

## Enilconazole Smoke Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 785481-00019      Date of last issue: 04.04.2023  
 Date of first issue: 28.06.2016

### 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 Sub-stance/Mixture : Veterinary product

Recommended restrictions on use : Not applicable

#### 1.3 Details of the supplier of the safety data sheet

Company : MSD  
 20 Spartan Road  
 1619 Spartan, South Africa

Telephone : +27119239300

E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

#### 1.4 Emergency telephone number

+1-908-423-6000

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Oxidizing solids, Category 1	H271: May cause fire or explosion; strong oxidizer.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms : 

Signal word : Danger

Hazard statements : H271 May cause fire or explosion; strong oxidizer.

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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**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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****Components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole	35554-44-0 252-615-0 613-042-00-5	Acute Tox. 3; H301 Acute Tox. 4; H332 Eye Dam. 1; H318 Carc. 2; H351 STOT RE 2; H373 (Liver) Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 10 - < 20

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		M-Factor (Chronic aquatic toxicity): 10	
Potassium chlorate	3811-04-9 223-289-7 017-004-00-3	Ox. Sol. 1; H271 Acute Tox. 4; H302 Acute Tox. 4; H332 Aquatic Chronic 2; H411	>= 10 - < 20

For explanation of abbreviations see section 16.

## 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.

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

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

Unsuitable extinguishing media : None known.

#### 5.2 Special hazards arising from the substance or mixture

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.  
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.

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### 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 (see section 7) and personal protective equipment recommendations (see section 8).

#### 6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.  
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.

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### 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.  
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.

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## 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.  
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.

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-

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nated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

### 7.2 Conditions for safe storage, including any incompatibilities

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

Store in original container.

Advice on common storage : Do not store with the following product types:  
 Self-reactive substances and mixtures  
 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

### 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

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Talc	14807-96-6	OEL-RL (respirable dust fraction)	4 mg/m <sup>3</sup>	ZA OEL
	Further information: Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents			ZA OEL
	Further information: denotes carcinogenicity, which is based on GHS categorisation, including category 1A, 1B			
1-[2-(allyloxy)-2-(2,4-dichloro-	35554-44-0	TWA	0.3 mg/m <sup>3</sup> (OEB 2)	Internal

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phenyl)ethyl]-1H-imidazole			
Further information: Skin			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Potassium chlorate	Workers	Inhalation	Long-term systemic effects	5,76 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	3,5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,3 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	0,13 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0,06 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Potassium chlorate	Fresh water	1,15 mg/l
	Marine water	1,15 mg/l
	Sewage treatment plant	115 mg/l
	Soil	3,83 mg/kg dry weight (d.w.)

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

Hand protection

Material : Chemical-resistant gloves

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

Skin and body protection : Work uniform or laboratory coat.

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Particulates type (P)

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**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Appearance	:	powder
Colour	:	Grey-brown
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
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
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Molecular weight                   : No data available  
Particle size                         : No data available

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**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.

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**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.

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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

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 national or regional regulation.

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:**

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Species : Rabbit  
Result : Mild skin irritation

**Potassium chlorate:**

Species : Rabbit  
Result : No skin irritation  
Remarks : Based on data from similar materials

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Product:**

Species : Rabbit  
Result : Moderate eye irritation

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

Species : Rabbit  
Result : Irreversible effects on the eye  
Remarks : Based on harmonised classification in EU regulation  
1272/2008, Annex VI

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

**Potassium chlorate:**

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

**Respiratory or skin sensitisation****Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Product:**

Species : Guinea pig  
Result : Not a skin sensitizer.

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

Test Type : Maximisation Test  
Exposure routes : Dermal  
Species : Guinea pig  
Result : equivocal

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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:****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

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

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
 Method: OECD Test Guideline 482  
 Result: negative  
 Remarks: Based on data from similar materials

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

**Carcinogenicity**

Suspected of causing cancer.

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

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

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

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

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

**Potassium chlorate:**

Species : Rat  
 Application Route : Ingestion  
 Exposure time : 106 weeks

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Result : negative  
Remarks : Based on data from similar materials

**Reproductive toxicity**

Not classified based on available information.

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

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

Effects on foetal development : 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

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.

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### STOT - repeated exposure

May cause damage to organs 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
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

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Ingestion : Symptoms: Nausea

### 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 : ErC50 : 1,9 mg/l



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plants      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****Product:**

Assessment      :      This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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### 12.6 Other adverse effects

**Product:**

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 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. Do not dispose of waste into sewer.

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)

	Class	Subsidiary risks
ADN	: 5.1	
ADR	: 5.1	
RID	: 5.1	
IMDG	: 5.1	



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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

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

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

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

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

### Full text of H-Statements

H271	: May cause fire or explosion; strong oxidizer.
H301	: Toxic if swallowed.
H302	: Harmful if swallowed.
H318	: Causes serious eye damage.
H332	: Harmful if inhaled.
H351	: Suspected of causing cancer.
H373	: May cause damage to organs through prolonged or repeated exposure.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Ox. Sol.	: Oxidizing solids
STOT RE	: Specific target organ toxicity - repeated exposure
ZA OEL	: South Africa. The Regulations for Hazardous Chemical Agents, Occupational Exposure Limits
ZA OEL / OEL-RL	: Occupational Exposure Limit Restricted limit - 8- hour exposure or equivalent (12 hour shifts)

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

**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/>

**Classification of the mixture:**

Ox. Sol. 1	H271
Eye Irrit. 2	H319
Carc. 2	H351
STOT RE 2	H373
Aquatic Chronic 1	H410

**Classification procedure:**

Based on product data or assessment
Based on product data or assessment
Calculation method
Calculation method
Calculation method

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.

# SAFETY DATA SHEET



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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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