SAFETY DATA SHEET

Enilconazole Liquid Formulation

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Enilconazole Liquid Formulation

Manufacturer or supplier’s details
Company: MSD
Address: 91-105 Harpin Street
          Bendigo 3550, Victoria Australia
Telephone: 908-740-4000
Emergency telephone number: 1 800 033 461
E-mail address: EHSDATASTEWARD@msd.com
Telefax: 1 800 817 414

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Flammable liquids: Category 3
Acute toxicity (Oral): Category 3
Acute toxicity (Inhalation): Category 4
Serious eye damage/eye irritation: Category 2A
Carcinogenicity: Category 2
Specific target organ toxicity - repeated exposure: Category 2 (Liver)

GHS label elements
Hazard pictograms:
Signal word: Danger
Hazard statements:
  H226 Flammable liquid and vapour.
  H301 Toxic if swallowed.
  H319 Causes serious eye irritation.
  H332 Harmful if inhaled.
  H351 Suspected of causing cancer.
H373 May cause damage to organs (Liver) through prolonged or repeated exposure.

Precautionary statements:

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/ sparks/ open flames/ hot surfaces.
No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P281 Use personal protective equipment as required.

Response:
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification
Vapours may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mixture</td>
</tr>
</tbody>
</table>
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SECTION 4. FIRST AID MEASURES

General advice: In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

If inhaled: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

In case of skin contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.

If swallowed: If swallowed, DO NOT induce vomiting. Call a physician or poison control centre immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Gastrointestinal disturbance. Toxic if swallowed. Causes serious eye irritation. Harmful if inhaled. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

Protection of first-aiders: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician: Treat symptomatically and supportively.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media: High volume water jet

Specific hazards during firefighting: Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance.
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Enilconazole Liquid Formulation

Vapours may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.

Hazardous combustion products: Carbon oxides, Sulphur oxides, Metal oxides

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Hazchem Code: •3W

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions: Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. For large spills, provide dyeing or other appropriate containment to keep material from spreading. If dyed material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures: See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation: If sufficient ventilation is unavailable, use with local exhaust ventilation.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

**Advice on safe handling**: Do not breathe vapours or spray mist. Do not swallow. Do not get in eyes. Avoid prolonged or repeated contact with skin. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Non-sparking tools should be used. Keep container tightly closed. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.

**Hygiene measures**: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

**Conditions for safe storage**: Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

**Materials to avoid**: Do not store with the following product types: Self-reactive substances and mixtures Organic peroxides Oxidizing agents Flammable gases Pyrophoric liquids Pyrophoric solids Self-heating substances and mixtures Poisonous gases Explosives

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**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Components with workplace control parameters**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole</td>
<td>35554-44-0</td>
<td>TWA</td>
<td>0.3 mg/m3 (OEB 2)</td>
<td>Internal</td>
</tr>
</tbody>
</table>

Further information: Skin
Engineering measures: Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless quick connections). All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. Laboratory operations do not require special containment.

Personal protective equipment
Respiratory protection: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter type: Combined particulates and organic vapour type
Hand protection
Material: Chemical-resistant gloves
Remarks: Take note that the product is flammable, which may impact the selection of hand protection.
Eye protection: Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection: Work uniform or laboratory coat.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
Appearance: liquid
Colour: light yellow
Odour: musty
Odour Threshold: No data available
pH: 9.5
Melting point/freezing point: No data available
Initial boiling point and boiling range: No data available
Flash point: 45 °C
Evaporation rate: No data available
Flammability (solid, gas): Not applicable
SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.
Chemical stability : Stable under normal conditions.
Possibility of hazardous reac-
tions : Flammable liquid and vapour.
Vapours may form explosive mixture with air.
Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.
Incompatible materials : Oxidizing agents
Acids
Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes : Inhalation
Skin contact
Ingestion
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Date of first issue: 22.09.2016

Eye contact

**Acute toxicity**
Toxic if swallowed.
Harmful if inhaled.

**Product:**

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Route</th>
<th>LD50/Rat [mg/kg]</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Components:**

**Sodium bis(2-ethylhexyl)sulfosuccinate:**

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Route</th>
<th>LD50/Rat [mg/kg]</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td></td>
<td>3,080</td>
<td></td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td></td>
<td>&gt; 5,000</td>
<td></td>
</tr>
</tbody>
</table>

**1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:**

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Route</th>
<th>LD50/Rat [mg/kg]</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td></td>
<td>227</td>
<td></td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td></td>
<td>1.84 - 2.88</td>
<td></td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td></td>
<td>4,200 - 4,800</td>
<td></td>
</tr>
</tbody>
</table>

**Benzyl alcohol:**

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Route</th>
<th>LD50/Rat [mg/kg]</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td></td>
<td>1,620</td>
<td></td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td></td>
<td>&gt; 4.178</td>
<td></td>
</tr>
</tbody>
</table>

**Ethanol:**

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Route</th>
<th>LD50/Rat [mg/kg]</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td></td>
<td>1,620</td>
<td></td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td></td>
<td>&gt; 4.178</td>
<td></td>
</tr>
</tbody>
</table>

**Method:**
OECD Test Guideline 403
Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 124.7 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Skin corrosion/irritation
Not classified based on available information.

