Enilconazole Smoke Formulation

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
   Trade name: Enilconazole Smoke Formulation

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Use of the Substance/Mixture: Veterinary product

1.3 Details of the supplier of the safety data sheet
   Company: MSD
   Shotton Lane
   NE23 3JU Cramlington NU - Great Britain
   Telephone: 44 1 670 59 30 00
   Telefax: 908-735-1496
   E-mail address of person responsible for the SDS: EHSDATASTEWARD@msd.com

1.4 Emergency telephone number
   1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification (REGULATION (EC) No 1272/2008)
   Oxidizing solids, Category 1: H271: May cause fire or explosion; strong oxidizer.
   Eye irritation, Category 2: H319: Causes serious eye irritation.
   Carcinogenicity, Category 2: H351: Suspected of causing cancer.
   Specific target organ toxicity - repeated exposure, Category 2: H373: May cause damage to organs through prolonged or repeated exposure.
   Long-term (chronic) aquatic hazard, Category 1: H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
   Hazard pictograms: ![Hazard Pictograms]
   Signal word: Danger
   Hazard statements: H271 May cause fire or explosion; strong oxidizer.
   H319 Causes serious eye irritation.
   H351 Suspected of causing cancer.
Enilconazole Smoke Formulation

Precautionary statements:

**Prevention:**
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P220 Keep away from clothing and other combustible materials.
- P260 Do not breathe dust.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**
- P371 + P380 + P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
- P391 Collect spillage.

Hazardous components which must be listed on the label:
- 1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole

### 2.3 Other hazards

Contact with dust can cause mechanical irritation or drying of the skin.

May form explosive dust-air mixture during processing, handling or other means.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole</td>
<td>35554-44-0</td>
<td>252-615-0</td>
<td>613-042-00-5</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
</tbody>
</table>
| | | | | Acute Tox.3; H301
| | | | Acute Tox.4; H332
| | | | Eye Dam.1; H318
| | | | Carc.2; H351
| | | | STOT RE2; H373
| | | | Aquatic Acute1; H400
| | | | Aquatic Chronic1; H410
| | | | M-Factor (Chronic aquatic toxicity): 10 |
| Potassium chlorate | 3811-04-9 | 223-289-7 | 017-004-00-3 | >= 10 - < 20 |
| | | | | Ox. Sol.1; H271
| | | | Acute Tox.4; H302
| | | | Acute Tox.4; H332 |
SECTION 4: First aid measures

4.1 Description of 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.

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).

If inhaled: If inhaled, remove to fresh air. Get medical attention.

In case of skin contact: In case of contact, immediately flush skin with soap and 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. Get medical attention. Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks: Causes serious eye irritation. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure. Contact with dust can cause mechanical irritation or drying of the skin.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: Treat symptomatically and supportively.
Enilconazole Smoke Formulation

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

Unsuitable extinguishing media:
- None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting:
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
- Exposure to combustion products may be a hazard to health.

Hazardous combustion products:
- Carbon oxides
- Chlorine compounds
- Metal oxides

5.3 Advice for firefighters

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

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions:
- Evacuate personnel to safe areas.
- Only trained personnel should re-enter the area.
- Remove all sources of ignition.
- Use personal protective equipment.
- Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

Environmental precautions:
- Discharge into the environment must be avoided.
- Prevent further leakage or spillage if safe to do so.
- Retain and dispose of contaminated wash water.
- Local authorities should be advised if significant spillages cannot be contained.
6.3 Methods and material for containment and cleaning up

Methods for cleaning up

Non-sparking tools should be used.
Soak up with inert absorbent material.
Sweep up or vacuum up spillage and collect in suitable container for disposal.
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Flush with water.
Suppress (knock down) gases/vapours/mists with a water spray jet.
Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
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.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures

Static electricity may accumulate and ignite suspended dust causing an explosion.
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Local/Total ventilation

Use only with adequate 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 dust.
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
Keep container tightly closed.
Minimize dust generation and accumulation.
Keep container closed when not in use.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Keep away from combustible material.
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 contami-
nated 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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep in properly labelled containers. Store in original container. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Keep away from direct sunlight. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Advice on common storage: Do not store with the following product types:
- Organic peroxides
- Pyrophoric liquids
- Pyrophoric solids
- Self-heating substances and mixtures
- Substances and mixtures, which in contact with water, emit flammable gases
- Aerosol cans and lighters
- Explosives
- Gases

