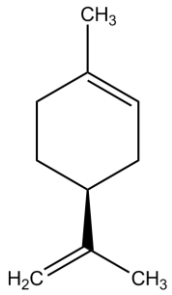
Chemical profile – S-(-)-Limonene

Basic information



IUPAC name: 1-methyl-4-prop-1-en-2-yl-cyclohexene
Other names: L-limonene, S-(-)-p-mentha-1,8-diene,
1-methyl-4-(1-methylethenyl)-cyclohexene
Molecular formula: $C_{10}H_{16}$
Molecular weight: 136.23 g mol^{-1}

Physical properties

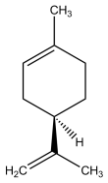
Appearance: Colourless to pale yellow liquid
Relative density: 0.844 g cm^{-3}
Melting point: -104 to – 84 °C
Boiling point: 175 °C
Flash point: 43 °C – closed cup

Occurrence and uses

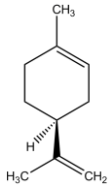
S-(-)-Limonene occurs naturally in certain pine needle oils and in peppermint oils. It is an important precursor in the biosynthesis of (-)-menthol.

Links to Curriculum

Stereoisomers:



R-(+)-Limonene



S-(-)-Limonene

Functional groups: Alkenes

Use in practical experiments: Learn Chemistry resources ‘Properties of Stereoisomers’, ‘Testing for unsaturation using bromine’, ‘Testing for unsaturation using potassium manganite (VII)’ and ‘Extracting Limonene from Oranges’.

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