



Molecular Formula: C₁₀H₅Cl₇

Molecular Weight: 373.318

Accurate Mass: 369.821089

Percentage Composition: C 32.17%; H 1.35%; Cl 66.48%

Biological Use/Importance: Insecticide. Component of coml. *Chlordane*

Physical Description: Cryst. or solid

Melting Point: Mp 108-110° (95-96°)

Other Data: See also Chlordane [HCF44-Z](#)

Hazard & Toxicity: Highly toxic by skin absorption. Exp. carcinogen. Emits highly toxic fumes when heated to dec.

>>Derivative: 2 α ,3 α -Epoxide

Synonym(s): *trans*-Heptachlor epoxide

CAS Registry Number: 28044-83-9

Extra CAS Registry Numbers(s): 76986-14-6 145213-12-3

Molecular Formula: C₁₀H₅Cl₇O

Molecular Weight: 389.318

Accurate Mass: 385.816004

Percentage Composition: C 30.85%; H 1.29%; Cl 63.74%; O 4.11%

Metabolism: Metab. of Heptachlor/Chlordane

Physical Description: Cryst. (hexane)

Melting Point: Mp 86-89° (83-85°)

Other Data: Enantiomers also known, obt. by chiral glc

>>Derivative: 2 β ,3 β -Epoxide

CAS Registry Number: 66429-35-4

Extra CAS Registry Numbers(s): 1024-57-3

Molecular Formula: C₁₀H₅Cl₇O

Molecular Weight: 389.318

Accurate Mass: 385.816004

Percentage Composition: C 30.85%; H 1.29%; Cl 63.74%; O 4.11%

Physical Description: Cryst. (EtOH)

Melting Point: Mp 164.5°

References:

- Kearns *et al.*, *J. Econ. Entomol.*, 1949, **45**, 127
Benson, W.R. *et al.*, *J. Agric. Food Chem.*, 1971, **19**, 857, (*synth, tlc, ms, pmr*)
U.S. Pat., 1972, 3 671 595; *CA*, **77**, 114117p, (*synth*)
Graham, R.E. *et al.*, *J. Agric. Food Chem.*, 1973, **21**, 824-834, (*cis-epoxide*)
Shields, K.G. *et al.*, *J.C.S. Perkin 2*, 1973, 1374-1376, (*cryst struct*)
Suzuki, H.K. *et al.*, *CA*, 1978, **89**, 210212, (*rev*)
Hovmoller, S. *et al.*, *Cryst. Struct. Commun.*, 1978, **7**, 467-471, (*cryst struct, cis-epoxide*)
Miyazaki, A. *et al.*, *J. Agric. Food Chem.*, 1978, **26**, 975-977; 1980, **28**, 1310-1311, (*cis-epoxide, enantiomers*)
Cox, R.H. *et al.*, *Org. Magn. Reson.*, 1978, **11**, 541-546, (*cmr, epoxide*)
IARC Monog., 1979, **20**, 129; *Suppl. 7*, 146; *Suppl. 6*, 328, (*rev, tox*)
Beeman, R.W. *et al.*, *J. Agric. Food Chem.*, 1981, **29**, 84-89, (*occur, epoxides*)
Chien, D.H.T. *et al.*, *J. Agric. Food Chem.*, 1982, **30**, 396, (*synth, glc*)
Hunt, D.F. *et al.*, *Anal. Chem.*, 1985, **57**, 525, (*ms*)
Kleemeyer, H. *et al.*, *Chemosphere*, 1986, **15**, 687, (*resoln*)
Dangerous Prop. Ind. Mater. Rep., 1986, **6**, 16, (*rev*)
Osselton, M.D. *et al.*, *J. Chromatogr.*, 1986, **368**, 265, (*detn*)
Pesticide Manual, 9th edn., 1991, No. 7020
Agrochemicals Handbook, 3rd edn., Royal Society of Chemistry, 1992, A225
Buser, H.R. *et al.*, *Anal. Chem.*, 1992, **64**, 3168-3175, (*cis-epoxide, chiral glc*)
Buser, H.R. *et al.*, *Environ. Sci. Technol.*, 1993, **27**, 1211-1220, (*occur, anal, epoxides*)
Martindale, The Extra Pharmacopoeia, 30th edn., Pharmaceutical Press, 1993, 1128
König, W.A. *et al.*, *Angew. Chem., Int. Ed.*, 1994, **33**, 2085-2087, (*resoln, glc, epoxides*)
Hardt, I.H. *et al.*, *J. High Resol. Chromatogr.*, 1994, **17**, 859-864, (*chiral glc, trans-epoxide*)
Chemical Hazards of the Workplace, 2nd edn., (eds. Proctor, N.H. *et al.*), J.B. Lippincott, 1988, 268
Handbook of Pesticide Toxicology, (Eds. Hayes, W.J. *et al.*), Academic Press, 1991, 822, (*tox*)
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 9th edn., Van Nostrand Reinhold, 1996, HAR000; EBW500