

Product Data Sheet

Product Name: Bendiocarb

Cat. No.: GC46915

Chemical Properties

Cas. No. 22781-23-3

SMILES CC1(C)OC2=C(OC(NC)=O)C=CC=C2O1

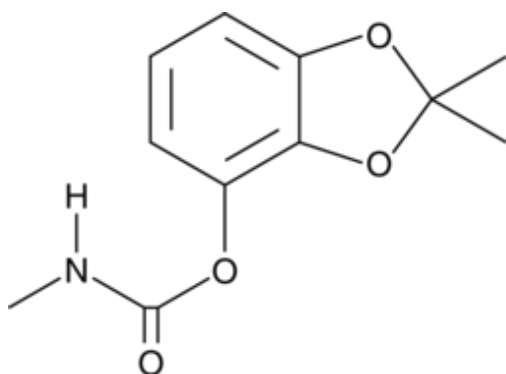
Formula C₁₁H₁₃NO₄ M.Wt 223.2

Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, DMSO:PBS (pH 7.2) (1:9): 0.1 mg/ml, Ethanol: 5 mg/ml
Storage Store at Room temperature

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

Bendiocarb is a broad-spectrum carbamate insecticide and an inhibitor of acetylcholinesterase ($K_i = 111$ nM for the human enzyme).¹ It is active against several species, including second stage nymph German cockroaches (*B. germanica*; $IC_{50} = <0.5$ mg/ft²) and adult yellow fever mosquitoes (*A. aegypti*; $IC_{50} = <0.03$ mg/ft²).² It is toxic to mammalian species with an oral LD₅₀ value of 45 mg/kg for male rats and female mice, but it is metabolized and excreted rapidly and has a dermal LD₅₀ of 800 mg/kg after a 24-hour exposure. Formulations containing bendiocarb have been used in the

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

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indoor control of insects, including for mosquitoes in areas with malaria transmission.

1. Verma, A., Wong, D.M., Islam, R., et al. 3-Oxoisoxazole-2(3H)-carboxamides and isoxazol-3-yl carbamates: Resistance-breaking acetylcholinesterase inhibitors targeting the malaria mosquito, *Anopheles gambiae* *Bioorg. Med. Chem.* 23(6)1321-1340(2015)
2. Brooker, P.J., Gates, P.S., Gillon, J., et al. Insecticidal activity of certain benzodioxolyl carbamates *Pestic. Sci.* 3(6)735-744(1972)

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