Section 1 - Chemical Product and Company Identification

MSDS Name: Eugenol, 99%
Catalog Numbers: AC119110000, AC119110050, AC119111000, AC119115000
Synonyms: 4-Allyl-2-methoxyphenol; 2-Methoxy-4-(2-propenyl)phenol; Allylguaiacol; Eugenic acid; Caryophyllol acid

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaal 3a
2440 Geel, Belgium
Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#: 97-53-0
Chemical Name: Eugenol
%: 99
EINECS#: 202-589-1

Hazard Symbols: XN XI
Risk Phrases: 22 36/37/38 43

Section 3 - Hazards Identification

Warning! May cause allergic skin reaction. Air sensitive. May be harmful if swallowed. Causes eye, skin, and respiratory tract irritation. Target Organs: Skin.

Potential Health Effects
Eye: Causes eye irritation.
Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.
Inhalation: Causes respiratory tract irritation.
Chronic: This is an experimental neoplastigen, tumorigen, and carcinogen.

Section 4 - First Aid Measures
Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Autoignition Temperature: Not available

Flash Point: > 104 deg C (> 219.20 deg F)

Explosion Limits: Not available

Explosion Limits: Not available

NFPA Rating: health: 2; flammability: 1; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wash area with soap and water. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Use only in a chemical fume hood.

Storage: Store in a cool, dry place. Store in a tightly closed container. Storage under a nitrogen blanket has been recommended.

Section 8 - Exposure Controls, Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eugenol</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Eugenol: None listed

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a
Respirators: NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: clear, colorless to pale yellow
Odor: pungent odor
pH: Not available
Vapor Pressure: 1 mm Hg @ 78.4 C
Vapor Density: Not available
Evaporation Rate: Not available
Viscosity: Not available
Boiling Point: 248 deg C (478.40°F)
Freezing/Melting Point: -9 deg C (15.80°F)
Decomposition Temperature: Not available
Solubility in water: Negligible
Specific Gravity/Density: 1.0660g/cm3
Molecular Formula: C10H12O2
Molecular Weight: 164.20

Section 10 - Stability and Reactivity

Chemical Stability: Substance undergoes color change upon exposure to air.
Conditions to Avoid: Incompatible materials, exposure to air.
Incompatibilities with Other Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 97-53-0: SJ4375000
RTECS: CAS# 97-53-0: Draize test, rabbit, skin: 100 mg/24H Severe;
Oral, mouse: LD50 = 3 gm/kg;
Oral, rat: LD50 = 1930 mg/kg;
Oral, rat: LD50 = 1930 mg/kg;
Carcinogenicity: Eugenol - IARC: Group 3 (not classifiable)
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information
Not available

Section 13 - Disposal Considerations
Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information
European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN XI

Risk Phrases:
- R 22 Harmful if swallowed.
- R 36/37/38 Irritating to eyes, respiratory system and skin.
- R 43 May cause sensitization by skin contact.

Safety Phrases:
- S 24/25 Avoid contact with skin and eyes.
- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

WGK (Water Danger/Protection)

CAS# 97-53-0: Not available

Canada

CAS# 97-53-0 is listed on Canada's DSL List

Canadian WHMIS Classifications: D2B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations
and the MSDS contains all of the information required by those regulations.

CAS# 97-53-0 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 97-53-0 is listed on the TSCA

Inventory.

Section 16 - Other Information

MSDS Creation Date: 3/16/1998

Revision #5 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available

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company has been advised of the possibility of such damages.

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