# SAFETY DATA SHEET

## Enilconazole Smoke Formulation

| Version | Revision Date: | SDS Number: | Date of last issue: 30.09.2023 |
|---|---|---|---|
| 7.0 | 28.09.2024 | 785464-00020 | Date of first issue: 28.06.2016 |

## SECTION 1. IDENTIFICATION

Product identifier : Enilconazole Smoke Formulation

**Manufacturer or supplier's details**

Company : MSD

Address : Rua Coronel Bento Soares, 530
Cruzeiro - Sao Paulo - Brazil CEP 12730-340

Telephone : 908-740-4000

Emergency telephone : 1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

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

Recommended use : Veterinary product
Restrictions on use : Not applicable

## SECTION 2. HAZARDS IDENTIFICATION

**GHS Classification in accordance with ABNT NBR 14725 Standard**

Oxidizing solids : Category 1

Acute toxicity (Oral) : Category 5

Eye irritation : Category 2A

Carcinogenicity : Category 2

Specific target organ toxicity - repeated exposure : Category 2 (Liver)

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 1

**GHS label elements in accordance with ABNT NBR 14725 Standard**

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H271 May cause fire or explosion; strong oxidizer.
H303 May be harmful if swallowed.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs (Liver) through prolonged or repeated exposure.
H402 Harmful to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

**Prevention:**

P201 Obtain special instructions before use.
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:**

P301 + P312 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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**

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

Substance / Mixture : Mixture

**Components**

| Chemical name | CAS-No. | Classification | Concentration (% w/w) |
|---|---|---|---|
| Talc | 14807-96-6 | | >= 50 -< 70 |
| Enilconazole | 35554-44-0 | Acute Tox. (Oral), 3<br>Acute Tox. (Inhala-tion), 4<br>Acute Tox. (Dermal), 5<br>Eye Dam., 1<br>Carc., 2<br>STOT RE, (Liver) , 2<br>Aquatic Acute, 2<br>Aquatic Chronic, 1 | >= 10 -< 20 |
| Potassium chlorate | 3811-04-9 | Ox. Sol., 1<br>Acute Tox. (Oral), 3<br>Aquatic Acute, 3 | >= 10 -< 20 |

## SECTION 4. FIRST AID MEASURES

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

If inhaled : If inhaled, remove to fresh air.
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 : May be harmful if swallowed.
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.

## SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray

Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

| | | |
|---|---|---|
| Unsuitable extinguishing media | : | 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 fire-fighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment. |

## SECTION 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/vapors/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.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

## SECTION 7. HANDLING AND STORAGE

| | | |
|---|---|---|
| Technical measures | : | Static electricity may accumulate and ignite suspended dust causing an explosion.<br>Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. |
| Local/Total ventilation | : | Use only with adequate ventilation.<br>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.<br>Do not swallow.<br>Do not get in eyes.<br>Avoid prolonged or repeated contact with skin.<br>Wash skin thoroughly after handling.<br>Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment<br>Keep container tightly closed.<br>Minimize dust generation and accumulation.<br>Keep container closed when not in use.<br>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>Take precautionary measures against static discharges.<br>Keep away from combustible material.<br>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.<br>When using do not eat, drink or smoke.<br>Wash contaminated clothing before re-use.<br>The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls. |
| Conditions for safe storage | : | Keep in properly labeled containers.<br>Store locked up.<br>Keep tightly closed.<br>Keep in a cool, well-ventilated place.<br>Keep away from direct sunlight.<br>Store in accordance with the particular national regulations.<br>Keep away from heat and sources of ignition.<br>Store in original container. |
| Materials to avoid | : | Do not store with the following product types:<br>Self-reactive substances and mixtures<br>Organic peroxides |

Flammable liquids
Flammable solids
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
Very acutely toxic substances and mixtures
Acutely toxic substances and mixtures
Substances and mixtures with chronic toxicity

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| Talc | 14807-96-6 | TWA (Respirable particulate matter) | 2 mg/m³ | ACGIH |
| Enilconazole | 35554-44-0 | TWA | 0.3 mg/m3 (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

Hand protection

Material : Chemical-resistant gloves

Remarks : Take note that the product is flammable, which may impact the selection of hand protection.

