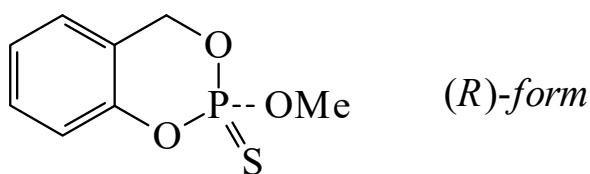




>>Entry Name: Dioxabenzofos, BSI

Synonym(s): 2-Methoxy-4*H*-1,3,2-benzodioxaphosphorin 2-sulfide, 9CI. Cyclic *O,O*-(methylene-*O*-phenylene)phosphorothioate *O*-methyl ester, 8CI. Salithion, JMAF. Fenfosphorin



CAS Registry Number: 3811-49-2

Molecular Formula: C₈H₉O₃PS

Molecular Weight: 216.197

Accurate Mass: 216.001002

Percentage Composition: C 44.44%; H 4.20%; O 22.20%; P 14.33%; S 14.83%

Hazard & Toxicity: LD₅₀ (rat, orl) 102 mg/kg

>>Variant: (*R*)-form

CAS Registry Number: 90293-16-6

Type of Compound Code(s): AC9160 AC4140

Molecular Formula: C₈H₉O₃PS

Molecular Weight: 216.197

Accurate Mass: 216.001002

Percentage Composition: C 44.44%; H 4.20%; O 22.20%; P 14.33%; S 14.83%

Optical Rotation: [α]_D +4 (c, 2.5 in MeCN)

>>Variant: (*S*)-form

CAS Registry Number: 90293-10-0

Type of Compound Code(s): AC4140 AC9160

Molecular Formula: C₈H₉O₃PS

Molecular Weight: 216.197

Accurate Mass: 216.001002

Percentage Composition: C 44.44%; H 4.20%; O 22.20%; P 14.33%; S 14.83%

Optical Rotation: [α]_D −4 (c, 0.75 in MeCN)

>>Variant: (±)-form

CAS Registry Number: 92470-71-8

Type of Compound Code(s): AC9160 AC4140

Molecular Formula: C₈H₉O₃PS

Molecular Weight: 216.197

Accurate Mass: 216.001002

Percentage Composition: C 44.44%; H 4.20%; O 22.20%; P 14.33%; S 14.83%

Biological Use/Importance: Insecticide. Cholinesterase inhibitor

Physical Description: Needles (MeOH)

Melting Point: Mp 51-53°

Other Data: Readily isom. on heating

Hazard & Toxicity: Toxic. LD₅₀ (rat, orl) 125 mg/kg

References:

- Eto, M. *et al.*, *Agric. Biol. Chem.*, 1963, **27**, 789, (*synth, ir, uv*)
Eto, M. *et al.*, *Biochem. Toxicol. Insectic., Proc. U.S.-Jpn. Coop. Sci Program, 5th, 1969 (1970)*, 1970, 93, (*ms*)
Iio, M. *et al.*, *Agric. Biol. Chem.*, 1973, **37**, 115, (*props*)
Eto, M. *et al.*, *Anal. Methods Pestic. Plant Growth Regul.*, 1973, **7**, 431, (*anal*)
Mihara, K. *et al.*, *Agric. Biol. Chem.*, 1974, **38**, 1913, (*metab*)
Eto, M. *et al.*, *Rev. Plant. Prot. Res.*, 1976, **9**, 1, (*rev*)
Hirashima, A. *et al.*, *Agric. Biol. Chem.*, 1983, **47**, 2831, (*resoln, pmr, P-31 nmr*)
Okamoto, Y. *et al.*, *Bull. Chem. Soc. Jpn.*, 1984, **57**, 1681, (*resoln*)
Wu, S.-Y. *et al.*, *Agric. Biol. Chem.*, 1987, **51**, 537; 1989, **53**, 157, (*synth, resoln, pmr*)
Sasaki, M. *et al.*, *Agric. Biol. Chem.*, 1988, **52**, 159, (*synth*)
Pesticide Manual, 9th edn., 1991, No. 5245
Agrochemicals Handbook, 3rd edn., Royal Society of Chemistry, 1992, A966
Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, MEC250