

Product Data Sheet

Product Name: Buprofezin

Cat. No.: GC46960

Chemical Properties

Cas. No. 69327-76-0

SMILES O=C1N(C(C)C)/C(SCN1C2=CC=CC=C2)=N/C(C)(C)C

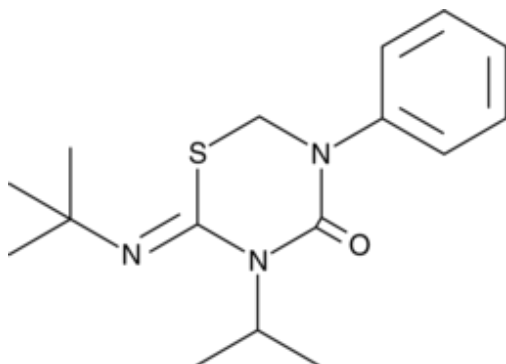
Formula $C_{16}H_{23}N_3OS$ M.Wt 305.4

Solubility DMSO : 100 mg/mL (327.40 mM; Need ultrasonic) Storage Store at -20°C, protect from light

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

Buprofezin is an insecticide that acts by inhibiting chitin synthesis.¹ It inhibits chitin synthesis by 35% in *N. lugens* nymphs when used at a concentration of 10 ppm. Buprofezin (500 ppm) decreases the lifespan of adult *T. vaporariorum* with 17.9% mortality after 24 hours.² It inhibits mitochondrial respiration when used at concentrations of 10 and 30 μ M, reduces the expression of enzymes involved in the tricarboxylic acid (TCA) cycle, and stimulates glycolysis in HepG2 cells.³ It also dose-dependently increases the production of reactive oxygen species (ROS) *in vitro*. Buprofezin accumulates in mouse liver following oral administration of doses ranging from 46.3 to 417 mg/kg. It

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is not mutagenic and has LD₅₀ values of 6,810 and 5,010 mg/kg in male and female rats, respectively.⁴ Formulations containing buprofezin have been used as insecticides.

1.Izawa, Y., Uchida, M., Sugimoto, T., et al.Inhibition of chitin biosynthesis by buprofezin analogs in relation to their activity controlling Nilaparvata lugens StålPest. Biochem. Phys.24(3)343-347(1985)
2.Yasui, M., Fukada, M., and Maekawa, S.Effects of buprofezin on different developmental stages of the greenhouse whitefly, Trialeurodes vaporariorum (WESTWOOD) (Homoptera : Aleyrodidae)Appl. Ent. Zool.20(3)340-347(1985) 3.Ji, X., Ku, T., Zhu, N., et al.Potential hepatic toxicity of buprofezin at sublethal concentrations: ROS-mediated conversion of energy metabolismJ. Hazard. Mater.320176-186(2016) 4.Xiao, H., Yang, Y., Tang, L., et al.Observation of toxicity and mutagenesis of insect growth regulator buprofezinNanj. Yixuey. Xue.12(1)23-26(1992)

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