



EUGENOL, NATURAL

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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Version: 1.7

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Product name	: EUGENOL, NATURAL
CAS-No.	: 97-53-0
Product code	: 50-6110-01
Formula	: C10H12O2
Synonyms	: 1,3,4-eugenol / 1-hydroxy-2-methoxy-4-allylbenzene / 1-hydroxy-2-methoxy-4-prop-2-enylbenzene / 2-methoxy-1-hydroxy-4-allylbenzene / 2-methoxy-4-(2-propenyl)phenol / 2-methoxy-4-allylphenol / 2-methoxy-4-prop-2-enylphenol / 4-allyl-1-hydroxy-2-methoxy-benzene / 4-allyl-2-methoxyphenol / 4-allylcatechol-2-methyl ether / 4-allylguaiacol / 4-allylguaiacol / 4-hydroxy-3-methoxyallylbenzene / 5-allylguaiacol / allylguaiacol / caryophyllic acid / eugenic acid / eugenol / eugenol,pure / FA 100 / FEMA No.2467 / MISA No.749.00 / p-allylguaiacol / para-allylguaiacol / para-eugenol / p-eugenol / phenol, 2-methoxy-4-(2-propenyl)- / phenol, 4-allyl-2-methoxy- / synthetic eugenol
BIG No	: 25807

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Odorant Odorant: component
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1.3. Supplier

The Lebermuth Company
4004 Technology Drive
South Bend, IN 46628 - United States
T 574-259-7000 - F 574-258-7450
info@lebermuth.com - www.lebermuth.com

1.4. Emergency telephone number

Emergency number	: CHEMTREC - USA: 800-424-9300 International: +1 703-527-3887 / 1-800-424-9300 CCN 13010
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation Category 2A	Causes serious eye irritation
Skin sensitization, Category 1	May cause an allergic skin reaction

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)



GHS07

Signal word (GHS US)	: Warning
Hazard statements (GHS US)	: May cause an allergic skin reaction Causes serious eye irritation
Precautionary statements (GHS US)	: Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands, forearms and face thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. If on skin: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see supplemental first aid instruction on this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.

EUGENOL, NATURAL

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Wash contaminated clothing before reuse.
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	GHS US classification
EUGENOL	(CAS-No.) 97-53-0	100	Eye Irrit. 2A, H319 Skin Sens. 1B, H317

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after inhalation : No effects known.
- Symptoms/effects after skin contact : May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Eye irritation.
- Symptoms/effects after ingestion : Vomiting. Nausea. Abdominal pain. Gastrointestinal complaints.
- Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Swelling of the skin. Itching. Skin rash/inflammation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
- Unsuitable extinguishing media : Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Specific hazards arising from the chemical

- Fire hazard : DIRECT FIRE HAZARD: Combustible. INDIRECT FIRE HAZARD: Temperature above flashpoint: higher fire/explosion hazard.
- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

- Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.
- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

EUGENOL, NATURAL

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves (EN 374). Safety glasses (EN 166). Protective clothing (EN 14605 or EN 13034).
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply.
Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear personal protective equipment.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.
Storage temperature : 20 °C
Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
Storage area : Store in a dry area. Store at room temperature. Keep out of direct sunlight. Ventilation at floor level. Meet the legal requirements.
Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials : SUITABLE MATERIAL: glass. aluminium. MATERIAL TO AVOID: iron.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

EUGENOL (97-53-0)

No additional information available

EUGENOL (97-53-0)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Gloves

Eye protection:

Safety glasses

EUGENOL, NATURAL

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Skin and body protection:

Protective clothing

Respiratory protection:

High gas/vapour concentration: gas mask with filter type A



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: COLORLESS TO PALE YELLOW LIQUID
Odor	: ODOR OF CLOVES AND A PUNGENT SPICY TASTE
Odor threshold	: No data available
pH	: No data available
Melting point	: -10 °C
Freezing point	: No data available
Boiling point	: 248 °C (755 mm Hg, EU Method A.2: Boiling point)
Flash point	: 100 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability	: Not applicable.
Vapor pressure	: < 0.1 hPa (25 °C, EU Method A.4: Vapour Pressure)
Relative vapor density at 20°C	: 5.7 (Calculated)
Relative density	: 1.064 (1.057 – 1.07)
Density	: 1065 kg/m ³
Molecular mass	: 164.2 g/mol
Solubility	: Insoluble. Water: 1154 mg/l Ethanol: > 10 g/100ml
Partition coefficient n-octanol/water (Log Pow)	: 1.83 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 30 °C)
Auto-ignition temperature	: 380 °C (985 hPa, EU Method A.15: Auto-ignition Temperature (liquids and gases), T2)
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 8.39 mPa·s (25 °C)
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

Specific conductivity	: < 1700000 pS/m (25 °C)
VOC content	: 0 %
Refractive index	: 1.541 (1.538 – 1.544)
Other properties	: Gas/vapour heavier than air at 20°C. Slightly volatile.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Discolours on exposure to air.

EUGENOL, NATURAL

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

EUGENOL (97-53-0)	
LD50 oral rat	> 2000 mg/kg body weight (Equivalent or similar to OECD 423, Rat, Male / female, Experimental value, Oral)
LC50 Inhalation - Rat	> 2.6 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol))

EUGENOL (97-53-0)	
ATE US (oral)	2500 mg/kg body weight
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

EUGENOL (97-53-0)	
IARC group	3 - Not classifiable

EUGENOL (97-53-0)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : 7.878 mm²/s

Potential Adverse human health effects and symptoms : Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Not irritant to skin. Slightly harmful by inhalation. Causes serious eye irritation.

Symptoms/effects after inhalation : No effects known.

Symptoms/effects after skin contact : May cause an allergic skin reaction.

Symptoms/effects after eye contact : Eye irritation.

Symptoms/effects after ingestion : Vomiting. Nausea. Abdominal pain. Gastrointestinal complaints.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Swelling of the skin. Itching. Skin rash/inflammation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Toxic to crustacea. Harmful to fishes. Harmful to algae.

EUGENOL, NATURAL

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

EUGENOL (97-53-0)	
LC50 - Fish [1]	13 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	1.13 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 algae	24 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

EUGENOL (97-53-0)	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

EUGENOL (97-53-0)	
Partition coefficient n-octanol/water (Log Pow)	1.83 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 30 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

EUGENOL (97-53-0)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
- Product/Packaging disposal recommendations : Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery.
- Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT
Not regulated

Transportation of Dangerous Goods

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

EUGENOL, NATURAL

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 15: Regulatory information

15.1. US Federal regulations

No additional information available

15.2. International regulations

CANADA

EUGENOL (97-53-0)

Listed on the Canadian DSL (Domestic Substances List)

EUGENOL (97-53-0)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

EUGENOL (97-53-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)

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Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date : 04/22/2024

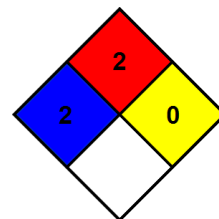
Full text of H-phrases:

H317	May cause an allergic skin reaction
H319	Causes serious eye irritation

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012) - Lebermuth

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.