
Product Data Sheet

Product Name: Deltamethrin-d5

Cat. No.: GC63475

Chemical Properties

Cas. No. 2140301-99-9

Formula C₂₂H₁₄D₅Br₂NO₃

M.Wt

510.23

Solubility

Storage

Store at -20°C

General tips

For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure **Background**

Deltamethrin-d₅ is intended for use as an internal standard for the quantification of deltamethrin by GC- or LC-MS. 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.

1. Choi, J.S., and Soderlund, D.M. Structure-activity relationships for the action of 11 pyrethroid insecticides on rat Nav1.8 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:

Caution: Product has not been fully validated for medical applications. For research use only.

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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 miceAndrologia42(3)182-186(2010)

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