Eye protection : Wear safety glasses with side shields or goggles.
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection : Work uniform or laboratory coat.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Physical state | : | powder |
| Color | : | Grey-brown |
| Odor | : | No data available |
| Odor Threshold | : | No data available |
| pH | : | No data available |
| 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. |
| Flammability (liquids) | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | No data available |
| Relative vapor 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 |
| Autoignition 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. |
| Molecular weight | : | No data available |
| Particle characteristics | | |
| Particle size | : | No data available |

## SECTION 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. |

## SECTION 11. TOXICOLOGICAL INFORMATION

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

**Acute toxicity**

May be harmful if swallowed.

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 2.100 - 2.800 mg/kg |
| Acute inhalation toxicity | : | LC0 (Rat): 10,73 mg/l<br>Test atmosphere: dust/mist<br>Remarks: No mortality observed at this dose. |
| Acute dermal toxicity | : | LD50 (Rat): > 2.000 mg/kg<br><br>LD50 (Rabbit): > 0.6 ml/kg |

**Components:**

**Talc:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 5.000 mg/kg<br>Remarks: Based on data from similar materials |

**Enilconazole:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 227 mg/kg<br>Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI<br><br>LD50 (Mouse): 390 - 620 mg/kg<br><br>LD50 (Dog): > 640 mg/kg |
| Acute inhalation toxicity | : | LC50 (Rat): 1,84 - 2,88 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI |
| Acute dermal toxicity | : | LD50 (Rat): 4.200 - 4.800 mg/kg<br><br>LD50 (Rabbit): 4.200 mg/kg |
| Acute toxicity (other routes of administration) | : | LD50 (Rat): 155 mg/kg<br>Application Route: Intraperitoneal |

**Potassium chlorate:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate (Humans): 100 mg/kg<br>Method: Expert judgment |
| Acute inhalation toxicity | : | LC50 (Rat): > 5,1 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: OECD Test Guideline 436<br>Assessment: The substance or mixture has no acute inhalation toxicity |
| Acute dermal toxicity | : | LD50 (Rat): > 2.000 mg/kg<br>Method: OECD Test Guideline 402<br>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:**

**Talc:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No skin irritation |

**Enilconazole:**

| | | |
|---|---|---|
| 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 |

**Enilconazole:**

| | | |
|---|---|---|
| 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 |
| Result | : | No eye irritation |
| Method | : | OECD Test Guideline 405 |

**Respiratory or skin sensitization**

**Skin sensitization**

Not classified based on available information.

**Respiratory sensitization**

Not classified based on available information.

**Product:**

| | | |
|---|---|---|
| Species | : | Guinea pig |
| Result | : | Not a skin sensitizer. |

**Components:**

**Talc:**

| | | |
|---|---|---|
| Routes of exposure | : | Skin contact |
| Species | : | Humans |
| Result | : | negative |

**Enilconazole:**

| | | |
|---|---|---|
| Test Type | : | Maximization Test |
| Routes of exposure | : | Dermal |
| Species | : | Guinea pig |
| Result | : | equivocal |

| | | |
|---|---|---|
| Routes of exposure | : | Dermal |
| Species | : | Humans |
| Result | : | Not a skin sensitizer. |

**Potassium chlorate:**

| | | |
|---|---|---|
| Test Type | : | Maximization Test |
| Routes of exposure | : | 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)<br>Result: negative |
| Genotoxicity in vivo | : | Test Type: Chromosome aberration test in vitro<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative |

**Enilconazole:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Result: negative<br><br>Test Type: Chromosomal aberration<br>Test system: Human lymphocytes<br>Result: negative<br><br>Test Type: gene mutation test<br>Test system: Chinese hamster fibroblasts<br>Result: negative |

| | | |
|---|---|---|
| | | Test Type: unscheduled DNA synthesis assay<br>Test system: rat hepatocytes<br>Result: negative |
| Genotoxicity in vivo | : | Test Type: Micronucleus test<br>Species: Rat<br>Application Route: Oral<br>Result: negative<br><br>Test Type: Micronucleus test<br>Species: Mouse<br>Application Route: Oral<br>Result: negative<br><br>Test Type: Rodent dominant lethal test (germ cell) (in vivo)<br>Species: Mouse<br>Result: negative |

**Potassium chlorate:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Method: OECD Test Guideline 471<br>Result: negative<br><br>Test Type: In vitro mammalian cell gene mutation test<br>Method: OECD Test Guideline 476<br>Result: negative<br>Remarks: Based on data from similar materials<br><br>Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)<br>Method: OECD Test Guideline 482<br>Result: negative<br>Remarks: Based on data from similar materials |
| Genotoxicity in vivo | : | Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)<br>Species: Mouse<br>Application Route: Ingestion<br>Method: OECD Test Guideline 474<br>Result: negative<br>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 |

