according to the Globally Harmonized System



## **Enilconazole Liquid Formulation**

Version Revision Date: SDS Number: Date of last issue: 07.06.2024 7.0 28.09.2024 906839-00021 Date of first issue: 22.09.2016

#### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Enilconazole Liquid Formulation

Manufacturer or supplier's details

Company : MSD

Address : Briahnager - Off Pune Nagar Road

Wagholi - Pune - India 412 207

Telephone : +1-908-740-4000

Emergency telephone number : +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

### 2. HAZARDS IDENTIFICATION

#### Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

#### Classification

Toxic, Highly flammable liquids

**GHS Classification** 

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 3

Acute toxicity (Inhalation) : Category 4

Serious eye damage/eye irri-

tation

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

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Hazard pictograms









Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.

H301 Toxic if swallowed.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

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:

P203 Obtain, read and follow all safety instructions before use. P210 Keep away from heat, hot surfaces, sparks, open flames

and other ignition sources. No smoking. P260 Do not breathe mist or vapours.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or with adequate ventilation.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P301 + P316 + P330 IF SWALLOWED: Get emergency medi-

cal help immediately. Rinse mouth.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water. P304 + P340 + P317 IF INHALED: Remove person to fresh air

and keep comfortable for breathing. Get medical help.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

easy to do. Continue rinsing.

P318 IF exposed or concerned, get medical advice. P337 + P317 If eye irritation persists: Get medical help.

P391 Collect spillage.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards which do not result in classification

Vapours may form explosive mixture with air.

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

according to the Globally Harmonized System



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Substance / Mixture : Mixture

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
Sodium bis(2-ethylhexyl)sulfosuccinate	577-11-7	>= 30 - < 50
1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole	35554-44-0	>= 10 - < 20
Benzyl alcohol	100-51-6	>= 5 - < 10
Ethanol#	64-17-5	>= 1 - < 5

<sup>#:</sup> Voluntarily-disclosed substance

#### 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : If inhaled, remove to fresh air.

If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

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, DO NOT induce vomiting.

Call a physician or poison control centre immediately.

Rinse mouth thoroughly with water.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and

Gastrointestinal disturbance Toxic if swallowed.

delaved

l oxic if swallowed.

Causes serious eve irritation.

Harmful if inhaled.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated

exposure.

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 (CO2)

Dry chemical

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Unsuitable extinguishing

media

High volume water jet

Specific hazards during fire-

fighting

Do not use a solid water stream as it may scatter and spread

fire

Flash back possible over considerable distance. Vapours may form explosive mixtures with air.

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

Carbon oxides
Sulphur oxides

Metal oxides

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Special protective equipment :

for firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

#### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emer-

gency procedures

Remove all sources of ignition.

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.

Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g. by containment or oil

barriers).

Retain and dispose of contaminated wash water.

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.

Soak up with inert absorbent material.

Suppress (knock down) gases/vapours/mists with a water

spray jet.

For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

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 deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

according to the Globally Harmonized System



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certain local or national requirements.

#### 7. HANDLING AND STORAGE

Materials to avoid

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust

ventilation.

Use explosion-proof electrical, ventilating and lighting equip-

ment.

Advice on safe handling : Do not breathe mist or vapours.

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 as-

sessment

Non-sparking tools should be used. Keep container tightly closed.

Keep away from heat, hot surfaces, sparks, open flames and

other ignition sources. No smoking.

Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product.

Take care to prevent spills, waste and minimize release to the

environment.

Conditions for safe storage : Keep in properly labelled containers.

Store locked up. Keep tightly closed.

Keep in a cool, well-ventilated place.

Store in accordance with the particular national regulations.

Keep away from heat and sources of ignition. Do not store with the following product types:

Self-reactive substances and mixtures

Organic peroxides
Oxidizing agents
Flammable gases
Pyrophoric liquids
Pyrophoric solids

Self-heating substances and mixtures

Poisonous gases

**Explosives** 

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1-[2-(allyloxy)-2-(2,4- dichlorophenyl)ethyl]-1H- imidazole	35554-44-0	TWA	0.3 mg/m3 (OEB 2)	Internal

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I		Further information: Skin				
	Ethanol	64-17-5	TWA	1,000 ppm	IN OEL	
				1,900 mg/m3		
			STEL	1,000 ppm	ACGIH	

**Engineering measures** Use appropriate engineering controls and manufacturing

technologies to control airborne concentrations (e.g., drip-less

quick connections).

