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: ≥95%
Supplied as: A neat oil
Storage: -20°C
Stability: ≥1 year

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. α-Pinene is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. 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 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, α-pinene (100 ml 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