

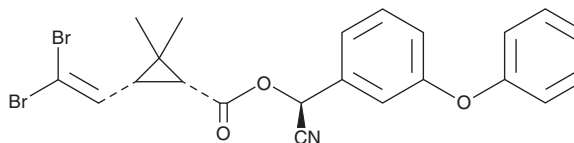
PRODUCT INFORMATION



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: ≥4 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 activates Na_v1.8 channels and induces a tail current delay in *Xenopus* oocytes expressing the rat channel when used at a concentration of 10 μM. Deltamethrin induces mortality in *A. sinensis* (LC₅₀ = 4.522 ppm) and *T. urticae* (LC₅₀ = 0.06 g/L).^{2,3} It decreases sperm count, motility, and viability and increases the percentage of morphologically abnormal sperm in rats when administered at a dose of 5 mg/kg.⁴ Formulations containing deltamethrin have been used as domestic and agricultural insecticides.

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. Chang, K.-S., Yoo, D.-H., Shin, E.-H., *et al.* Susceptibility and resistance of field populations of *Anopheles sinensis* (Diptera: Culicidae) collected from Paju to 13 insecticides. *Osong Public Health Res. Perspect.* **4(2)**, 76-80 (2013).
3. Penman, D.R., Chapman, R.B., and Bowie, M.H. Direct toxicity and repellent activity of pyrethroids against *Tetranychus urticae* (Acari: Tetranychidae). *J. Econ. Entomol.* **79(5)**, 1183-1187 (1986).
4. Abdallah, F.B., Slima, A.B., Dammak, I., *et al.* Comparative effects of dimethoate and deltamethrin on reproductive system in male mice. *Andrologia* **42(3)**, 182-186 (2010).

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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