

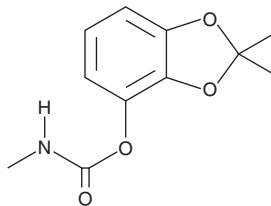
PRODUCT INFORMATION



Bendiocarb

Item No. 24133

CAS Registry No.: 22781-23-3
Formal Name: 4-(N-methylcarbamate)2,2-dimethyl-1,3-benzodioxol-4-ol
Synonyms: NC 6897, Niomil
MF: C₁₁H₁₃NO₄
FW: 223.2
Purity: ≥98%
Supplied as: A solid
Storage: Room temperature
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Bendiocarb is supplied as a solid. A stock solution may be made by dissolving the bendiocarb in the solvent of choice, which should be purged with an inert gas. Bendiocarb is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of bendiocarb in ethanol is approximately 5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Bendiocarb is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, bendiocarb should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Bendiocarb has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

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 LD_{50} value of 45 mg/kg for male rats and female mice, but it is metabolized and excreted rapidly and has a dermal LD_{50} of 800 mg/kg after a 24-hour exposure.

References

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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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