

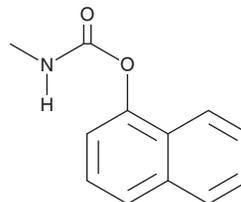
# PRODUCT INFORMATION



## Carbaryl

Item No. 24139

**CAS Registry No.:** 63-25-2  
**Formal Name:** 1-naphthalenol, 1-(N-methylcarbamate)  
**Synonyms:** Arylam, Dyna-carbyl, ENT 23969,  $\alpha$ -Naphthalenyl methyl Carbamate,  $\alpha$ -Naphthyl methyl Carbamate, NSC-27311, UC7744  
**MF:** C<sub>12</sub>H<sub>11</sub>NO<sub>2</sub>  
**FW:** 201.2  
**Purity:**  $\geq$ 98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

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

### Description

Carbaryl is a carbamate insecticide.<sup>1</sup> It is an inhibitor of acetylcholinesterase (AChE; IC<sub>50</sub> = 13.6 nM for the mosquito enzyme). Carbaryl is toxic to fourth instar mosquito larvae (LC<sub>50</sub> = 0.83 ppm) and tobacco budworms (LD<sub>50</sub> = 0.3 mg/g).<sup>2,3</sup> *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- $\gamma$ , IL-1 $\beta$ , and TNF- $\alpha$ , spleen and thymus weight, as well as increased lymphocyte proliferation induced by concanavalin A (Item No. 14951), in rats.<sup>4</sup> 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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