

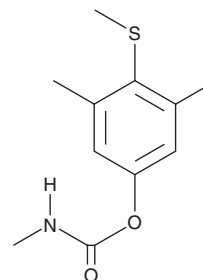
PRODUCT INFORMATION



Methiocarb

Item No. 25627

CAS Registry No.: 2032-65-7
Formal Name: 3,5-dimethyl-4-(methylthio)-phenol, 1-(N-methylcarbamate)
Synonyms: BAY 37344, Mercaptodimethur, 4-Methylthio-3,5-dimethylphenyl methylcarbamate
MF: C₁₁H₁₅NO₂S
FW: 225.3
Purity: ≥98%
UV/Vis.: λ_{max}: 267 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Methiocarb is supplied as a crystalline solid. A stock solution may be made by dissolving the methiocarb in the solvent of choice, which should be purged with an inert gas. Methiocarb is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of methiocarb in ethanol is approximately 10 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Methiocarb is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, methiocarb should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Methiocarb has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Methiocarb is a carbamate pesticide.¹ It inhibits the activity of acetylcholinesterase (AChE) from methiocarb-resistant and -sensitive western flower thrips (*F. occidentalis*; IC₅₀s = 0.43 and 2.1 μM, respectively) and is toxic to the same strains (LC₅₀s = 31.1 and 3.26 ppm for the resistant- and sensitive strains, respectively). Methiocarb is also toxic to the land snail (*M. obstructa*; LD₅₀ = 27.4 μg/animal) and induces 94% mortality in citrus mites (*A. pelekassi*) when used at a concentration of 0.5 ppm.^{2,3} It is an estrogen receptor α (ERα) and ERβ agonist (EC₂₀s = 19.87 and 20.24 μM, respectively) and androgen receptor antagonist (IC₅₀ = 13.89 μM) in cell-based reporter assays.⁴ It is toxic to juvenile rainbow trout and guppies with LC₅₀ values of 0.795 and 1.482 mg/L, respectively, at 48 hours of exposure.⁵ Formulations containing methiocarb have been used in the control of mollusks, mites, and insects in residential and commercial settings.

References

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3. Reed, D.K., Crittenden, C.R., and Lyon, D.J. *J. Econ. Entomol.* **60**(3), 668-671 (1967).
4. Tange, S., Fujimoto, N., Uramaru, N., *et al.* *Environ. Toxicol. Pharmacol.* **41**, 289-97 (2016).
5. Boran, M., Altinok, I., and Capkin, E. *Turk. J. Vet. Animal Sci.* **31**(1), 39-45 (2007).

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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