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to

protect products, workers, and the environment.

Laboratory operations do not require special containment.

Use explosion-proof electrical, ventilating and lighting equip-

ment.

#### Personal protective equipment

Respiratory protection If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection. Combined particulates and organic vapour type

Filter type Hand protection

Material

Chemical-resistant gloves

Take note that the product is flammable, which may impact Remarks

the selection of hand protection.

Wear safety glasses with side shields or goggles. Eye protection

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.

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.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance liquid

Colour light yellow

Odour musty

according to the Globally Harmonized System



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Odour Threshold : No data available

pH : 9.5

Melting point/freezing point : No data available

Initial boiling point and boiling

range

No data available

Flash point : 45 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Not applicable

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 : 1.094

Solubility(ies)

Water solubility : soluble

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 not classified as oxidizing.

Molecular weight : No data available

Particle characteristics

Particle size : No data available

#### 10. STABILITY AND REACTIVITY

according to the Globally Harmonized System



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Reactivity Not classified as a reactivity hazard. Chemical stability Stable under normal conditions. Flammable liquid and vapour. Possibility of hazardous reac-

tions

Vapours may form explosive mixture with air.

Can react with strong oxidizing agents.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Oxidizing agents

Acids

Hazardous decomposition

products

No hazardous decomposition products are known.

#### 11. TOXICOLOGICAL INFORMATION

Information on likely routes of: Inhalation

exposure

Skin contact Ingestion Eye contact

**Acute toxicity** 

Toxic if swallowed. Harmful if inhaled.

**Product:** 

Acute oral toxicity LD50(Rat): 192 - 309 mg/kg

LC50(Rat): 3.1 mg/l Acute inhalation toxicity

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity LD50(Rabbit): > 900 mg/kg

### Components:

Sodium bis(2-ethylhexyl)sulfosuccinate:

Acute oral toxicity : LD50 (Rat): 3,080 mg/kg

Acute dermal toxicity LD50 (Rabbit): > 5,000 mg/kg

#### 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

LC50 (Rat): 1.84 - 2.88 mg/l Acute inhalation toxicity

Exposure time: 4 h

Test atmosphere: dust/mist

Remarks: Based on harmonised classification in EU regulation

1272/2008, Annex VI

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Acute dermal toxicity : LD50 (Rat): 4,200 - 4,800 mg/kg

LD50 (Rabbit): 4,200 mg/kg

Acute toxicity (other routes of : LD50 (Rat): 155 mg/kg

administration)

Application Route: Intraperitoneal

Benzyl alcohol:

Acute oral toxicity : LD50 (Rat): 1,200 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.4 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhala-

tion toxicity

**Ethanol:** 

Acute oral toxicity LD50 (Rat): 10,470 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male): 116.9 mg/l

> Exposure time: 4 h Test atmosphere: vapour

: LD50 (Rabbit): > 15,800 mg/kg Acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

**Product:** 

Species Rabbit

Result Mild skin irritation

**Components:** 

Sodium bis(2-ethylhexyl)sulfosuccinate:

Species

**OECD Test Guideline 404** Method

Result Skin irritation

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

**Species** Rabbit

Result Mild skin irritation

Benzyl alcohol:

Species

Method **OECD Test Guideline 404** 

Result No skin irritation

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**Ethanol:** 

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Species : Rabbit

Result : Moderate eye irritation

**Components:** 

Sodium bis(2-ethylhexyl)sulfosuccinate:

Species : Rabbit

Method : OECD Test Guideline 405
Result : Irreversible effects on the eye

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

Benzyl alcohol:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritation to eyes, reversing within 21 days

**Ethanol:** 

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritation to eyes, reversing within 21 days

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.

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### **Components:**

### Sodium bis(2-ethylhexyl)sulfosuccinate:

Test Type : Human repeat insult patch test (HRIPT)

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.