7.3 Specific end use(s)

Specific use(s): No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talc</td>
<td>14807-96-6</td>
<td>TWA (respirable dust)</td>
<td>2 mg/m³</td>
<td>FOR-2011-12-06-1358</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (total dust)</td>
<td>6 mg/m³</td>
<td>FOR-2011-12-06-1358</td>
</tr>
<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

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium chlorate</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>5.76 mg/m³</td>
</tr>
</tbody>
</table>
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Workers | Skin contact | Long-term systemic effects | 3,5 mg/kg bw/day
---------|-------------|---------------------------|------------------
Consumers | Inhalation | Long-term systemic effects | 0,3 mg/m3
Consumers | Skin contact | Long-term systemic effects | 0,13 mg/kg bw/day
Consumers | Ingestion | Long-term systemic effects | 0,06 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium chlorate</td>
<td>Fresh water</td>
<td>1,15 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>1,15 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>115 mg/l</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>3,83 mg/kg dw</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

**Engineering measures**

Use feasible engineering controls to minimize exposure to compound.

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

**Personal protective equipment**

**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.

**Hand protection**

- Material: Chemical-resistant gloves
- Remarks: Take note that the product is flammable, which may impact the selection of hand protection.

**Skin and body protection**

- Work uniform or laboratory coat.

**Respiratory protection**

- If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
- Filter type: Particulates type (P)

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

**Appearance**: powder

**Colour**: Grey-brown

**Odour**: No data available

**Odour Threshold**: No data available

**pH**: No data available

**Melting point/freezing point**: No data available
**Enilconazole Smoke Formulation**

**Initial boiling point and boiling range**: No data available

**Flash point**: No data available

**Evaporation rate**: No data available

**Flammability (solid, gas)**: May form explosive dust-air mixture during processing, handling or other means.

**Upper explosion limit / Upper flammability limit**: No data available

**Lower explosion limit / Lower flammability limit**: No data available

**Vapour pressure**: No data available

**Relative vapour density**: No data available

**Relative density**: No data available

**Density**: No data available

**Solubility(ies)**

- **Water solubility**: No data available
- **Partition coefficient: n-octanol/water**: No data available
- **Auto-ignition temperature**: No data available
- **Decomposition temperature**: No data available

**Viscosity**

- **Viscosity, kinematic**: No data available

**Explosive properties**: Not explosive

**Oxidizing properties**: The substance or mixture is classified as oxidizing with the category 1.

**9.2 Other information**

- **Flammability (liquids)**: No data available
- **Molecular weight**: No data available
- **Particle size**: No data available

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**

May cause fire or explosion; strong oxidizer.
10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous reactions: May form explosive dust-air mixture during processing, handling or other means.
Exposure to metals, combustible or organic materials can cause a violent reaction or ignition.
May cause fire or explosion; strong oxidizer.

10.4 Conditions to avoid
Conditions to avoid: Heat, flames and sparks.
Avoid dust formation.

10.5 Incompatible materials
Materials to avoid: Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents.
Flammable materials
Organic materials

10.6 Hazardous decomposition products
No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Information on likely routes of exposure: Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity
Not classified based on available information.

Product:
Acute oral toxicity: LD50 (Rat): 2.100 - 2.800 mg/kg

Acute inhalation toxicity: LC0 (Rat): 10,73 mg/l
Test atmosphere: dust/mist
Remarks: No mortality observed at this dose.

Acute dermal toxicity: LD50 (Rat): > 2.000 mg/kg
LD50 (Rabbit): > 0.6 ml/kg

Components:
1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:
Acute oral toxicity: LD50 (Rat): 227 mg/kg
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI
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LD50 (Mouse): 390 - 620 mg/kg
LD50 (Dog): > 640 mg/kg

Acute inhalation toxicity:
- LC50 (Rat): 1.84 - 2.88 mg/l
- Exposure time: 4 h
- Test atmosphere: dust/mist
- Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity:
- LD50 (Rat): 4.200 - 4.800 mg/kg
- LD50 (Rabbit): 4.200 mg/kg

Acute toxicity (other routes of administration):
- LD50 (Rat): 155 mg/kg
  Application Route: Intraperitoneal

Potassium chlorate:
- Acute oral toxicity:
  - LD50 (Rat): > 300 - 2,000 mg/kg
  - Remarks: Based on data from similar materials

- Acute inhalation toxicity:
  - Acute toxicity estimate: 1,5 mg/l
  - Exposure time: 4 h
  - Test atmosphere: dust/mist
  - Method: Expert judgement
  - Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

- Acute dermal toxicity:
  - LD50 (Rat): > 2,000 mg/kg
  - Method: OECD Test Guideline 402
  - Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation:
Not classified based on available information.

