

## Allethrin

## Chemical Properties

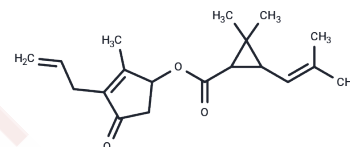
CAS No. : 584-79-2

Formula: C<sub>19</sub>H<sub>26</sub>O<sub>3</sub>

Molecular Weight: 302.41

Storage: Pure form: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Allethrin induces oxidative stress, apoptosis and calcium release. Allethrin, a pyrethroid insecticide is a major mosquito repellent agent.
Targets(IC50)	Apoptosis,Bcl-2 Family,Caspase
In vitro	Allethrin (125 μM) induces BCL-2, caspase-3 activation and release of intracellular calcium[1]. Morphological analyses of LC540 cells treated with Allethrin (125 μM) reveals the presence of apoptotic bodies. The percentage of cells displaying early apoptotic features increased significantly[1].
In vivo	In male wistar rats aged 90 day,s Allethrin (25, 50, 100, and 150 mg/kg; every day for 60 days) increased lipid peroxidation in the caput, cauda, and testes[3]. Significant increase in catalase activity was observed in the cauda obtained from 50, 100, and 150 mg/kg. GPx activity was significantly increased in the caput obtained from 150 mg/kg treated rats. In the cauda, it was found to be increased significantly in the 50 and 100 mg/kg treated groups. In contrast, the activity of GPx activity was significantly decreased in the testes of rats treated with 150 mg/kg. GST activity was found to be increased significantly in a dose dependent manner in the caput and cauda of allethrin treated rats[2].

## Solubility Information

Solubility	DMSO: 60 mg/mL (198.41 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	3.3068 mL	16.5338 mL	33.0677 mL
5 mM	0.6614 mL	3.3068 mL	6.6135 mL
10 mM	0.3307 mL	1.6534 mL	3.3068 mL
50 mM	0.0661 mL	0.3307 mL	0.6614 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Golla Madhubabu, et al. Allethrin induces oxidative stress, apoptosis and calcium release in rat testicular carcinoma cells (LC540). *Toxicol In Vitro*. 2014 Dec;28(8):1386-95.

Golla Madhubabu, et al. Allethrin induced toxicity in the male reproductive tract of rats contributes to disruption in the transcription of genes involved in germ cell production. *Environ Toxicol*. 2014 Nov;29(11):1330-45.

Geetika Gupta, et al. Allethrin toxicity on human corneal epithelial cells involves mitochondrial pathway mediated apoptosis. *Toxicol In Vitro*. 2013 Dec;27(8):2242-8.

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