Drug Status Report

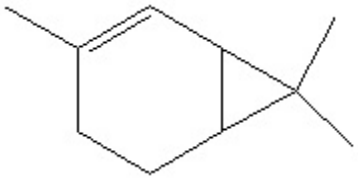
Drug Name: **I -** (+)-2-Carene
II - (+)-Limonene

Drug Name Status: **I - (+)**-2-Carene
II - (+)-Limonene

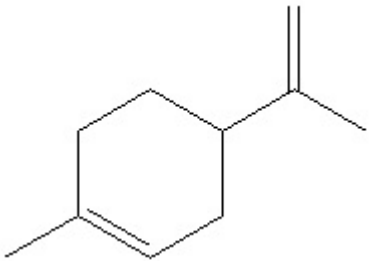
Chemical Name: **I** - (1R,6R)-3,7,7-trimethyl-bicyclo[4.1.0]hept-2-ene
II - 1-methyl-4-(1-methylethenyl)-cyclohexene

Other Names: **I-** 3,7,7-trimethyl-bicyclo[4.1.0]hept-2-ene
II- (+/-)-p-mentha-1,8-diene; d(R)-4-Isopropenyl-1-methylcyclohexene; crude dipentene; (1)-1-methyl-4-(1-methylvinyl)cyclohexene; Dipentene; Linonene; Cinene; Nesol; alpha-Limonene; DL-Limonene; Unitene; Eulimen, Flavor Orange

Chemical structure:



I



II

Molecular Formula: **I**- $C_{10}H_{16}$
II-$C_{10}H_{16}$

CAS-RN: **I**- 554-61-0; 4497-92-1; **II**-138-86-3

Pharmacological class / Application: Fine Chemicals

International status:

US: (+)-2-Carene and (+)-limonene are not listed on the schedules to the CSA and is not mentioned on the DEA website.

United Nations: Substances I and II are not listed on the Yellow List - List of Narcotic Drugs under International Control. The drug is not listed on the Green List - List of Psychotropic

Substances under International Control.

Canadian Status:

(+)-2-Carene and (+)-limonene are monoterpenes and widely used in the stereo- and enantioselective synthesis of a range of compounds including pharmaceuticals, agrochemicals, flavours and fragrances[11]. The substances are also used as starting materials in the synthesis of cannabinoids including dronabinol and 7-hydroxy-cannabidiol. (+)-2-carene and (+)-limonene are not listed specifically in the CDSA and are not similar in structure to any of the substances included in the Schedules to the CDSA.

Recommendation: (+)-2-Carene and (+)-limonene are not included in the Schedules to the CDSA and are not controlled substances.

August 3rd, 2010

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[1]Macaev, FZ and Malkov AV (2006) Use of monoterpenes, 3-carene and 2-carene, as synthons in the stereoselective synthesis of 2,2-dimethyl-1,3-disubstituted cyclopropanes, Tetrahedron, **62**: 9-29.