

## ALPHA-PINENE

## Chemical Properties

CAS No. : 2437-95-8

Formula: C<sub>10</sub>H<sub>16</sub>

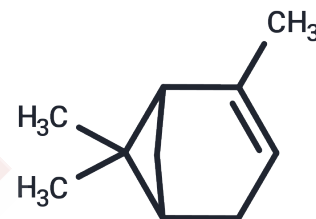
Molecular Weight: 136.23

Store at low temperature, Keep away from direct sunlight, Store under nitrogen, Keep away from moisture

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	ALPHA-PINENE ((-)-Alpha-Pinene) is a bicyclic monoterpene found in pine trees and other plants, including Cannabis with diverse biological activities [1]. It reduces the growth of a panel of seven Gram-positive bacteria, seven Gram-negative bacteria, and eight yeast strains with MIC values of 0.75-1.29, 1.05-1.59, and 0.7-1.17%, respectively [2]. It has insecticidal activity against C. molestus larvae with LC <sub>50</sub> values ranging from 47 to 49 mg/L. 3 ALPHA-PINENE (100 µg/ml) induces apoptosis, increases anion superoxide production and DNA fragmentation, and activates caspase-3 in B16/F10 melanoma cells [4]. In a B16/F10 mouse xenograft model, ALPHA-PINENE (100 µg/ml of a 10 mg/ml solution) reduces the number of metastatic lung nodules by approximately 7-fold. ALPHA-PINENE (8.6 mg/L, aerosol) also increases the time spent in the open arms of the elevated plus maze by approximately 2-fold in mice, indicating anxiolytic-like activity [5].
Targets(IC <sub>50</sub> )	Antifungal

## Solubility Information

Solubility	DMSO: 20 mg/mL (146.81 mM), Sonication is recommended. Ethanol: 20 mg/mL (146.81 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	7.3405 mL	36.7026 mL	73.4053 mL
5 mM	1.4681 mL	7.3405 mL	14.6811 mL
10 mM	0.7341 mL	3.6703 mL	7.3405 mL
50 mM	0.1468 mL	0.7341 mL	1.4681 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

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Traboulsi, A.F., et al. Insecticidal properties of essential plant oils against the mosquito *Culex pipiens molestus* (Diptera: Culicidae). *Pest Manag. Sci.* 58(5), 491-495 (2002).

Matsuo, A.L., et al.  $\alpha$ -Pinene isolated from *Schinus terebinthifolius* Raddi (Anacardiaceae) induces apoptosis and confers antimetastatic protection in a melanoma model. *Biochem. Biophys. Res. Commun.* 411(2), 4749-4454 (2011).

Satou, T., et al. Daily inhalation of  $\alpha$ -pinene in mice: Effects on behavior and organ accumulation. *Phytother. Res.* 28(9), 1284-1287 (2014).

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