

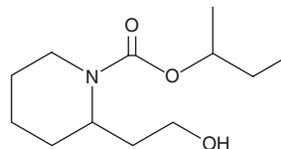
# PRODUCT INFORMATION



## Picaridin

Item No. 16458

**CAS Registry No.:** 119515-38-7  
**Formal Name:** 2-(2-hydroxyethyl)-1-piperidinecarboxylic acid, 1-methylpropyl ester  
**Synonyms:** Icaridin, KBR 3023  
**MF:** C<sub>12</sub>H<sub>23</sub>NO<sub>3</sub>  
**FW:** 229.3  
**Purity:** ≥95%  
**Supplied as:** A neat oil  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Picaridin is supplied as a neat oil. A stock solution may be made by dissolving the picaridin in the solvent of choice, which should be purged with an inert gas. Picaridin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of picaridin in ethanol and DMF is approximately 30 mg/ml and approximately 25 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of picaridin can be prepared by directly dissolving the neat oil in aqueous buffers. The solubility of picaridin in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Picaridin is an insect repellent.<sup>1-3</sup> It inhibits *A. aegypti* odorant receptor 2 (AaOR2) or AaOR8 in the presence of their odorant activators, indole and octenol, respectively, expressed in *Xenopus* oocytes (IC<sub>50</sub>s = 1,452 and 1,911 μM, respectively).<sup>1</sup> Picaridin reduces the number of entries into a food chamber by female *D. melanogaster* in an olfactory-based choice assay.<sup>2</sup> It acts synergistically with the non-pyrethroid insecticide pyrimiphos methyl to increase mortality of *A. gambiae* and reduce blood feeding when used at a concentration of 10 g/m<sup>2</sup> on nets surrounding guinea pig cages.<sup>3</sup> Formulations containing picaridin have been used as insect repellents against flies, mosquitoes, chiggers, ticks, and fleas.

### References

1. Bohbot, J.D. and Dickens, J.C. Insect repellents: Modulators of mosquito odorant receptor activity. *PLoS One* **5**(8), 1-11 (2010).
2. Syed, Z., Pelletier, J., Flounders, E., *et al.* Generic insect repellent detector from the fruit fly *Drosophila melanogaster*. *PLoS One* **6**(3), 1-6 (2011).
3. Pennetier, C., Corbel, V., Boko, P., *et al.* Synergy between repellents and non-pyrethroid insecticides strongly extends the efficacy of treated nets against *Anopheles gambiae*. *Malar. J.* **6**, 1-7 (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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM