

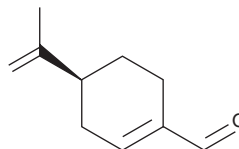
PRODUCT INFORMATION



(S)-(-)-Perillaldehyde

Item No. 29872

CAS Registry No.: 18031-40-8
Formal Name: 4-(1-methylethenyl)-1-cyclohexene-1-carboxaldehyde
Synonyms: (-)-Perillaldehyde, L-Perillaldehyde, (S)-Perillaldehyde
MF: C₁₀H₁₄O
FW: 150.2
Purity: ≥85%
UV/Vis.: λ_{max}: 231 nm
Supplied as: A liquid
Storage: -20°C
Stability: ≥2 years
Item Origin: Synthetic



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

Laboratory Procedures

(S)-(-)-Perillaldehyde is supplied as a liquid. A stock solution may be made by dissolving the (S)-(-)-perillaldehyde in the solvent of choice, which should be purged with an inert gas. (S)-(-)-Perillaldehyde is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of (S)-(-)-perillaldehyde in these solvents is approximately 2 and 10 mg/ml, respectively.

(S)-(-)-Perillaldehyde is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (S)-(-)-perillaldehyde should first be dissolved in DMF and then diluted with the aqueous buffer of choice. (S)-(-)-Perillaldehyde has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

(S)-(-)-Perillaldehyde is a terpene and volatile compound that has been found in Japanese shisho leaves and has antimicrobial and nematocidal activities.^{1,2} It reduces the total air microbial count in a testing room by 53% when sprayed at a concentration of 5 mg/m³.¹ (S)-(-)-Perillaldehyde (250 µg/ml) induces 97% mortality in *C. elegans* soil nematodes.² It is also an atmospheric pollutant that is formed from the oxidation of various terpenes, such as limonene (Item No. 25773) and α-pinene (Item No. 21576), among others.³

References

1. Sato, K., Krist, S., and Buchbauer, G. Antimicrobial effect of *trans*-cinnamaldehyde, (-)-perillaldehyde, (-)-citronellal, citral, eugenol and carvacrol on airborne microbes using an airwasher. *Biol. Pharm. Bull.* **29(11)**, 2292-2294 (2006).
2. Tsao, R. and Yu, Q. Nematicidal activity of monoterpenoid compounds against economically important nematodes in agriculture. *J. Essent. Oil Res.* **12(3)**, 350-354 (2000).
3. Ureña, F.P., Moreno, J.R.A., and González, J.J.L. Conformational flexibility in terpenes: Vibrational circular dichroism (VCD), infrared and raman study of S-(-)-perillaldehyde. *J. Phys. Chem. A.* **112(34)**, 7887-7893 (2008).

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.

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