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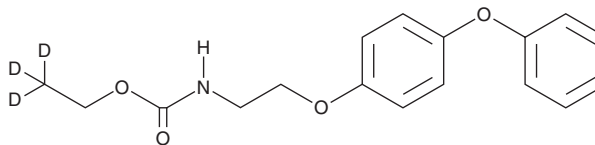
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PRODUCT INFORMATION



Fenoxycarb-d₃ Item No. 39598

CAS Registry No.: 2468639-22-5
Formal Name: N-[2-(4-phenoxyphenoxy)ethyl]-
carbamic acid, ethyl-2,2,2-d₃ ester
MF: C₁₇H₁₆D₃NO₄
FW: 304.4
Chemical Purity: ≥95% (Fenoxycarb)
**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

Fenoxycarb-d₃ (Item name, include salt) is intended for use as an internal standard for the quantification of fenoxycarb (Item No. 25607) 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).

Fenoxycarb-d₃ is supplied as a solid. A stock solution may be made by dissolving the fenoxycarb-d₃ in the solvent of choice, which should be purged with an inert gas. Fenoxycarb-d₃ is slightly soluble in chloroform and methanol.

Description

Fenoxycarb is a non-neurotoxic carbamate insecticide that acts as an insect growth regulator *via* juvenile hormone-like activity.¹ It inhibits terminal development of first instar and newly transformed second instar nymphs of Florida red scale (*C. aonidum*) when used at a concentration of 0.0125% AI.² Fenoxycarb (5 and 10 mg AI/colony) reduces the colony size index of laboratory colonies of red imported fire ants (*S. invicta*) by 95.9 and 93.6%, respectively, at 8 weeks post-treatment.³ It is toxic to *D. magna* (LC₅₀ = 0.5 mg a.s./L) and fish, including *O. mykiss*, *L. macrochirus*, *C. carpio*, *I. punctatus*, and *C. variegatus* (LC₅₀s = 0.66-1.5 mg a.s./L), but is not toxic to rats (LD₅₀ = >10,000 mg/kg).⁴ Fenoxycarb is also an antagonist of α4β4-, α4β2-, α3β4-, and α3β2-containing rat nicotinic acetylcholine receptors (nAChRs; IC₅₀s = 3, 2.4, 1.8, and 7.6 μM, respectively) but not rat brain acetylcholinesterase (AChE; IC₅₀ = >1,000 μM).⁵

References

1. Grenier, S. and Grenier, A.M. Fenoxycarb, a fairly new insect growth regulator: A review of its effects on insects. *Ann. Appl. Biol.* **122**(2), 369-403 (1993).
2. Peleg, B.A. Effect of a new insect growth regulator, RO 13-5223, on hymenopterous parasites of scale insects. *Phytoparasitica* **10**(1), 27-31 (1983).
3. Banks, W.A., Williams, D.F., and Lofgren, C.S. Effectiveness of fenoxycarb for control of red imported fire ants (Hymenoptera: Formicidae). *J. Econ. Entomol.* **81**(1), 83-87 (1988).
4. European Food Safety Authority. Conclusion on the peer review of the pesticide risk assessment of the active substance fenoxycarb. *EFSA J.* **8**(12), 1779 (2010).
5. 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).

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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