



>>Entry Name: 1,2-Dibromoethane, 9CI

Synonym(s): Ethylene dibromide, BSI, ISO. Ethylene bromide. Aadibroom. EDB, JMAF. Bromofume. Dowfume 85. Iscobrome D. Nefis

CAS Registry Number: 106-93-4

Extra CAS Registry Numbers(s): 25620-62-6

BrCH₂CH₂Br

Molecular Formula: C₂H₄Br₂

Molecular Weight: 187.862

Accurate Mass: 185.907972

Percentage Composition: C 12.79%; H 2.15%; Br 85.07%

Source/Synthesis: Manuf. from ethylene and bromine

Use/Importance: Entrainment reagent for conversion of unreactive halides to Grignard reagents. Formerly used as an industrial fumigant

Physical Description: Liq.

Melting Point: Mp 10°

Boiling Point: Bp 131.7°. Bp₁₄ 34°

Solubility: Sl. sol. H₂O; misc. most org. solvs.

Density: d₄²⁰ 2.178

Refractive Index: n_D²⁰ 1.5387

Hazard & Toxicity: Fl. p. >104°. Can react violently with Mg. Probable human carcinogen. Eye, skin and respiratory tract irritant. Implicated in occup. sterility. LD₅₀ (rat, orl) 108 mg/kg. LD₅₀ (rat, skn) 300 mg/kg. Prolonged or repeated exposure may damage liver and kidneys. Exp. carcinogen. MEL: long-term 0.5 ppm (Sk)

Aldrich: D4075-2

Fluka: 3505

Sigma: D8419

Supelco: 4-7757

References:

Aldrich Library of 13C and 1H FT NMR Spectra, 1992, **1**, 107C, (nmr)

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **1**, 72C, (ir)

Aldrich Library of FT-IR Spectra: Vapor Phase, 1989, **3**, 104B, (ir)

Kesting, W., *Angew. Chem.*, 1925, **38**, 362, (synth)

Goshorn, R.H. *et al.*, *Proc. Indiana Acad. Sci.*, 1935, **45**, 139; *CA*, **31**, 1004, (synth)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 374; **5**, 187

Abraham, R.J. *et al.*, *Z. Phys. Chem. (Leipzig)*, 1968, **58**, 257, (pmr)

IARC Monog., 1977, **15**, 195; *Suppl.* 6, 296; *Suppl.* 7, 204, (rev, tox)

Takacs, G.A. *et al.*, *J. Phys. Chem.*, 1978, **82**, 2252, (uv)

Wertz, D.L. *et al.*, *J. Phys. Chem.*, 1980, **84**, 521, (conformn)

Dostovalova, V.I. *et al.*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1988, 2770; *Bull. Acad. Sci. USSR, Div. Chem. Sci. (Engl. Transl.)*, 1988, 2494, (cmr)

Ewig, C.S. *et al.*, *J. Phys. Chem.*, 1989, **93**, 5070, (ir, Raman)

Nishikubo, T. *et al.*, *Polym. J. (Tokyo)*, 1990, **22**, 1043; *CA*, **114**, 102940w, (polym)

Alexeeff, G.V. *et al.*, *Rev. Environ. Contam. Toxicol.*, 1990, **112**, 49, (rev, use, tox)

Pesticide Manual, 9th edn., 1991, No. 5800

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, EIY500

Bretherick, L., *Handbook of Reactive Chemical Hazards*, 4th edn., Butterworths, 1990, 0737

Luxon, S.G., *Hazards in the Chemical Laboratory*, 5th edn., Royal Society of Chemistry, 1992, 397

Handbook of Pesticide Toxicology, (Eds. Hayes, W.J. *et al.*), Academic Press, 1991, 681