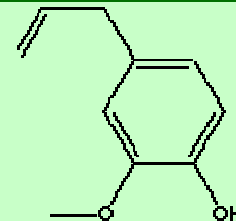


EUGENOL

PRODUCT IDENTIFICATION

CAS NO.	97-53-0
EINECS NO.	202-589-1
FORMULA	CH ₂ CH ₂ CH ₂ C ₆ H ₃ (OCH ₃)OH
MOL WT.	164.20
H.S. CODE	2909.50.4010
TOXICITY	Oral rat LD50: 2680 mg/kg



SYNONYMS Eugenol ; Eugenic acid; p-Allylguaiacol; p-Eugenol; 2-Methoxy-4-(2-propenyl)phenol; Allylguaiacol; 1,3,4-Eugenol; 1-Hydroxy-2-methoxy-4-allylbenzene; 1-Hydroxy-2-methoxy-4-prop-2-enylbenzene; 1-Hydroxy-2-methoxy-4-propenylbenzene; 2-Methoxy-1-hydroxy-4-allylbenzene; 2-Methoxy-4-(2-propen-1-yl)phenol; 2-Methoxy-4-allylphenol; 2-Methoxy-4-prop-2-enylphenol; 2-Metoksy-4-allilofenol; 4-Allyl-1-hydroxy-2-methoxybenzene; 4-Allyl-2-methoxyphenol; 4-Allylcatechol 2-methyl ether; 4-Allylcatechol-2-methyl ether; 4-Allylguaiacol; 4-Hydroxy-3-methoxy-1-allylbenzene; 4-Hydroxy-3-methoxyallylbenzene; 5-Allylguaiacol; Allylguaiacol; Caryophylllic acid;

SMILES c1(cc(ccc1O)CC=C)OC

CLASSIFICATION Analgesic, Anti-Infective, Insect attractant, repellent and chemosterilant
EXTRA NOTES FEMA No. 2467

Overall Carcinogenic Evaluation: Group 3

A cinnamate derivative of the shikamate pathway found in clove oil and other plants.

EPA Pesticide Chemical Code 102701

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	clear to pale yellow oily liquid
MELTING POINT	-9 C
BOILING POINT	254 C
SPECIFIC GRAVITY	1.06
SOLUBILITY IN WATER	<1 mg/ml
SOLVENT SOLUBILITY	Miscible with alcohol, ether, Chloroform; Soluble in acetic acid, alkali hydroxide solutions
pH	
VAPOR DENSITY	
AUTOIGNITION	
NFPA RATINGS	Health: 2; Flammability: 1; Reactivity: 0
REFRACTIVE INDEX	1.5410
FLASH POINT	> 104 C
STABILITY	Stable under ordinary conditions. Light sensitive

Eugenol is an allyl chain-substituted guaiacol (2-methoxyphenol). It appears as a clear or pale yellow oily liquid. Besides cloves, it can also be extracted from cinnamon and other aromatic spices. It is slightly soluble in water and soluble in organic solvents. The medical field makes use of Eugenol. Its properties make it a good local antiseptic and analgesic. It is used in dentist offices to make zinc-oxide eugenol paste for temporary fillings². It also makes a good local anaesthetic for temporary relief from toothache pain³. It is used in the production of isoeugenol for the manufacture of vanillin which is an artificial substitute for vanilla.

Local:

Eugenol, allyl chain-substituted guaiacol (2-methoxyphenol), is a clear to pale yellow oily liquid extracted from certain essential oils especially from clove oil and cinnamon. It is very slightly soluble in water and soluble in organic solvents. It has a spicy odor and taste of clove. Eugenol is used in perfumeries, flavorings, essential oils and in medicine (local antiseptic and analgesic). It is used in the production of isoeugenol for the manufacture of vanillin. Eugenol has wide application in dentistry for analgesic and antiseptic properties. Eugenol derivatives or methoxyphenol derivatives in wider classification are used in perfumery and flavoring. They are used in formulating insect attractants and UV absorbers, analgesics, biocides and antiseptics. They are also used in manufacturing stabilizers and antioxidants for plastics and rubbers.



SALES SPECIFICATION

APPEARANCE	pale yellow liquid
ASSAY	98.0% min
REFRACTIVE INDEX	1.540 - 1.542
SPECIFIC GRAVITY	1.065 - 1.07

TRANSPORTATION

PACKING	
HAZARD CLASS	
UN NO.	Not regulated

SAFETY INFORMATION

HAZARD OVERVIEW	OSHA Hazards: Target Organ Effect, Harmful by ingestion., Corrosive. May cause allergic skin reaction. Air sensitive. May be harmful if swallowed. Causes eye, skin, and respiratory tract irritation. Target Organs: Kidney, Central nervous system, Lungs, Gastrointestinal tract, skin.
GHS SIGNAL WORD PICTOGRAMS	Warning 
HAZARD STATEMENTS	H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H402 Harmful to aquatic life.
PRECAUTIONARY STATEMENTS	P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.
EC DIRECTIVES HAZARD CODES	 Xn Harmful
RISK PHRASES	22 Harmful if swallowed 36/37/38 Irritating to eyes, respiratory system and skin 42/43 May cause sensitization by inhalation and skin contact
SAFETY PHRASES	26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

PRICE INFORMATION

36 Wear suitable protective clothing