

## SAFETY DATA SHEET

Version 4.6  
 Revision Date 08/22/2014  
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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : **Eugenol**

Product Number : E51791  
 Brand : Aldrich  
 Product Use : For laboratory research purposes.

Supplier : Sigma-Aldrich Canada Co.  
 2149 Winston Park Drive  
 OAKVILLE ON L6H 6J8  
 CANADA

Telephone : +1 9058299500  
 Fax : +1 9058299292  
 Emergency Phone # (For both supplier and manufacturer) : 1-800-424-9300

Preparation Information : Sigma-Aldrich Corporation  
 Product Safety - Americas Region  
 1-800-521-8956

Manufacturer : Sigma-Aldrich Corporation  
 3050 Spruce St.  
 St. Louis, Missouri 63103  
 USA

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

#### Target Organs

Kidney, Central nervous system, Lungs, Gastrointestinal tract

#### WHMIS Classification

D2B Toxic Material Causing Other Toxic Effects Moderate eye irritant  
 Skin sensitiser

#### GHS Classification

Acute toxicity, Oral (Category 5)  
 Eye irritation (Category 2A)  
 Skin sensitisation (Category 1)  
 Acute aquatic toxicity (Category 2)

#### GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H303 May be harmful if swallowed.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H401 Toxic to aquatic life.

Precautionary statement(s)

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.

#### HMIS Classification

**Health hazard:** 2  
**Chronic Health Hazard:** \*  
**Flammability:** 1  
**Physical hazards:** 0

#### Potential Health Effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** May be harmful if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms** : 2-Methoxy-4-(2-propenyl)phenol  
4-Allyl-2-methoxyphenol  
4-Allylguaiacol

**Formula** : C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>  
**Molecular weight** : 164.20 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Eugenol</b>			
97-53-0	202-589-1	-	<=100%

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### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIREFIGHTING MEASURES

#### Conditions of flammability

Not flammable or combustible.

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

#### Explosion data - sensitivity to mechanical impact

No data available

#### Explosion data - sensitivity to static discharge

No data available

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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**7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

Store under inert gas. Air sensitive.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Full contact**

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 480 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

**Splash contact**

Material: Nitrile rubber

Minimum layer thickness: 0.2 mm

Break through time: 49 min

Material tested: Dermatril® P (KCL 743 / Aldrich Z677388, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Eye protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Specific engineering controls**

Use mechanical exhaust or laboratory fumehood to avoid exposure.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	clear, liquid
Colour	light yellow

### Safety data

pH	No data available
Melting point/freezing point	Melting point/range: -12 - -10 °C (10 - 14 °F) - lit.
Boiling point	254 °C (489 °F) - lit.
Flash point	112 °C (234 °F) - closed cup
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	< 0.1 hPa (< 0.1 mmHg) at 25 °C (77 °F)
Density	1.067 g/cm <sup>3</sup> at 25 °C (77 °F)
Water solubility	No data available
Partition coefficient: n-octanol/water	log Pow: 2.7
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

Air

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides  
Other decomposition products - No data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - Rat - > 2,000 mg/kg

#### Inhalation LC50

No data available

#### Dermal LD50

No data available

**Other information on acute toxicity**

No data available

**Skin corrosion/irritation**

Skin - Rabbit - No skin irritation - OECD Test Guideline 404

**Serious eye damage/eye irritation**

Eyes - Rabbit - Irritating to eyes. - OECD Test Guideline 405

**Respiratory or skin sensitisation**

in vivo assay - Mouse - OECD Test Guideline 429 - May cause allergic skin reaction.

**Germ cell mutagenicity**

Genotoxicity in vitro - Rat - Liver

DNA damage

Genotoxicity in vitro - Mouse - lymphocyte

Mutation in mammalian somatic cells.

Genotoxicity in vitro - Hamster - Embryo

Unscheduled DNA synthesis

Genotoxicity in vitro - Hamster - Embryo

Morphological transformation.

Genotoxicity in vitro - Hamster - Embryo

Sister chromatid exchange

Genotoxicity in vivo - Mouse - Oral

Micronucleus test

**Carcinogenicity**

Carcinogenicity - Mouse - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Eugenol)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**Reproductive toxicity**

No data available

**Teratogenicity**

No data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

No data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

No data available

**Aspiration hazard**

No data available

**Potential health effects**

**Inhalation**

May be harmful if inhaled. Causes respiratory tract irritation.

**Ingestion**

May be harmful if swallowed.

**Skin**

May be harmful if absorbed through skin. Causes skin irritation.

**Eyes**

Causes eye irritation.

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects**

No data available

**Additional Information**

RTECS: SJ4375000

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**12. ECOLOGICAL INFORMATION****Toxicity**

Toxicity to fish LC50 - Danio rerio (zebra fish) - 13 mg/l - 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia (water flea) - 1.13 mg/l - 48 h

**Persistence and degradability**

Biodegradability Result: - Readily biodegradable.  
Method: Directive 67/548/EEC Annex V, C.4.E.

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**PBT and vPvB assessment**

No data available

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

No data available

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**13. DISPOSAL CONSIDERATIONS****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**15. REGULATORY INFORMATION****WHMIS Classification**

D2B	Toxic Material Causing Other Toxic Effects	Moderate eye irritant Skin sensitiser
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

## 16. OTHER INFORMATION

### Text of H-code(s) and R-phrase(s) mentioned in Section 3

#### Further information

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