Benzyl alcohol:

Test Type : Human repeat insult patch test (HRIPT)

Exposure routes : Skin contact
Species : Humans
Result : positive

Assessment : Probability or evidence of low to moderate skin sensitisation

rate in humans

**Ethanol:** 

Test Type : Mouse ear swelling test (MEST)

Exposure routes : Skin contact
Species : Mouse
Result : negative

#### Germ cell mutagenicity

Not classified based on available information.

#### **Components:**

#### Sodium bis(2-ethylhexyl)sulfosuccinate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: equivocal

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

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Result: negative

Remarks: Based on data from similar materials

### 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

Benzyl alcohol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

**Ethanol:** 

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

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Test Type: Chromosome aberration test in vitro

Result: negative

Genotoxicity in vivo Test Type: Mammalian erythrocyte micronucleus test (in vivo

> cytogenetic assay) Species: Rat

Application Route: Ingestion

Result: negative

#### Carcinogenicity

Suspected of causing cancer.

#### **Components:**

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

Species Rat Application Route
Exposure time Oral 2 Years

NOAEL 40 mg/kg body weight

Result negative

Mouse Species Application Route
Exposure time Oral 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

Based on harmonised classification in EU regulation Remarks

1272/2008, Annex VI

Carcinogenicity - Assess-

ment

Limited evidence of carcinogenicity in animal studies

#### Benzyl alcohol:

Species Mouse Application Route Ingestion Exposure time 103 weeks

Method **OECD Test Guideline 451** 

Result negative

#### Reproductive toxicity

Not classified based on available information.

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#### **Components:**

### Sodium bis(2-ethylhexyl)sulfosuccinate:

Effects on fertility : Test Type: Three-generation reproduction toxicity study

Species: Rat

**Application Route: Ingestion** 

Result: negative

Effects on foetal develop-

ment

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 develop-

ment

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 ma-

ternally toxic doses

Remarks: The effects were seen only at maternally toxic dos-

es.

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 dos-

es.

#### Benzyl alcohol:

Effects on fertility : Test Type: Fertility/early embryonic development

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Mouse

Application Route: Ingestion

Result: negative

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П

**Ethanol:** 

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Mouse

Application Route: Ingestion

Result: negative

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

**Product:** 

Species : Rabbit
NOAEL : 1 mg/kg
Application Route : Dermal
Exposure time : 21 d

Symptoms : No adverse effects

**Components:** 

Sodium bis(2-ethylhexyl)sulfosuccinate:

Species : Rat

NOAEL : 750 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

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

Species: RatNOAEL: 5 mg/kgLOAEL: 20 mg/kgApplication 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

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Species : Mouse

NOAEL : 12 mg/kg

LOAEL : 140 mg/kg

Application Route : Oral

Exposure time : 3 Months

Target Organs : Liver

Benzyl alcohol:

Species : Rat NOAEL : 1.072 mg/l

Application Route : inhalation (dust/mist/fume)

Exposure time : 28 Days

Method : OECD Test Guideline 412

**Ethanol:** 

Species : Rat

NOAEL : 1,730 mg/kg LOAEL : 3,200 mg/kg Application Route : Ingestion Exposure time : 90 Days

### **Aspiration toxicity**

Not classified based on available information.

#### **Experience with human exposure**

**Product:** 

Inhalation : Remarks: May cause respiratory tract irritation.

Skin contact : Remarks: May irritate skin. Eye contact : Remarks: May irritate eyes.

Ingestion : Symptoms: Gastrointestinal disturbance, central nervous sys-

tem effects

**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

#### 12. ECOLOGICAL INFORMATION

#### **Ecotoxicity**

## **Components:**

### Sodium bis(2-ethylhexyl)sulfosuccinate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 49 mg/l

Exposure time: 96 h

Method: Directive 67/548/EEC, Annex V, C.1.