Product:
Species : Rabbit
Result : Mild skin irritation

Components:

Sodium bis(2-ethylhexyl)sulfosuccinate:
Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:
Species : Rabbit
Result : Mild skin irritation

Benzyl alcohol:
Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Ethanol:
Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.

Product:
Species : Rabbit
Result : Moderate eye irritation

Components:

Sodium bis(2-ethylhexyl)sulfosuccinate:
Species : Rabbit
Result : Irreversible effects on the eye
Method : OECD Test Guideline 405
### 1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>Irreversible effects on the eye</td>
<td>Based on harmonised classification in EU regulation 1272/2008, Annex VI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>Moderate eye irritation</td>
<td>Based on harmonised classification in EU regulation 1272/2008, Annex VI</td>
</tr>
</tbody>
</table>

### Benzyl alcohol:

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>Irritation to eyes, reversing within 21 days</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

### Ethanol:

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>Irritation to eyes, reversing within 21 days</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

### Respiratory or skin sensitisation

**Skin sensitisation**
Not classified based on available information.

**Respiratory sensitisation**
Not classified based on available information.

**Product:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea pig</td>
<td>Not a skin sensitizer.</td>
</tr>
</tbody>
</table>

**Components:**

- **Sodium bis(2-ethylhexyl)sulfosuccinate:**
  - **Test Type:** Human repeat insult patch test (HRIPT)
  - **Exposure routes:** Skin contact
  - **Species:** Humans
  - **Result:** negative

- **1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:**
  - **Test Type:** Maximisation Test
  - **Exposure routes:** Dermal
  - **Species:** Guinea pig
  - **Result:** equivocal
    - Dermal
    - Humans
    - Not a skin sensitizer.
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**Benzyl alcohol:**
Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

**Ethanol:**
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative

**Chronic toxicity**

**Germ cell mutagenicity**
Not classified based on available information.

**Components:**

**Sodium bis(2-ethylhexyl)sulfosuccinate:**
Genotoxicity in vitro:
Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: equivocal

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

**1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:**
Genotoxicity in vitro:
Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: Chromosomal aberration
Test system: Human lymphocytes
Result: negative

Test Type: gene mutation test
Test system: Chinese hamster fibroblasts
Result: negative

Test Type: unscheduled DNA synthesis assay
Test system: rat hepatocytes
Result: negative

Genotoxicity in vivo:
Test Type: Micronucleus test
Species: Rat
Application Route: Oral
### Benzyl alcohol:

**Genotoxicity in vitro**: 
Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

**Genotoxicity in vivo**: 
Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

### Ethanol:

**Genotoxicity in vitro**: 
Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

**Genotoxicity in vivo**: 
Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Species: Mouse  
Application Route: Ingestion  
Result: equivocal

### Carcinogenicity

Suspected of causing cancer.

### Components:

**1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>2 Years</td>
</tr>
<tr>
<td>NOAEL</td>
<td>40 mg/kg body weight</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>2 Years</td>
</tr>
<tr>
<td>LOAEL</td>
<td>33 mg/kg body weight</td>
</tr>
<tr>
<td>Result</td>
<td>positive</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Liver</td>
</tr>
</tbody>
</table>

| Species   | Mouse    |

---

Result: negative

Test Type: Micronucleus test  
Species: Mouse  
Application Route: Oral  
Result: negative

Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Species: Mouse  
Result: negative

---

**Date of last issue:** 13.09.2019  
**SDS Number:** 906749-00011  
**Revision Date:** 23.03.2020  
**Date of first issue:** 22.09.2016
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Application Route: oral (feed)
Exposure time: 23 Months
NOAEL: 8 mg/kg body weight
LOAEL: 105 mg/kg body weight
Result: positive
Target Organs: Liver
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Carcinogenicity - Assessment: Limited evidence of carcinogenicity in animal studies

Benzyl alcohol:
Species: Mouse
Application Route: Ingestion
Exposure time: 103 weeks
Method: OECD Test Guideline 451
Result: negative

Reproductive toxicity
Not classified based on available information.

