

Product Data Sheet

Product Name: Cyfluthrin

Cat. No.: GC47155

Chemical Properties

Cas. No. 68359-37-5

SMILES O=C(C1C(C)(C)C1/C=C(Cl)\Cl)OC(C#N)C2=CC(OC3=CC=CC=C3)=C(F)C=C2

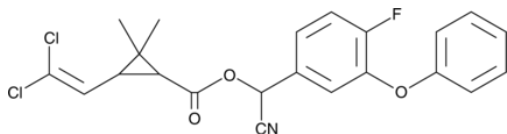
Formula C₂₂H₁₈Cl₂FNO₃ M.Wt 434.3

Solubility DMSO : 50 mg/mL (115.13 mM; Need ultrasonic) 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

Cyfluthrin is a pyrethroid insecticide and a modulator of voltage-gated sodium channels (Na_v).^{1,2} It slowly activates rat recombinant Na_v1.8 channels, delays inactivation by longer than 40 ms, and induces persistent tail currents in channels expressed in *X. laevis* oocytes.¹ It also decreases the mean burst rate in rat primary neurons (IC₅₀ = 0.99 μM, respectively).² Cyfluthrin is toxic to various insects, including *A. melinus*, *G. ashmeadi*, *E. eremicus*, and *E. formosa* (LC₅₀s = 7, 67, 96, and 63 ng/ml, respectively) and the *A. sinensis* mosquito (LC₅₀ = 0.446 ppm).^{3,4} It is also toxic to *A. mellifera* honeybees (LD₅₀ = 0.22 ppm), affecting locomotor activity and wing fanning behavior with an increase in the mean bout duration of time spent upside down, indicating disruption of the righting reflex, and a decrease in wing fanning behavior when administered at a dose of 10 ng/bee.⁵ Formulations containing cyfluthrin have been used for the control of insects in agriculture and for non-commercial purposes.

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

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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. Baskar, M.K., and Murthy, P.B. In vitro evaluation of pyrethroid-mediated changes on neuronal burst parameters using microelectrode arrays *NeuroToxicology* 57:270-281(2016)

3. Prabhaker, N., Morse, J.G., Castle, S.J., et al. Toxicity of seven foliar insecticides to four insect parasitoids attacking citrus and cotton pests *J. Econ. Entomol.* 100(4):1053-1061(2007)

4. 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)

5. Oliver, C.J., Softley, S., Williamson, S.M., et al. Pyrethroids and nectar toxins have subtle effects on the motor function, grooming and wing fanning behaviour of honeybees (*Apis mellifera*) *PLoS One* 10(8):e0133733(2015)

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