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

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
Eye irritation, Category 2
Carcinogenicity, Category 2
Specific target organ toxicity - repeated exposure, Category 2
Long-term (chronic) aquatic hazard, Category 1

H271: May cause fire or explosion; strong oxidizer.
H319: Causes serious eye irritation.
H351: Suspected of causing cancer.
H373: May cause damage to organs through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)
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.
H373  May cause damage to organs through prolonged or repeated exposure.  
H410  Very toxic to aquatic life with long lasting effects.  

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>Components</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</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></td>
<td>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</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>3811-04-9</td>
<td>223-289-7</td>
<td>017-004-00-3</td>
<td></td>
<td>Ox. Sol.1; H271 Acute Tox.4; H302 Acute Tox.4; H332</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
</tbody>
</table>
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.
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-
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:

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

Occupational Exposure Limits

<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>TWA (total dust)</td>
<td>6 mg/m3</td>
<td>FOR-2011-12-06-1358</td>
<td></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

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>Long-term systemic effects</th>
<th>3.5 kg/kg bw/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>0.3 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>0.13 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>0.06 mg/kg bw/day</td>
</tr>
</tbody>
</table>

Consumers

| Inhalation | Long-term systemic effects | 0.3 mg/m³ |
| Skin contact | Long-term systemic effects | 0.13 mg/kg bw/day |
| 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 dry weight (d.w.)</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. Equipment should conform to NS EN 143

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
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Melting point/freezing point: No data available
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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<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
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<tbody>
<tr>
<td>5.3</td>
<td>23.03.2020</td>
<td>785981-00012</td>
<td>13.09.2019</td>
<td>28.06.2016</td>
</tr>
</tbody>
</table>

- **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
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**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: Skin contact
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)
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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:

<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>

<table>
<thead>
<tr>
<th>Species</th>
<th>Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>oral (feed)</td>
</tr>
<tr>
<td>Exposure time</td>
<td>23 Months</td>
</tr>
<tr>
<td>NOAEL</td>
<td>8 mg/kg body weight</td>
</tr>
<tr>
<td>LOAEL</td>
<td>105 mg/kg body weight</td>
</tr>
<tr>
<td>Result</td>
<td>positive</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Liver</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on harmonised classification in EU regulation 1272/2008, Annex VI</td>
</tr>
</tbody>
</table>

Carcinogenicity - Assessment
Limited evidence of carcinogenicity in animal studies

Potassium chlorate:

<table>
<thead>
<tr>
<th>Species</th>
<th>Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Exposure time</td>
<td>106 weeks</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

Reproductive toxicity
Not classified based on available information.
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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
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.

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.

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.
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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

Components:
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

Potassium chlorate:
Species: Rat
NOAEL: > 100 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Remarks: Based on data from similar materials

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
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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
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
SECTION 13: Disposal considerations

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 handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

SECTION 14: Transport information

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

Classification Code: O2
Hazard Identification Number: 50
Labels: 5.1
Tunnel restriction code: (E)

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

IMDG
Packing group: II
Labels: 5.1
EmS Code: F-H, S-Q

IATA (Cargo)
Packing instruction (cargo aircraft): 562
Packing instruction (LQ): Y544
Packing group: II
Labels: Oxidizer

IATA (Passenger)
Packing instruction (passenger aircraft): 558
Packing instruction (LQ): Y544
Packing group: II
Labels: Oxidizer

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 (EU) 2019/1021 on persistent organic pollutants (recast)
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

<table>
<thead>
<tr>
<th>H271</th>
<th>May cause fire or explosion; strong oxidizer.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H301</td>
<td>Toxic if swallowed.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H351</td>
<td>Suspected of causing cancer.</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>
## Enilconazole Smoke Formulation

**Version**: 5.3  
**Revision Date**: 23.03.2020  
**SDS Number**: 785981-00012  
**Date of last issue**: 13.09.2019  
**Date of first issue**: 28.06.2016

<table>
<thead>
<tr>
<th>H400</th>
<th>Very toxic to aquatic life.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

### 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
- **TWA**  
  - Long term exposure limit
- **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
- **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
- **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
- **LD50-LD100**  
  - 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
- **PvPvB**  
  - Very Persistent and Very Bioaccumulative
- **Q SAR**  
  - Quantitative Structure Activity Relationship
- **REACH**  
  - Regulation (EC) No 1907/2006
- **ICAO**  
  - International Civil Aviation Organization
- **IECSC**  
  - Inventory of Existing Chemical Substances
- **ISO**  
  - International Organisation for Standardization
- **ICSc**  
  - International Standard of the German Institute for Standardisation
- **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
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  - 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
- **PvPvB**  
  - Very Persistent and Very Bioaccumulative

### Further information

**Sources of key data used to compile the Safety Data Sheet**  
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Enilconazole Smoke Formulation

<table>
<thead>
<tr>
<th>Classification of the mixture:</th>
<th>Classification procedure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ox. Sol. 1</td>
<td>H271</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>H319</td>
</tr>
<tr>
<td>Carc. 2</td>
<td>H351</td>
</tr>
<tr>
<td>STOT RE 2</td>
<td>H373</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>H410</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