1992, A166

Bock, H. *et al.*, *Chem. Eur. J.*, 1995, **1**, 557, (bibl, conformn)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, BGE000

Luxon, S.G., *Hazards in the Chemical Laboratory*, 5th edn., Royal Society of Chemistry, 1992, 134

Chemical Hazards of the Workplace, 3rd edn., (eds. Proctor, N.H. *et al.*), Van Nostrand Reinhold, 1991, 113