

**Enilconazole Smoke Formulation**

Version 9.1      Revision Date: 2023/09/30      SDS Number: 785474-00020      Date of last issue: 2023/04/04  
Date of first issue: 2016/06/28

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**1. PRODUCT AND COMPANY IDENTIFICATION**

Chemical product name : Enilconazole Smoke Formulation

**Supplier's company name, address and phone number**

Company name of supplier : MSD  
Address : Kumagaya, Saitama Prefecture , Xicheng 810 MSD Co., Ltd.  
Menuuma factory  
Telephone : 048-588-8411  
E-mail address : EHSDATASTEWARD@msd.com  
Emergency telephone number : +1-908-423-6000

**Recommended use of the chemical and restrictions on use**

Recommended use : Veterinary product  
Restrictions on use : Not applicable

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**2. HAZARDS IDENTIFICATION****GHS classification of chemical product**

Oxidizing solids : Category 1  
Serious eye damage/eye irritation : Category 2A  
Carcinogenicity : Category 2  
Specific target organ toxicity - repeated exposure : Category 2 (Liver)  
Short-term (acute) aquatic hazard : Category 2  
Long-term (chronic) aquatic hazard : Category 1

**GHS label elements**

Hazard pictograms :    

Signal word : Danger

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- 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 (Liver) through prolonged or repeated exposure.  
H401 Toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.
- 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, 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.  
P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P283 Wear fire resistant or flame retardant clothing.
- Response:**  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P306 + P360 IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
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.
- Storage:**  
P405 Store locked up.  
P420 Store separately.
- Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards which do not result in classification**

- Important symptoms and out- : Contact with dust can cause mechanical irritation or drying of  
lines of the emergency as- the skin.  
sumed May form explosive dust-air mixture during processing, handling or other means.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Components

| Chemical name   | CAS-No.    | Concentration (% w/w) | ENCS No. |
|---|------------|-----------------------|----------|
| Talc  | 14807-96-6 | >= 50 - < 60          | 1-468    |
| 1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole | 35554-44-0 | >= 10 - < 20          |          |
| Potassium chlorate  | 3811-04-9  | 14                    | 1-229    |

### 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.  
 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.
- Most important symptoms and effects, both acute and delayed : 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.
- 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.

### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray  
 Alcohol-resistant foam  
 Carbon dioxide (CO<sub>2</sub>)

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|   |   |  |
|---|---|--|
| Unsuitable extinguishing media                | : | Dry chemical<br>None known.  |
| Specific hazards during fire-fighting         | : | 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.<br>Exposure to combustion products may be a hazard to health.  |
| Hazardous combustion products                 | : | Carbon oxides<br>Chlorine compounds<br>Metal oxides  |
| Specific extinguishing methods                | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Fight fire remotely due to the risk of explosion.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment.   |

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### 6. ACCIDENTAL RELEASE MEASURES

|   |   |  |
|---|---|--|
| Personal precautions, protective equipment and emergency procedures | : | Evacuate personnel to safe areas.<br>Only trained personnel should re-enter the area.<br>Remove all sources of ignition.<br>Use personal protective equipment.<br>Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).   |
| Environmental precautions   | : | Avoid release to the environment.<br>Prevent further leakage or spillage if safe to do so.<br>Retain and dispose of contaminated wash water.<br>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.<br>Soak up with inert absorbent material.<br>Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).<br>Flush with water.<br>Suppress (knock down) gases/vapours/mists with a water spray jet.<br>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.<br>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.<br>Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. |

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### 7. HANDLING AND STORAGE

#### 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.  
Wash skin thoroughly after handling.  
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, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take precautionary measures against static discharges.  
Keep away from combustible material.  
Take care to prevent spills, waste and minimize release to the environment.
- Avoidance of contact : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents  
Flammable materials  
Organic materials
- 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.

#### Storage

- Conditions for safe storage : Keep in properly labelled containers.  
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.

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Materials to avoid : Keep away from heat and sources of ignition.  
 Store in original container.  
 : Do not store with the following product types:  
 Strong oxidizing agents

Packaging material : Unsuitable material: None known.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Threshold limit value and permissible exposure limits for each component in the work environment

| Components  | CAS-No.    | Value type (Form of exposure)       | Control parameters / Reference concentration / Permissible concentration | Basis          |
|---|------------|-------------------------------------|--|----------------|
| Talc  | 14807-96-6 | OEL-M (Respirable dust)             | 0.5 mg/m <sup>3</sup>  | JP OEL<br>JSOH |
|   |            | OEL-M (Total dust)                  | 2 mg/m <sup>3</sup>  | JP OEL<br>JSOH |
|   |            | TWA (Respirable particulate matter) | 2 mg/m <sup>3</sup>  | ACGIH          |
| 1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole | 35554-44-0 | TWA                                 | 0.3 mg/m <sup>3</sup> (OEB 2)  | Internal       |
| Further information: Skin                                 |            |                                     |  |                |

