

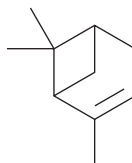
PRODUCT INFORMATION



α -Pinene

Item No. 21576

CAS Registry No.: 80-56-8
Formal Name: 2,6,6-trimethyl-bicyclo[3.1.1]hept-2-ene
Synonym: NSC 7727
MF: C₁₀H₁₆
FW: 136.2
Purity: \geq 95%
Supplied as: A neat oil
Storage: -20°C
Stability: \geq 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

α -Pinene is supplied as a neat oil. A stock solution may be made by dissolving the α -pinene in the solvent of choice, which should be purged with an inert gas. α -Pinene is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of α -pinene in these solvents is approximately 20 mg/ml.

α -Pinene is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, α -pinene should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. α -Pinene has a solubility of approximately 0.33 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

α -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 LC₅₀ values ranging from 47 to 49 mg/L.³ α -Pinene (100 μ g/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, α -pinene (100 μ l of a 10 mg/ml solution) reduces the number of metastatic lung nodules by approximately 7-fold. α -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

References

1. Russo, E.B. Taming THC: Potential cannabis synergy and phytocannabinoid-terpenoid entourage effects. *Br. J. Pharmacol.* **163**(7), 1344-1364 (2011).
2. Nissen, L., Zatta, A., Stefanini, I., et al. Characterization and antimicrobial activity of essential oils of industrial hemp varieties (*Cannabis sativa* L.). *Fitoterapia* **81**(5), 413-419 (2010).
3. Traboulsi, A.F., Taoubi, K., el-Haj, S., et al. Insecticidal properties of essential plant oils against the mosquito *Culex pipiens molestus* (Diptera: Culicidae). *Pest Manag. Sci.* **58**(5), 491-495 (2002).
4. Matsuo, A.L., Figueiredo, C.R., Arruda, D.C., et al. α -Pinene isolated from *Schinus terebinthifolius* Raddi (Anacardiaceae) induces apoptosis and confers antimetastatic protection in a melanoma model. *Biochem. Biophys. Res. Commun.* **411**(2), 4749-454 (2011).
5. Satou, T., Kasuya, H., Maeda, K., et al. Daily inhalation of α -pinene in mice: Effects on behavior and organ accumulation. *Phytother. Res.* **28**(9), 1284-1287 (2014).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/01/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM