



# SZABO SCANDIC

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## Produktinformation



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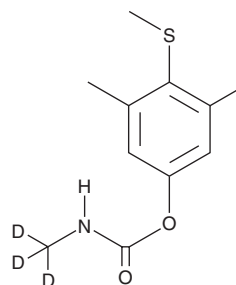
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# PRODUCT INFORMATION



## Methiocarb-d<sub>3</sub> Item No. 27776

**CAS Registry No.:** 1581694-94-1  
**Formal Name:** 3,5-dimethyl-4-(methylthio)phenyl (methyl-d<sub>3</sub>)carbamate  
**Synonyms:** Mercaptodimethur-d<sub>3</sub>, 4-Methylthio-3,5-dimethylphenyl methylcarbamate-d<sub>3</sub>  
**MF:** C<sub>11</sub>H<sub>12</sub>D<sub>3</sub>NO<sub>2</sub>S  
**FW:** 228.3  
**Chemical Purity:** ≥95% (Methiocarb)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

Methiocarb-d<sub>3</sub> is intended for use as an internal standard for the quantification of methiocarb (Item No. 25627) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Methiocarb-d<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the methiocarb-d<sub>3</sub> in the solvent of choice. Methiocarb-d<sub>3</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of methiocarb-d<sub>3</sub> in ethanol is approximately 10 mg/ml and approximately 20 mg/ml in DMSO and DMF.

### Description

Methiocarb is a carbamate pesticide with insecticidal, molluscicidal, acaricidal, and bird repellent properties.<sup>1-5</sup> It inhibits acetylcholinesterase (AChE) activity and is toxic to the western flower thrip (*F. occidentalis*; IC<sub>50</sub> = 2.1 μM; LC<sub>50</sub> = 3.26 ppm).<sup>2</sup> Methiocarb is also toxic to the land snail *M. obstructa* (LD<sub>50</sub> = 27.4 μg/snail) and the citrus mite *A. pelekassi*, inducing 94% mortality when used at a concentration of 0.5 ppm.<sup>1,3</sup> It reduces the seasonal percentages of cotton bolls infested with pink bollworm (*P. gossypiella*) to 4%, compared with 65% infestation in untreated controls, when applied to cotton fields at a concentration of 1.86 lb/acre.<sup>5</sup> Methiocarb reduces damage to grapes by song birds when applied to vineyards at a concentration of 2.5 lbs AI per 100 gal water per acre.<sup>4</sup> It is an estrogen receptor α (ERα) and ERβ agonist (EC<sub>20</sub>s = 19.87 and 20.24 μM, respectively) and an androgen receptor antagonist (IC<sub>50</sub> = 13.89 μM) in cell-based reporter assays.<sup>6</sup> It is toxic to juvenile rainbow trout (*O. mykiss*) and guppies (*P. reticulata*) with LC<sub>50</sub> values of 0.8 and 1.48 mg/L, respectively, at 48 hours of exposure.<sup>7</sup> Formulations containing methiocarb have been used in the agricultural control of pests.

### References

1. Hussein, H.I., Al-Rajhy, D., El-Shahawi, F.I., *et al.* *Int. J. Pest Mgt.* **45(3)**, 211-213 (2010).
2. Jensen, S.E. *Pesticide Biochem. Physiol.* **61(3)**, 191-200 (1998).
3. Reed, D.K., Crittenden, C.R., and Lyon, D.J. *J. Econ. Entomol.* **60(3)**, 668-671 (1967).
4. Kassa, H. and Jackson, W.B. *Bird Control Seminars Proceedings* (1979).
5. McGarr, R.L., Chapman, A.J., and Martin, D.F. *J. Econ. Entomol.* **58(4)**, 693-694 (1965).
6. Tange, S., Fujimoto, N., Uramaru, N., *et al.* *Environ. Toxicol. Pharmacol.* **41**, 289-97 (2016).
7. 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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