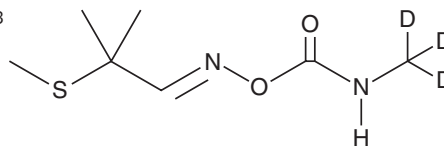


PRODUCT INFORMATION



Aldicarb-d₃ Item No. 39580

CAS Registry No.: 1795142-83-4
Formal Name: 2-methyl-2-(methylthio)propanal
O-((methyl-d₃)carbamoyl) oxime
Synonym: 2-methyl-2-(methylthio)-Propionaldehyde-d₃
MF: C₇H₁₁D₃N₂O₂S
FW: 193.3
Chemical Purity: ≥98% (Aldicarb)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
Supplied as: A 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

Aldicarb-d₃ is intended for use as an internal standard for the quantification of aldicarb (Item No. 18466) 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).

Description

Aldicarb is a carbamate pesticide.¹ It is an acetylcholinesterase (AChE) inhibitor with an IC₅₀ value of 5 μM.² Aldicarb induces mortality in the two-spotted spider mite (*T. urticae*) with an LC₅₀ value of 21 ppm in a slide-dip assay and in the nematode (*M. exigua*) with an LC₅₀ value of 24 μg/L.^{3,4} It has been used to study CREB and acetylcholine signaling.⁵ Formulations containing aldicarb have been used as pesticides in agriculture.

References

1. Baron, R.L. A carbamate insecticide: A case study of aldicarb. *Environ. Health Perspect.* **102** (Suppl. 11), 23-27 (1994).
2. Smulders, C.J., Bueters, T.J., Van Kleef, R.G., *et al.* Selective effects of carbamate pesticides on rat neuronal nicotinic acetylcholine receptors and rat brain acetylcholinesterase. *Toxicol. Appl. Pharmacol.* **193**(2), 139-146 (2003).
3. Knowles, C.O., Errampalli, D.D., and E-Sayed, G.N. Comparative toxicities of selected pesticides to bulb mite (Acari: Acaridae) and twospotted spider mite (Acari: Tetranychidae). *J. Econ. Entomol.* **81**(6), 1586-1591 (1988).
4. Nunes, A.d.S. Organic substances for nematode control in coffee plants. *Master's thesis, Federal University de Lavras* (2008).
5. Suo, S. and Ishiura, S. Dopamine modulates acetylcholine release via octopamine and CREB signaling in *Caenorhabditis elegans*. *PLoS One* **8**(8), e72578 (2013).

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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