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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION

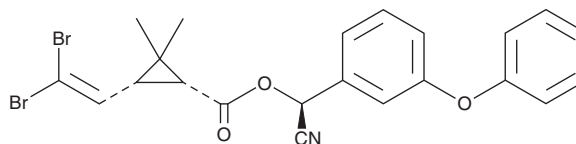


Deltamethrin

Item No. 24172

CAS Registry No.: 52918-63-5
Formal Name: (1R,3R)-3-(2,2-dibromoethenyl)-2,2-dimethyl-cyclopropanecarboxylic acid, (S)-cyano(3-phenoxyphenyl) methyl ester

Synonym: Decamethrin
MF: C₂₂H₁₉Br₂NO₃
FW: 505.2
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

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

Description

Deltamethrin is a type II pyrethroid insecticide and a modulator of voltage-gated sodium channels (Na_v).¹ It binds to *Drosophila para* Na_v channels in a use-dependent manner following brief depolarizing prepulses and with increasing concentrations of 1 to 5 nM, indicating that it preferentially binds to the channel in the open state.² It slowly activates Na_v1.8 channels, delays inactivation by longer than 40 ms, and induces persistent tail currents for channels expressed in *X. laevis* oocytes.¹ Deltamethrin decreases proliferation of MCF-7 cells and inhibits androgen receptor transactivation when used at concentrations of 10 and 20 μM or greater, respectively. However, it is not cytotoxic to MCF-7 and CHO cells at concentrations of 25 and 100 μM, respectively, and does not induce transactivation of the estrogen receptor.³ Deltamethrin is lethal to mice with an LD₅₀ value of 50 mg/kg and at low sublethal doses of 0.05 and 0.1 mg/kg it induces histopathological changes in the liver, kidney, spleen, and testes, including a loss of spermatozoa and Sertoli cells.⁴

References

1. Choi, J.S. and Soderlund, D.M. Structure-activity relationships for the action of 11 pyrethroid insecticides on rat Na_v1.8 sodium channels expressed in *Xenopus* oocytes. *Toxicol. Appl. Pharmacol.* **211(3)**, 233-244 (2006).
2. Vais, H., Williamson, M.S., Goodson, S.J., et al. Activation of *Drosophila* sodium channels promotes modification by deltamethrin. Reductions in affinity caused by knock-down resistance mutations. *J. Gen. Physiol.* **115(3)**, 305-318 (2000).
3. Andersen, H.R., Vinggaard, A.M., Rasmussen, T.H., et al. Effects of currently used pesticides in assays for estrogenicity, androgenicity, and aromatase activity *in vitro*. *Toxicol. Appl. Pharmacol.* **179(1)**, 1-12 (2002).
4. Tewari, A., Banga, R.S., and Gill, J.P.S. Sublethal chronic effects of oral dietary exposure to deltamethrin in Swiss albino mice. *Toxicol. Ind. Health* **34(6)**, 423-432 (2018).

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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