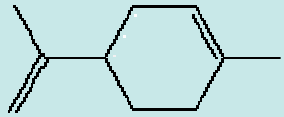
DIPENTENE



PRODUCT IDENTIFICATION	
CAS NO.	138-86-3
EINECS NO.	205-341-0
FORMULA	$C_{10}H_{16}$
MOL WT.	136.24
H.S. CODE	2902.19
TOXICITY	Orl rat LD50: 5300 mg/kg
SYNONYMS	1-methyl-4-(1-methylethenyl)cyclohexene; Cajeputene; Cinene; Ciene; p-Mentha-1,8-diene; Cyclil decene; limonene; *p*-mentha-1,8-diene; 4-isopropenyl-1-methyl-Cyclohexene; Dipenten; DL-p-mentha-1,8-diene; 4-Isopropenyl-1-methyl-1-cyclohexene; Mentha-1,8-diene; Mentha-1,8-diene, DL; Menthadiene; Methyl-4-(1-methylethenyl)cyclohexene; Methyl-4-isopropenyl-1-cyclohexene; Methyl-4-isopropenylcyclohexene; Monocyclic terpene hydrocarbons; Terpodiene; 4-(1-methylethenyl)-1-methyl-cyclohexene;
DERIVATION CLASSIFICATION	

PHYSICAL AND CHEMICAL PROPERTIES	
PHYSICAL STATE	clear to pale yellow liquid with a lemon-like odor
MELTING POINT	
BOILING POINT	170 - 180 C
SPECIFIC GRAVITY	0.856
SOLUBILITY IN WATER	Practically insoluble
pH	
VAPOR DENSITY	
NFPA RATINGS	
AUTOIGNITION	
REFRACTIVE INDEX	1.4750
FLASH POINT	46 C
STABILITY	Stable under normal conditions

GENERAL DESCRIPTION & APPLICATIONS

Dipentene is a terpene liquid found in various volatile oils such as cardamon, mace, nutmeg , turpentine oil. This term is also reffered to the racemic mixture of limonene. Dipentene is used as a solvent for resins, alkyds and waxes and to make paints, enamels, lacquers and polishes. It is used as a perfumery composition for soaps, personal care products and cosmetics. It is used as an intermediate for terpene resins, carvone, terylene, and rubber chemicals. It is used as an oils dispersant, metal dryer. It is used as a substitute for chlorinated solvents in degreasing metals for cleaning in the electronic industry and the printing industry. alpha-Limonene has been used as a gallstone solubilizer in pharmaceutical industry.

SALES SPECIFICATION	
APPEARANCE	clear to pale yellow liquid with a lemon-like odor
DISTILLATION RANGE	170 - 190 C (92%)
SPECIFIC GRAVITY	0.850 - 0.875

TRANSPORTATION	
PACKING	175kgs in drum
HAZARD CLASS	3 (Packing group: III)
UN NO.	2052

OTHER INFORMATION

European Hazard Symbols: XI N, Risk Phrases: 10-38-43-50/53, Safety Phrases: 24-37-60-61

GENERAL DESCRIPTION OF TERPENE

A class of naturally occurring compounds mainly in plants as constituents of essential oils whose carbon skeletons are composed exclusively of isoprene C5 units ($CH_2=C(CH_3)-CH=CH_2$). Most terpenes are hydrocarbons having molecular formula $(C_5H_8)_n$ in a cyclic or acyclic, saturated or unsaturated structure, while the terpenoids are oxygen-containing analogues of the terpenes such as alcohols, aldehydes or ketones containing hydroxyl groups or carbonyl groups. Several vitamines, hormones, flavour and flagrances and latex are terpenoids. Terpenes containing 30 or more carbons are usually formed by the fusion of two terpene precursors in a regular pattern, usually head-to-tail appears to be violated. They are differ from one another not only in functional groups but also in their basic carbon skeletons. Terpenes are employed mainly the fragrance and flavour purpose, as well as in the pharmaceutical and chemical industries. They are classified by the number of isoprene units:

Class	number of isoprene	Examples
Hemiterpene	1 (C_5H_8)	Found in associated with Alkaloids, Coumarins and Flavonoids.
Monoterpenes	2 ($C_{10}H_{16}$)	Geraniol, Citronellol, Pinene, Nerol, Citral, Camphor, Menthol, Limonene, Thujone
Sesquiterpenes	3 ($C_{15}H_{24}$)	Nerolidol, Farnesol
Diterpenes	4 (C_20H_{32})	Phytol, Vitamin A1
Triterpenes	6 ($C_{30}H_{48}$)	Squalene
Tetraterpenes	8 ($C_{40}H_{84}$)	Carotene (Provitamin A1)
Polyterpenes	>10 $(C_5H_8)_n$	