

Product Data Sheet

Product Name: Cypermethrin-d9

Cat. No.: GC91132

Chemical Properties

Cas. No.

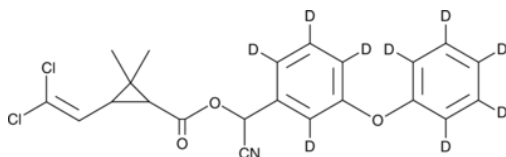
Formula $C_{22}H_{10}D_9Cl_2NO_3$ M.Wt 425.4

Solubility Acetonitrile: Soluble, Chloroform: Slightly soluble, Methanol: Slightly soluble
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

Cypermethrin-d₉ is intended for use as an internal standard for the quantification of cypermethrin by GC- or LC-MS. Cypermethrin is a type II pyrethroid insecticide.^{1,2,3,4} It prolongs opening of sodium channels resulting in membrane depolarization and a conductance block of the insect nervous system, and point mutations in sodium channels induce cypermethrin-resistance in house flies, cockroaches, and mosquitos.³ Cypermethrin (1-1.5 mg) reduces survival of ticks (*H. anatolicum*) *in vitro* in a concentration-dependent manner.² Topical administration of cypermethrin reduces the number of ticks on infested cattle. Cypermethrin (5 and 10 ppm) reduces survival of lice (*D. ovis*) in sheep fleece and prevents re-infestation in contact-challenged sheep for 7 and 19 weeks, respectively.¹ It induces developmental neurotoxicities in zebrafish, increasing mortality and edema and inducing body-axis curvature when used at concentrations ranging from 50 to 200 µg/L.⁵ Cypermethrin (15 mg/kg twice weekly for 24 weeks) also induces Parkinson's disease-like neurodegeneration in rats, decreasing locomotor activity, dopamine production, and the number of

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

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tyrosine droxylase positive (TH⁺) neurons in the substantia nigra.⁴ Formulations containing cypermethrin have been used in the control of insects in agriculture and on commercial and residential premises.

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