**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**

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

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

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potential for direct contact to the face with dusts, mists, or aerosols.  
Skin and body protection : Work uniform or laboratory coat.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state : powder

Colour : Grey-brown

Odour : No data available

Odour Threshold : No data available

Melting point/freezing point : No data available

Boiling point, initial boiling point and boiling range : No data available

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

Flammability (liquids) : No data available

Lower explosion limit and upper explosion limit / flammability limit  
Upper explosion limit / Up- : No data available  
per flammability limit

Lower explosion limit / : No data available  
Lower flammability limit

Flash point : No data available

Decomposition temperature : No data available

pH : No data available

Evaporation rate : No data available

Auto-ignition temperature : No data available

Viscosity  
Viscosity, kinematic : No data available

Solubility(ies)  
Water solubility : No data available

Partition coefficient: n- : No data available  
octanol/water

Vapour pressure : No data available

Density and / or relative density

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|                          |   |  |
|--------------------------|---|--|
| Relative density         | : | No data available  |
| Density                  | : | No data available  |
| Relative vapour density  | : | No data available  |
| Explosive properties     | : | Not explosive  |
| Oxidizing properties     | : | The substance or mixture is classified as oxidizing with the category 1. |
| Molecular weight         | : | No data available  |
| Particle characteristics | : |  |
| Particle size            | : | No data available  |

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**10. STABILITY AND REACTIVITY**

|                                    |   |  |
|------------------------------------|---|--|
| Reactivity                         | : | May cause fire or explosion; strong oxidizer.  |
| Chemical stability                 | : | Stable under normal conditions.  |
| Possibility of hazardous reactions | : | May form explosive dust-air mixture during processing, handling or other means.<br>Exposure to metals, combustible or organic materials can cause a violent reaction or ignition.<br>May cause fire or explosion; strong oxidizer. |
| Conditions to avoid                | : | Heat, flames and sparks.<br>Avoid dust formation.  |
| Incompatible materials             | : | Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents<br>Flammable materials<br>Organic materials  |
| Hazardous decomposition products   | : | No hazardous decomposition products are known.   |

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**11. TOXICOLOGICAL INFORMATION**

|  |   |  |
|--|---|--|
| Information on likely routes of exposure | : | Inhalation<br>Skin contact<br>Ingestion<br>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           |



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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:****Talc:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Remarks: Based on data from similar materials

**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

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 : LC50 (Rat): > 5.1 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Assessment: The substance or mixture has no acute inhalation toxicity

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

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**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Species : Rabbit  
Result : No skin irritation

**Components:****Talc:**

Species : Rabbit  
Result : No skin irritation

**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:****Talc:**

Species : Rabbit  
Result : No eye irritation

**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

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**Potassium chlorate:**

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

**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:****Talc:**

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

Exposure routes : Dermal  
Species : Humans  
Result : Not a skin sensitizer.

**Potassium chlorate:**

Test Type : Maximisation Test  
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:****Talc:**

Genotoxicity in vitro : Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)

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Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro  
Species: Rat  
Application Route: Ingestion  
Result: negative

**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

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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:****Talc:**

Species : Mouse  
 Application Route : inhalation (dust/mist/fume)  
 Exposure time : 2 Years  
 Result : negative

**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

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Result : negative  
 Remarks : Based on data from similar materials

### Reproductive toxicity

Not classified based on available information.

### Components:

#### Talc:

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.

#### 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

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Effects on foetal development : Test Type: Embryo-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 (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****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

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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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**12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****Talc:**

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 100,000 mg/l  
Exposure time: 24 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 : EC50 (Daphnia magna (Water flea)): 3.54 mg/l  
aquatic invertebrates : Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : EC50 (Pseudokirchneriella subcapitata (green algae)): 1.2  
plants : 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 : NOEC (Daphnia magna (Water flea)): < 0.007 mg/l



## Enilconazole Smoke Formulation

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- aquatic invertebrates (Chronic toxicity) : Exposure time: 21 d  
Method: OECD Test Guideline 211
- M-Factor (Chronic aquatic toxicity) : 10
- 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 fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): > 1 mg/l  
Exposure time: 36 d  
Method: OECD Test Guideline 210  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 1 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211  
Remarks: Based on data from similar materials
- Toxicity to microorganisms : EC50: > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209  
Remarks: Based on data from similar materials

**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

**Bioaccumulative potential****Components:****1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:**

- Partition coefficient: n-octanol/water : log Pow: 3.82

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**Mobility in soil****Components:****1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole:**

Distribution among environmental compartments : log Koc: 3.82

**Hazardous to the ozone layer**

Not applicable

**Other adverse effects**

No data available

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**13. DISPOSAL CONSIDERATIONS****Disposal methods**

|                        |   |   |
|------------------------|---|---|
| Waste from residues    | : | Dispose of in accordance with local regulations.<br>Do not dispose of waste into sewer.   |
| Contaminated packaging | : | Empty containers should be taken to an approved waste handling site for recycling or disposal.<br>If not otherwise specified: Dispose of as unused product. |