**Enilconazole:**

| | | |
|---|---|---|
| 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:**

**Talc:**

| | | |
|---|---|---|
| Effects on fetal development | : | Test Type: Embryo-fetal development<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative |

**Enilconazole:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Multi-generation study<br>Species: Rat<br>Application Route: Oral<br>General Toxicity Parent: NOAEL: 20 mg/kg body weight<br>Result: Maternal toxicity observed., Embryotoxic effects and adverse effects on the offspring were detected.<br>Remarks: Not classified due to data which are conclusive although insufficient for classification. |

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

**Potassium chlorate:**

| | | |
|---|---|---|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 416<br>Result: negative<br>Remarks: Based on data from similar materials |
| Effects on fetal development | : | Test Type: Embryo-fetal development<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative<br>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:**

**Enilconazole:**

| | | |
|---|---|---|
| Target Organs | : | Liver |
| Assessment | : | May cause damage to organs through prolonged or repeated exposure. |

**Repeated dose toxicity**

**Components:**

**Enilconazole:**

| | | |
|---|---|---|
| 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:**

**Enilconazole:**

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

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Components:**

**Talc:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Brachydanio rerio (zebrafish)): > 100.000 mg/l<br>Exposure time: 24 h |

**Enilconazole:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 1,48 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |

| | | |
|---|---|---|
| | | LC50 (Lepomis macrochirus (Bluegill sunfish)): 3,99 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 3,54 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EC50 (Pseudokirchneriella subcapitata (green algae)): 1,2 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| | | NOEC (Pseudokirchneriella subcapitata (green algae)): 0,457 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): < 0,007 mg/l<br>Exposure time: 21 d<br>Method: OECD Test Guideline 211 |
| M-Factor (Chronic aquatic toxicity) | : | 10 |

**Potassium chlorate:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h<br>Remarks: Based on data from similar materials |
| Toxicity to algae/aquatic plants | : | EC50 (Lemna minor (duckweed)): > 10 - 100 mg/l<br>Exposure time: 7 d<br>Method: OECD Test Guideline 221<br>Remarks: Based on data from similar materials |
| | | NOEC (Lemna minor (duckweed)): > 1 mg/l<br>Exposure time: 7 d<br>Method: OECD Test Guideline 221<br>Remarks: Based on data from similar materials |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Danio rerio (zebra fish)): > 1 mg/l<br>Exposure time: 36 d<br>Method: OECD Test Guideline 210<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): > 1 mg/l<br>Exposure time: 21 d<br>Method: OECD Test Guideline 211<br>Remarks: Based on data from similar materials |

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

**Persistence and degradability**

**Components:**

**Enilconazole:**

| | | |
|---|---|---|
| Biodegradability | : | Result: not rapidly degradable<br>Biodegradation: 50 %<br>Exposure time: 166 d |

**Bioaccumulative potential**

**Components:**

**Enilconazole:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 3,82 |

**Mobility in soil**

**Components:**

**Enilconazole:**

| | | |
|---|---|---|
| Distribution among environmental compartments | : | log Koc: 3,82 |

**Other adverse effects**

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

| | | |
|---|---|---|
| Waste from residues | : | Do not dispose of waste into sewer.<br>Dispose of in accordance with local regulations. |
| 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. |

## SECTION 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 (Enilconazole) |
| Class | : | 5.1 |
| Packing group | : | II |
| Labels | : | 5.1 |
| 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.

**Domestic regulation**

**ANTT**

| | | |
|---|---|---|
| UN number | : | UN 1485 |
| Proper shipping name | : | POTASSIUM CHLORATE, MIXTURE |
| Class | : | 5.1 |
| Packing group | : | II |
| Labels | : | 5.1 |
| Hazard Identification Number | : | 50 |

**Special precautions for user**

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

## SECTION 15. REGULATORY INFORMATION

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

| | | |
|---|---|---|
| National List of Carcinogenic Agents for Humans - (LINACH) | : | Not applicable |
| Brazil. List of chemicals controlled by the Federal Police | : | Not applicable |

**The ingredients of this product are reported in the following inventories:**

| | | |
|---|---|---|
| AICS | : | not determined |
| DSL | : | not determined |
| IECSC | : | not determined |

## SECTION 16. OTHER INFORMATION

| | | |
|---|---|---|
| Revision Date | : | 28.09.2024 |
| Date format | : | dd.mm.yyyy |

**Further information**

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

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 other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH / TWA | : | 8-hour, time-weighted average |

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 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; 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.

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