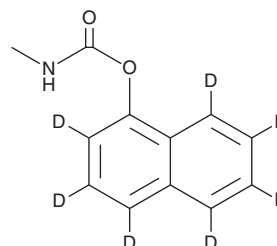


PRODUCT INFORMATION



Carbaryl-d₇ Item No. 39550

CAS Registry No.: 362049-56-7
Formal Name: 1-naphthalen-2,3,4,5,6,7,8-d₇-ol,
1-(N-methylcarbamate)
Synonyms: Arylam-d₇, Dyna-carbyl-d₇, ENT 23969-d₇,
α-Naphthyl methyl Carbamate-d₇,
α-Naphthalenyl methyl Carbamate-d₇,
UC7744-d₇
MF: C₁₂H₄D₇NO₂
FW: 208.3
Chemical Purity: ≥98% (Carbaryl)
Deuterium
Incorporation: ≥99% deuterated forms (d₁-d₇); ≤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

Carbaryl-d₇ is intended for use as an internal standard for the quantification of carbaryl (Item No. 24139) 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).

Carbaryl-d₇ is supplied as a solid. A stock solution may be made by dissolving the carbaryl-d₇ in the solvent of choice, which should be purged with an inert gas. Carbaryl-d₇ is slightly soluble in chloroform, ethyl acetate, and methanol.

Description

Carbaryl is a carbamate insecticide.¹ It is an inhibitor of acetylcholinesterase (AChE; IC₅₀ = 13.6 nM for the mosquito enzyme). Carbaryl is toxic to fourth instar mosquito larvae (LC₅₀ = 0.83 ppm) and tobacco budworms (LD₅₀ = 0.3 mg/g).^{2,3} *In vivo*, carbaryl (30 mg/kg per day) increases the serum levels of IL-4 and IL-10 and decreases serum levels of IL-2, IFN-γ, IL-1β, and TNF-α, spleen and thymus weight, as well as increased lymphocyte proliferation induced by concanavalin A (Item No. 14951), in rats.⁴ Formulations containing carbaryl have been used to control insects in agriculture.

References

1. Zhao, P., Wang, Y., and Jiang, H. Biochemical properties, expression profiles, and tissue localization of orthologous acetylcholinesterase-2 in the mosquito, *Anopheles gambiae*. *Insect. Biochem. Mol. Biol.* **43**(3), 260-271 (2013).
2. Suwanchaichinda, C. and Brattsten, L.B. Effects of exposure to pesticides on carbaryl toxicity and cytochrome P450 activities in *Aedes albopictus* larvae (Diptera: Culicidae). *Pestic. Biochem. Physiol.* **70**(2), 63-73 (2001).
3. Adkisson, P.L. Development of resistance by the tobacco budworm to endrin and carbaryl. *J. Econ. Entomol.* **61**(1), 37-40 (1968).
4. Jorsaraei, S.G., Maliji, G., Azadmehr, A., et al. Immunotoxicity effects of carbaryl *in vivo* and *in vitro*. *Environ. Toxicol. Pharmacol.* **38**(3), 838-844 (2014).

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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