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**14. TRANSPORT INFORMATION****International Regulations****UNRTDG**

|                           |   |                            |
|---------------------------|---|----------------------------|
| UN number                 | : | UN 1485                    |
| Proper shipping name      | : | POTASSIUM CHLORATE MIXTURE |
| Class                     | : | 5.1                        |
| Packing group             | : | II                         |
| Labels                    | : | 5.1                        |
| Environmentally hazardous | : | no                         |

**IATA-DGR**

|  |   |                            |
|--|---|----------------------------|
| UN/ID No.                                | : | UN 1485                    |
| Proper shipping name                     | : | Potassium chlorate Mixture |
| Class                                    | : | 5.1                        |
| Packing group                            | : | II                         |
| Labels                                   | : | Oxidizer                   |
| Packing instruction (cargo aircraft)     | : | 562                        |
| Packing instruction (passenger aircraft) | : | 558                        |

**IMDG-Code**

|                      |   |   |
|----------------------|---|---|
| UN number            | : | UN 1485   |
| Proper shipping name | : | POTASSIUM CHLORATE MIXTURE<br>(1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole) |
| Class                | : | 5.1   |
| Packing group        | : | II  |
| Labels               | : | 5.1   |

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EmS Code : F-H, S-Q  
 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**

Refer to section 15 for specific national regulation.

**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.

ERG Code : 140

**15. REGULATORY INFORMATION****Related Regulations****Fire Service Law**

Not applicable to dangerous materials / designated flammables.

**Chemical Substance Control Law**

Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.

**Industrial Safety and Health Law****Harmful Substances Prohibited from Manufacture**

Not applicable

**Harmful Substances Required Permission for Manufacture**

Not applicable

**Substances Prevented From Impairment of Health**

Not applicable

**Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity**

Not applicable

**Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity**

Not applicable

**Substances Subject to be Notified Names**

Article 57-2 (Enforcement Order Table 9)

| Chemical name   | Concentration (%) | Remarks              |
|---|-------------------|----------------------|
| Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> ) (without asbestos and quartz) | >=50 - <60        | From April 1st, 2025 |
| 1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole   | >=10 - <20        | From April 1st, 2026 |

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|                    |            |                      |
|--------------------|------------|----------------------|
| potassium chlorate | >=10 - <20 | From April 1st, 2026 |
|--------------------|------------|----------------------|

**Substances Subject to be Indicated Names**

Article 57 (Enforcement Order Article 18)

| Chemical name   | Remarks              |
|---|----------------------|
| Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> ) | From April 1st, 2025 |
| 1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole               | From April 1st, 2026 |
| potassium chlorate  | From April 1st, 2026 |

**Ordinance on Prevention of Hazards Due to Specified Chemical Substances**

Not applicable

**Ordinance on Prevention of Lead Poisoning**

Not applicable

**Ordinance on Prevention of Tetraalkyl Lead Poisoning**

Not applicable

**Ordinance on Prevention of Organic Solvent Poisoning**

Not applicable

**Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Deleterious substance

| Chemical name                              | Cabinet Order Number |
|--|----------------------|
| Chlorates and preparations containing them | 18                   |

**Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof****Class I Designated Chemical Substances**

| Chemical name                                 | Administration number | Concentration (%) |
|---|-----------------------|-------------------|
| Chloric acid and its potassium or sodium salt | 598                   | 14                |

**High Pressure Gas Safety Act**

Not applicable

**Explosive Control Law**

Not applicable

**Vessel Safety Law**

Oxidizing substances and organic peroxides (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

**Aviation Law**

Oxidizing substances and organic peroxides (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

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### Marine Pollution and Sea Disaster Prevention etc Law

Bulk transportation : Not classified as noxious liquid substance  
 Pack transportation : Classified as marine pollutant

### Narcotics and Psychotropics Control Act

Narcotic or Psychotropic Raw Material (Export / Import Permission)  
 Not applicable  
 Specific Narcotic or Psychotropic Raw Material (Export / Import permission)  
 Not applicable

### Waste Disposal and Public Cleansing Law

Industrial waste

### The components of this product are reported in the following inventories:

AICS : not determined  
 DSL : not determined  
 IECSC : not determined

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## 16. OTHER INFORMATION

### Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Date format : yyyy/mm/dd

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
 JP OEL JSOH : Japan. The Japan Society for Occupational Health. Recommendation of Occupational Exposure Limits

ACGIH / TWA : 8-hour, time-weighted average  
 JP OEL JSOH / OEL-M : Occupational Exposure Limit-Mean

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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 Or-

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ganisation 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals 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; WHMIS - Workplace Hazardous Materials Information System

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.

JP / EN