



>>Entry Name: 1,1,2,3,4,4-Hexafluoro-1,3-butadiene, 9CI

Synonym(s): Perfluoro-1,3-butadiene

CAS Registry Number: 685-63-2

$\text{F}_2\text{C}=\text{CFCF}=\text{CF}_2$

Molecular Formula: C_4F_6

Molecular Weight: 162.034

Accurate Mass: 161.990418

Percentage Composition: C 29.65%; F 70.35%

Use/Importance: Crosslinking agent for cotton textiles. Monomer for plastics and elastomers. Fire-proofing agent and flame retardant. Halide-resistant coating for metals. Insulator for electrical applications

Physical Description: Gas

Melting Point: Mp -132.1°

Boiling Point: Bp $6.5-7.5^\circ$

Density: d_4^{25} 1.553

Other Data: n_D^{20} 1.378. Q/e values for polym., Q 0.82, e 0.58

References:

Haszeldine, R.N., *J.C.S.*, 1952, 4423, (*synth, ir, uv*)

Klebanskii, A.J. *et al.*, *J. Polym. Sci.*, 1961, **52**, 23, (*copolym, reactivity*)

Toy, M.S. *et al.*, *J. Polym. Sci., Part B*, 1968, **6**, 639, (*radical polym*)

Brundle, C.R. *et al.*, *J.A.C.S.*, 1970, **92**, 5550, (*pe*)

Barlow, M.G. *et al.*, *J.C.S.(B)*, 1970, 525, (*F-19 nmr*)

Chang, C.-H. *et al.*, *J.O.C.*, 1971, **36**, 920, (*ed*)

Toy, M.S. *et al.*, *Ind. Eng. Chem. Prod. Res. Dev.*, 1972, **11**, 404, (*photochem polym*)

Hudlicky, M., *Chemistry of Organic Fluorine Compounds*, J. Wiley and Sons, London, 2nd Ed., 1976, 598, (*props*)

Wurrey, C.J. *et al.*, *J. Chem. Phys.*, 1977, **67**, 2765, (*ir, Raman*)

Sauers, I. *et al.*, *J. Chem. Phys.*, 1979, **71**, 3016, (*ms*)

Dedek, V. *et al.*, *J. Fluorine Chem.*, 1986, **31**, 363, (*synth*)

Kurkova, E. *et al.*, *Angew. Makromol. Chem.*, 1987, **155**, 101, (*copolymers*)

Narita, T. *et al.*, *Makromol. Chem.*, 1991, **192**, 351, (*anionic polym*)