Product:
Species: Rabbit
Result: No skin irritation

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

Potassium chlorate:
Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials
Serious eye damage/eye irritation
Causes serious eye irritation.

Product:
Species: Rabbit
Result: Moderate eye irritation

Components:
1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:
Species: Rabbit
Result: Irreversible effects on the eye
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Species: Rabbit
Result: Moderate eye irritation
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Potassium chlorate:
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Product:
Species: Guinea pig
Result: Not a skin sensitizer.

Components:
1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:
Test Type: Maximisation Test
Exposure routes: Dermal
Species: Guinea pig
Result: equivocal
Exposure routes: Dermal
Species: Humans
Result: Not a skin sensitizer.

Potassium chlorate:
Test Type: Maximisation Test
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### Exposure routes
- **Species**: Guinea pig
- **Method**: OECD Test Guideline 406
- **Result**: negative
- **Remarks**: Based on data from similar materials

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

### Components:

#### 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
  - 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

#### Potassium chlorate:

**Genotoxicity in vitro**
- Test Type: Bacterial reverse mutation assay (AMES)
  - Method: OECD Test Guideline 471
  - Result: negative
- Test Type: In vitro mammalian cell gene mutation test
  - Method: OECD Test Guideline 476
  - Result: negative
  - Remarks: Based on data from similar materials
- Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Method: OECD Test Guideline 482  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo  
Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

Carcinogenicity  
Suspected of causing cancer.

Components:

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

Species: Rat  
Application Route: Oral  
Exposure time: 2 Years  
NOAEL: 40 mg/kg body weight  
Result: negative

Species: Mouse  
Application Route: Oral  
Exposure time: 2 Years  
LOAEL: 33 mg/kg body weight  
Result: positive  
Target Organs: Liver

Species: Mouse  
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

Potassium chlorate:

Species: Rat  
Application Route: Ingestion  
Exposure time: 106 weeks  
Result: negative  
Remarks: Based on data from similar materials

Reproductive toxicity  
Not classified based on available information.
Components:

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:
Species: Rat
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.

Species: Rabbit
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.

Potassium chlorate:
Effects on fertility: Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development:
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
May cause damage to organs through prolonged or repeated exposure.
## Components:

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

<table>
<thead>
<tr>
<th>Target Organs</th>
<th>Liver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>

**Repeated dose toxicity**

### 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>NOAEL</td>
<td>5 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>20 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>3 - 24 Months</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Liver</td>
</tr>
<tr>
<td>Symptoms</td>
<td>decrease in appetite</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Dog</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>2.5 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>20 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>12 Months</td>
</tr>
<tr>
<td>Symptoms</td>
<td>Salivation, Vomiting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>12 mg/kg</td>
</tr>
<tr>
<td>LOAEL</td>
<td>140 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Oral</td>
</tr>
<tr>
<td>Exposure time</td>
<td>3 Months</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Liver</td>
</tr>
</tbody>
</table>

### Potassium chlorate:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOAEL</td>
<td>&gt; 100 mg/kg</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>90 Days</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

## Aspiration toxicity

Not classified based on available information.

## Experience with human exposure

### 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 |

---

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

**Enilconazole Smoke Formulation**

**Version** 5.2  **Revision Date:** 09/13/2019  **SDS Number:** 785981-00011  **Date of last issue:** 24.04.2019  **Date of first issue:** 28.06.2016
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

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SECTION 12: Ecological information

12.1 Toxicity

Components:
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 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
NOEC: < 0,007 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity): 10

Ecotoxicology Assessment
Acute aquatic toxicity: Very toxic to aquatic life.
Remarks: Based on the harmonised classification in Turkish regulation SEA No 28848

Potassium chlorate:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates:
EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants:
ErC50: 1,9 mg/l
Exposure time: 72 h
### Toxicity to microorganisms

**NOEC**: 0,5 mg/l  
**Exposure time**: 72 h

**Toxicity to microorganisms** :  
**EC50**: > 1.000 mg/l  
**Exposure time**: 3 h  
**Method**: OECD Test Guideline 209  
**Remarks**: Based on data from similar materials

### Toxicity to fish (Chronic toxicity)

**NOEC**: > 1 mg/l  
**Exposure time**: 36 d  
**Species**: Danio rerio (zebra fish)  
**Method**: OECD Test Guideline 210  
**Remarks**: Based on data from similar materials

### Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

**NOEC**: > 1 mg/l  
**Exposure time**: 21 d  
**Species**: Daphnia magna (Water flea)  
**Method**: OECD Test Guideline 211  
**Remarks**: Based on data from similar materials

### 12.2 Persistence and degradability

**Components:**

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

### 12.3 Bioaccumulative potential

**Components:**

1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:  
**Partition coefficient: n-octanol/water**: log Pow: 3,82

### 12.4 Mobility in soil

**Components:**

1-[2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:  
**Distribution among environmental compartments**: log Koc: 3,82

### 12.5 Results of PBT and vPvB assessment

Not relevant

### 12.6 Other adverse effects

No data available
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Enilconazole Smoke Formulation

13.1 Waste treatment methods

Product
Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes
are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in
discussion with the waste disposal authorities.

Contaminated packaging
Empty containers should be taken to an approved waste han-
dling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

14.1 UN number

ADN : UN 1485
ADR : UN 1485
RID : UN 1485
IMDG : UN 1485
IATA : UN 1485

14.2 UN proper shipping name

ADN : POTASSIUM CHLORATE, MIXTURE
ADR : POTASSIUM CHLORATE, MIXTURE
RID : POTASSIUM CHLORATE, MIXTURE
IMDG : POTASSIUM CHLORATE, MIXTURE
     (1-{2-(Allyloxy)-2-(2,4-dichlorophenyl)ethyl}-1H-imidazole)
IATA : Potassium chlorate, Mixture

14.3 Transport hazard class(es)

ADN : 5.1
ADR : 5.1
RID : 5.1
IMDG : 5.1
IATA : 5.1

14.4 Packing group

ADN
Packing group : II
Classification Code : O2
Hazard Identification Number : 50
Labels : 5.1

ADR
Packing group : II
Enilconazole Smoke Formulation

14.5 Environmental hazards

**ADN**
Environmentally hazardous : yes

**ADR**
Environmentally hazardous : yes

**RID**
Environmentally hazardous : yes

**IMDG**
Marine pollutant : yes

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on : Not applicable
the market and use of certain dangerous substances, preparations and articles (Annex XVII)
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).
REACH - List of substances subject to authorisation (Annex XIV)
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer
Regulation (EC) No 850/2004 on persistent organic pollutants
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals

<table>
<thead>
<tr>
<th>P8</th>
<th>OXIDIZING LIQUIDS AND SOLIDS</th>
<th>Quantity 1</th>
<th>Quantity 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>50 t</td>
<td>200 t</td>
</tr>
</tbody>
</table>

| E1 | ENVIRONMENTAL HAZARDS       | 100 t      | 200 t      |

Other regulations:
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Young people under the age of 18 are not allowed to use or be exposed to the product professionally. Young people above the age of 15 are, however, except from this rule if the product is a necessary part of their education.

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

15.2 Chemical safety assessment
A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information : Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Full text of H-Statements
H271 : May cause fire or explosion; strong oxidizer.
H301 : Toxic if swallowed.
H302 : Harmful if swallowed.
H318 : Causes serious eye damage.
H332 : Harmful if inhaled.
H351 : Suspected of causing cancer.
H373 : May cause damage to organs through prolonged or repeated exposure.
Enilconazole Smoke Formulation

Version: 5.2  Revision Date: 09/13/2019  SDS Number: 785981-00011  Date of last issue: 24.04.2019
Date of first issue: 28.06.2016

H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
H411: Toxic to aquatic life with long lasting effects.

**Full text of other abbreviations**

- **Acute Tox.** - Acute toxicity
- **Aquatic Acute** - Short-term (acute) aquatic hazard
- **Aquatic Chronic** - Long-term (chronic) aquatic hazard
- **Carc.** - Carcinogenicity
- **Eye Dam.** - Serious eye damage
- **Ox. Sol.** - Oxidizing solids
- **STOT RE** - Specific target organ toxicity - repeated exposure
- **FOR-2011-12-06-1358** - Norway. Occupational Exposure limits
- **FOR-2011-12-06-1358** - Long term exposure limit
- **TWA** - Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Road; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

**Further information**

Classification of the mixture:

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
<th>Classification procedure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ox. Sol. 1</td>
<td>H271</td>
<td>Based on product data or assessment</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>H319</td>
<td>Based on product data or assessment</td>
</tr>
<tr>
<td>Carc. 2</td>
<td>H351</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>H410</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

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.

NO / EN