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Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 6.6 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 ( Desmodesmus subspicatus (green algae)): 82.5 mg/l

Exposure time: 72 h

EC10 (Desmodesmus subspicatus (green algae)): 22 mg/l

Exposure time: 72 h

Toxicity to microorganisms : EC50 (Pseudomonas putida): 164 mg/l

Exposure time: 16 h

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

EC10: 9 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

### 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 : aguatic invertebrates (Chron-

ic 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

#### Benzyl alcohol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 460 mg/l

Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 230 mg/l

according to the Globally Harmonized System



# **Enilconazole Liquid Formulation**

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aquatic invertebrates Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 310

EC50 (Pseudokirchneriella subcapitata (green algae)): 770

ma/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: 51 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

**Ethanol:** 

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 14,200 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Ceriodaphnia dubia (water flea)): 5,012 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l

Exposure time: 72 h

EC10 (Chlorella vulgaris (Fresh water algae)): 11.5 mg/l

Exposure time: 72 h

Toxicity to microorganisms : EC50 (Protozoa): 5,800 mg/l

Exposure time: 4 h

Toxicity to fish (Chronic tox-

icity)

NOEC: >= 79 mg/l

Exposure time: 100 d

Species: Oryzias latipes (Japanese medaka)

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: 9.6 mg/l Exposure time: 9 d

Species: Daphnia magna (Water flea)

Persistence and degradability

**Components:** 

Sodium bis(2-ethylhexyl)sulfosuccinate:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 91.2 % Exposure time: 28 d

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

according to the Globally Harmonized System



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Biodegradability Result: not rapidly degradable

> Biodegradation: 50 % Exposure time: 166 d

Benzyl alcohol:

Biodegradability Result: Readily biodegradable.

Biodegradation: 92 - 96 %

Exposure time: 14 d

**Ethanol:** 

Biodegradability Result: Readily biodegradable.

Biodegradation: 84 % Exposure time: 20 d

Bioaccumulative potential

**Components:** 

Sodium bis(2-ethylhexyl)sulfosuccinate:

: log Pow: 1.998 Partition coefficient: n-

octanol/water Remarks: Calculation

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

Partition coefficient: n-

octanol/water

: log Pow: 3.82

Benzyl alcohol:

Partition coefficient: n-

octanol/water

: log Pow: 1.05

**Ethanol:** 

Partition coefficient: n-

: log Pow: -0.35

octanol/water

Mobility in soil

**Components:** 

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

Distribution among environ- : log Koc: 3.82

mental compartments

Other adverse effects

No data available

according to the Globally Harmonized System



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#### 13. DISPOSAL CONSIDERATIONS

**Disposal methods** 

Waste from residues : Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

#### 14. TRANSPORT INFORMATION

### **International Regulations**

**UNRTDG** 

UN number : UN 1992

Proper shipping name : FLAMMABLE LIQUID, TOXIC, N.O.S.

(Ethanol, 1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-

imidazole)

Class : 3
Subsidiary risk : 6.1
Packing group : III
Labels : 3 (6.1)
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 1992

Proper shipping name : Flammable liquid, toxic, n.o.s.

(Ethanol, 1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-

imidazole)

Class : 3
Subsidiary risk : 6.1
Packing group : III

Labels : Flammable Liquids, Toxic

Packing instruction (cargo : 3

aircraft)

Packing instruction (passen: 355

ger aircraft)

**IMDG-Code** 

UN number : UN 1992

Proper shipping name : FLAMMABLE LIQUID, TOXIC, N.O.S.

(Ethanol, 1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-

imidazole)

Class : 3
Subsidiary risk : 6.1
Packing group : III
Labels : 3 (6.1)
EmS Code : F-E, S-D
Marine pollutant : yes

according to the Globally Harmonized System



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#### Transport in bulk according to IMO instruments

Not applicable for product as supplied.

### 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.

#### 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mix-

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

AICS : not determined

DSL : not determined

IECSC : not determined

#### **16. OTHER INFORMATION**

Revision Date : 28.09.2024

**Further information** 

Sources of key data used to : compile the Safety Data

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

Sheet cy, 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.

Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

IN OEL : India. Permissible levels of certain chemical substances in

work environment.

ACGIH / STEL : Short-term exposure limit

IN OEL / TWA : Time-Weighted Average Concentration (TWA) (8 hrs.)

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 con-

according to the Globally Harmonized System



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centration; 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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