

Product Data Sheet

Product Name: Methidathion

Cat. No.: GC47645

Chemical Properties

Cas. No. 950-37-8

SMILES COC(S1)=NN(CSP(OC)(OC)=S)C1=O

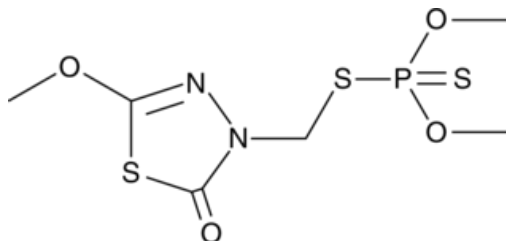
Formula C6H11N2O4PS3 M.Wt 302.3

Solubility Chloroform: Soluble, Methanol: Soluble Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Methidathion is an organophosphate insecticide that inhibits insect cholinesterase.¹ It reduces cattle lice (*L. vituli*, *D. bovis*, and *H. eurysternus*) infestation by 99.1% when administered topically at a dose of 3.5 mg/kg.² Methidathion is selectively toxic to lice over cattle, only inhibiting cattle plasma acetylcholinesterase activity by 20% with no effect on survival when administered topically at a dose of 24 mg/kg. It increases sister chromatid exchange (SCE) in a concentration-dependent manner and induces cell cycle arrest at the M₁ phase in V79 cells when used at a concentration of 40 µg/ml.³ Dietary administration of methidathion (1.4-4.7 mg/kg) increases alanine aminotransferase, aspartate aminotransferase, sorbitol dehydrogenase, and alkaline phosphatase activity, inhibits cholinesterase, and induces chronic liver inflammation in male beagle dogs.⁴ It also induces loss of striation and myocytolysis of cardiomyocytes and reduces serum cholinesterase activity in rats when administered

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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orally at a dose of 5 mg/kg.⁵

1.Sánchez-Bayo, F.Insecticides mode of action in relation to their toxicity to non-target organismsJ. Environ. Anal. Toxicol.S4:002(2012) 2.Hart, R.J., Cavey, W.A., Moore, B., et al.Efficiency and safety of methidathion applied as a pour-on systemic insecticide for control of cattle liceAust. Vet. J.55(12)575-579(1979) 3.Chen, H.H., Hsueh, J.L., Sirianni, S.R., et al.Induction of sister-chromatid exchanges and cell cycle delay in cultured mammalian cells treated with eight organophosphorus pesticidesMutat. Res.88(3)307-316(1981) 4.Chang, J.C., Walberg, J.A., and Campbell, W.R.One-year dietary toxicity study with methidathion in beagle dogsFundam. Appl. Toxicol.19(2)307-314(1992) 5.Yavuz, T., Altuntas, I., Delibas, N., et al.Cardiototoxicity in rats induced by methidathion and ameliorating effect of vitamins E and CHum. Exp. Toxicol.23(7)323-329(2004)

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