Components:
Sodium bis(2-ethylhexyl)sulfosuccinate:
Effects on fertility: Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development: Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:
Effects on fertility: Test Type: Multi-generation study
Species: Rat
Application Route: Oral
General Toxicity - Parent: NOAEL: 20 mg/kg body weight
Result: Maternal toxicity observed., Embryotoxic effects and adverse effects on the offspring were detected.
Remarks: Not classified due to data which are conclusive although insufficient for classification.

Effects on foetal development: Test Type: Development
Species: Rat
Application Route: Oral
Developmental Toxicity: LOAEL: 80 mg/kg body weight
Result: Reduced foetal weight, Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses
Remarks: The effects were seen only at maternally toxic doses.
Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: LOAEL: 10 mg/kg body weight  
Result: Maternal toxicity observed., No teratogenic effects, Postimplantation loss.  
Remarks: The effects were seen only at maternally toxic doses.

**Benzyl alcohol:**  
Effects on fertility  
: Test Type: Fertility/early embryonic development  
Species: Rat  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development  
: Test Type: Embryo-foetal development  
Species: Mouse  
Application Route: Ingestion  
Result: negative

**Ethanol:**  
Effects on fertility  
: Test Type: Two-generation reproduction toxicity study  
Species: Mouse  
Application Route: Ingestion  
Result: negative

**STOT - single exposure**  
Not classified based on available information.

**STOT - repeated exposure**  
May cause damage to organs (Liver) through prolonged or repeated exposure.

**Components:**  
1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:  
Target Organs  
: Liver  
Assessment  
: May cause damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity**  
**Product:**  
Species  
: Rabbit  
NOAEL  
: 1 mg/kg  
Application Route  
: Dermal  
Exposure time  
: 21 d  
Symptoms  
: No adverse effects

**Components:**  
Sodium bis(2-ethylhexyl)sulfosuccinate:
Species: Rat
NOAEL: 750 mg/kg
Application Route: Ingestion
Exposure time: 90 Days

1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:

Species: Rat
NOAEL: 5 mg/kg
LOAEL: 20 mg/kg
Application Route: Oral
Exposure time: 3 - 24 Months
Target Organs: Liver
Symptoms: decrease in appetite

Species: Dog
NOAEL: 2.5 mg/kg
LOAEL: 20 mg/kg
Application Route: Oral
Exposure time: 12 Months
Symptoms: Salivation, Vomiting

Species: Mouse
NOAEL: 12 mg/kg
LOAEL: 140 mg/kg
Application Route: Oral
Exposure time: 3 Months
Target Organs: Liver

Benzyl alcohol:

Species: Rat
NOAEL: 1.072 mg/l
Application Route: inhalation (dust/mist/fume)
Exposure time: 28 Days
Method: OECD Test Guideline 412

Ethanol:

Species: Rat
NOAEL: 1,280 mg/kg
LOAEL: 3,156 mg/kg
Application Route: Ingestion
Exposure time: 90 Days

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

Product:

Inhalation: Remarks: May cause respiratory tract irritation.
Skin contact: Remarks: May irritate skin.
Eye contact: Remarks: May irritate eyes.
Ingestion: Symptoms: Gastrointestinal disturbance, central nervous sys-
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Components:

1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:

Skin contact: Symptoms: pruritis, skin rash, Skin irritation
Eye contact: Symptoms: Eye irritation
Ingestion: Symptoms: Nausea

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Sodium bis(2-ethylhexyl)sulfosuccinate:

Toxicity to fish: LC50 (Danio rerio (zebra fish)): 49 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 6.6 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants: ErC50 (Desmodesmus subspicatus (green algae)): 82.5 mg/l
Exposure time: 72 h
EC10 (Desmodesmus subspicatus (green algae)): 22 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): EC10 (Daphnia magna (Water flea)): 9 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms: EC50 (Pseudomonas putida): 164 mg/l
Exposure time: 16 h

1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:

Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 1.48 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
LC50 (Lepomis macrochirus (Bluegill sunfish)): 3.99 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 3.54 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (green algae)): 1.2 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
NOEC (Pseudokirchneriella subcapitata (green algae)): 0.457
<table>
<thead>
<tr>
<th>Substance</th>
<th>Type</th>
<th>Method/endpoint</th>
<th>NOEC</th>
<th>EC50</th>
<th>EC10</th>
<th>EC90</th>
<th>Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enilconazole</td>
<td>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</td>
<td>NOEC (Daphnia magna (Water flea)): &lt; 0.007 mg/l</td>
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<tr>
<td>Benzyl alcohol</td>
<td>Toxicity to fish</td>
<td>LC50 (Pimephales promelas (fathead minnow)): 460 mg/l</td>
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<td></td>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Daphnia magna (Water flea)): 230 mg/l</td>
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<td></td>
<td>Toxicity to algae/aquatic plants</td>
<td>EC50 (Pseudokirchneriella subcapitata (green algae)): 770 mg/l</td>
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<td></td>
<td></td>
<td>NOEC (Pseudokirchneriella subcapitata (green algae)): 310 mg/l</td>
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<td></td>
<td>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</td>
<td>NOEC (Daphnia magna (Water flea)): 51 mg/l</td>
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<tr>
<td>Ethanol</td>
<td>Toxicity to fish</td>
<td>LC50 (Pimephales promelas (fathead minnow)): &gt; 1,000 mg/l</td>
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<td></td>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EC50 (Ceriodaphnia (water flea)): &gt; 1,000 mg/l</td>
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<td></td>
<td>Toxicity to algae/aquatic plants</td>
<td>ErC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l</td>
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<td>EC10 (Chlorella vulgaris (Fresh water algae)): 11.5 mg/l</td>
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<td></td>
<td>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</td>
<td>NOEC (Daphnia magna (Water flea)): 9.6 mg/l</td>
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<td>Toxicity to microorganisms</td>
<td>EC50 (Pseudomonas putida): 6,500 mg/l</td>
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</table>

**Components:**

**Sodium bis(2-ethylhexyl)sulfosuccinate:**
Biodegradability: Result: Readily biodegradable.  
Biodegradation: 91.2%  
Exposure time: 28 d

1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:  
Biodegradability: Result: not rapidly degradable  
Biodegradation: 50%  
Exposure time: 166 d

Benzyl alcohol:  
Biodegradability: Result: Readily biodegradable.  
Biodegradation: 92 - 96%  
Exposure time: 14 d

Ethanol:  
Biodegradability: Result: Readily biodegradable.  
Biodegradation: 84%  
Exposure time: 20 d

Bioaccumulative potential

Components:

Sodium bis(2-ethylhexyl)sulfosuccinate:  
Partition coefficient: n-octanol/water: log Pow: 1.998  
Remarks: Calculation

1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:  
Partition coefficient: n-octanol/water: log Pow: 3.82

Benzyl alcohol:  
Partition coefficient: n-octanol/water: log Pow: 1.05

Ethanol:  
Partition coefficient: n-octanol/water: log Pow: -0.35

Mobility in soil

Components:

1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:  
Distribution among environmental compartments: log Koc: 3.82

Other adverse effects
No data available
SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : Dispose of in accordance with local regulations.
Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number : UN 1992
Proper shipping name : FLAMMABLE LIQUID, TOXIC, N.O.S.
(Ethanol, 1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole)
Class : 3
Subsidiary risk : 6.1
Packing group : III
Labels : 3 (6.1)

IATA-DGR
UN/ID No. : UN 1992
Proper shipping name : Flammable liquid, toxic, n.o.s.
(Ethanol, 1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole)
Class : 3
Subsidiary risk : 6.1
Packing group : III
Labels : Flammable Liquids, Toxic
Packing instruction (cargo aircraft) : 366
Packing instruction (passenger aircraft) : 355

IMDG-Code
UN number : UN 1992
Proper shipping name : FLAMMABLE LIQUID, TOXIC, N.O.S.
(Ethanol, 1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole)
Class : 3
Subsidiary risk : 6.1
Packing group : III
Labels : 3 (6.1)
EmS Code : F-E, S-D
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations
SAFETY DATA SHEET

Enilconazole Liquid Formulation

Version: 3.8  Revision Date: 23.03.2020  SDS Number: 906749-00011  Date of last issue: 13.09.2019

ADG
UN number: UN 1992
Proper shipping name: FLAMMABLE LIQUID, TOXIC, N.O.S.
(Ethanol, 1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole)
Class: 3
Subsidiary risk: 6.1
Packing group: III
Labels: 3 (6.1)
Hazchem Code: •3W

Special precautions for user
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Prohibition/Licensing Requirements: There is no applicable prohibition or notification/licensing requirements, including for carcinogens under Commonwealth, State or Territory legislation.

The components of this product are reported in the following inventories:
AICS: not determined
DSL: not determined
IECSC: not determined

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 23.03.2020
Date format: dd.mm.yyyy

Full text of other abbreviations
ACGIH: USA. ACGIH Threshold Limit Values (TLV)
AU OEL: Australia. Workplace Exposure Standards for Airborne Contaminants.

ACGIH / STEL: Short-term exposure limit
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

AU / EN