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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Enilconazole Liquid Formulation

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub- : Veterinary product

stance/Mixture

Recommended restrictions : Not applicable

on use

1.3 Details of the supplier of the safety data sheet

Company : MSD

Walton Manor, Walton

MK7 7AJ Milton Keynes - United Kingdom

Telephone : +1-908-740-4000

E-mail address of person

responsible for the SDS

: EHSDATASTEWARD@msd.com

1.4 Emergency telephone number

+1-908-423-6000

egory 1

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Flammable liquids, Category 3 H226: Flammable liquid and vapour.

Acute toxicity, Category 3 H301: Toxic if swallowed. Acute toxicity, Category 4 H332: Harmful if inhaled.

Eye irritation, Category 2 H319: Causes serious eye irritation. Carcinogenicity, Category 2 H351: Suspected of causing cancer.

Specific target organ toxicity - repeated H373: May cause damage to organs through pro-

exposure, Category 2 longed or repeated exposure.

Long-term (chronic) aquatic hazard, Cat-H410: Very toxic to aquatic life with long lasting

effects.

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

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 through prolonged or

repeated exposure.

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. P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a

POISON CENTER/ doctor. Rinse mouth.

P391 Collect spillage.

Hazardous components which must be listed on the label:

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

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.

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

| Chemical name | CAS-No. | Classification | Concentration |
|---------------|-----------|----------------|---------------|
| | EC-No. | | (% w/w) |
| | Index-No. | | , |

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| | Registration number | | |
|---|---|--|--------------|
| Sodium bis(2- | 577-11-7 | Skin Irrit. 2; H315 | >= 30 - < 50 |
| ethylhexyl)sulfosuccinate | 209-406-4 | Eye Dam. 1; H318 | |
| 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 |
| | | M-Factor (Chronic aquatic toxicity): 10 | |
| Benzyl alcohol | 100-51-6 202-859-9 603-057-00-5 | Acute Tox. 4; H302 Acute Tox. 4; H332 Eye Irrit. 2; H319 | >= 1 - < 10 |
| Ethanol# | 64-17-5 200-578-6 603-002-00-5 | Flam. Liq. 2; H225 Eye Irrit. 2; H319 ———————————————————————————————————— | >= 1 - < 10 |

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 ad-

vice 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.

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.

^{#:} Voluntarily-disclosed substance

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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.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Gastrointestinal disturbance

Risks : Toxic if swallowed.

Causes serious eye irritation.

Harmful if inhaled.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated

exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

High volume water jet

5.2 Special hazards arising from the substance or mixture

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

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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 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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : 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).

6.2 Environmental precautions

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.

If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

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.

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

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 : 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.

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-

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. Store in accordance with the particular national regulations. Keep

away from heat and sources of ignition.

Advice on common storage : Do not store with the following product types:

Strong oxidizing agents

Self-reactive substances and mixtures

Organic peroxides Flammable solids Pyrophoric liquids Pyrophoric solids

Self-heating substances and mixtures

Substances and mixtures, which in contact with water, emit

flammable gases

Explosives

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Gases

Very acutely toxic substances and mixtures

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 |
|--|---------------------------|-------------------------------|--------------------------|----------|
| 1-[2-(allyloxy)-2- (2,4- dichloro- phenyl)ethyl]-1H- imidazole | 35554-44-0 | TWA | 0.3 mg/m3 (OEB 2) | Internal |
| | Further information: Skin | | | |
| Ethanol | 64-17-5 | TWA | 1,000 ppm 1,920 mg/m3 | GB EH40 |

Derived No Effect Level (DNEL):

| Substance name | End Use | Exposure routes | Potential health effects | Value |
|---|-----------|-----------------|----------------------------|------------------------|
| Sodium bis(2- ethylhex- yl)sulfosuccinate | Workers | Inhalation | Long-term systemic effects | 1416.82 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 200.89 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 419.25 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 120.54 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 13.39 mg/kg bw/day |
| Polyethylene glycol castor oil | Workers | Inhalation | Long-term systemic effects | 16.4 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 4.67 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 2.9 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 1.67 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 1.67 mg/kg bw/day |
| Benzyl alcohol | Workers | Inhalation | Long-term systemic effects | 22 mg/m3 |
| | Workers | Inhalation | Acute systemic ef- | 110 mg/m3 |

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| | | | fects | |
|---------|-----------|--------------|-----------------------------|---------------------|
| | Workers | Skin contact | Long-term systemic effects | 8 mg/kg bw/day |
| | Workers | Skin contact | Acute systemic ef- fects | 40 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 5.4 mg/m3 |
| | Consumers | Inhalation | Acute systemic effects | 27 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 4 mg/kg bw/day |
| | Consumers | Skin contact | Acute systemic effects | 20 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 4 mg/kg bw/day |
| | Consumers | Ingestion | Acute systemic effects | 20 mg/kg bw/day |
| Ethanol | Workers | Inhalation | Long-term systemic effects | 950 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 343 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 114 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 206 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 87 mg/kg bw/day |

Predicted No Effect Concentration (PNEC):

| Substance name | Environmental Compartment | Value |
|--------------------------------|-----------------------------|-------------------|
| Sodium bis(2- | Fresh water | 0.18 mg/l |
| ethylhexyl)sulfosuccinate | | |
| | Intermittent use/release | 0.152 mg/l |
| | Marine water | 0.018 mg/l |
| | Sewage treatment plant | 12.2 mg/l |
| | Fresh water sediment | 17.789 mg/kg dry |
| | | weight (d.w.) |
| | Marine sediment | 1.779 mg/kg dry |
| | | weight (d.w.) |
| | Soil | 1.04 mg/kg dry |
| | | weight (d.w.) |
| Polyethylene glycol castor oil | Fresh water | 0.000 mg/l |
| | Freshwater - intermittent | 0.0661 mg/l |
| | Marine water | 0.000 mg/l |
| | Marine water - intermittent | 0.00661 mg/l |
| | Fresh water sediment | 0.0129 mg/kg dry |
| | | weight (d.w.) |
| | Marine sediment | 0.00129 mg/kg |
| | | dry weight (d.w.) |
| | Soil | 0.00258 mg/kg |
| | | dry weight (d.w.) |
| Benzyl alcohol | Fresh water | 1 mg/l |

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| | Marine water | 0.1 mg/l |
|---------|----------------------------|---------------------------------|
| | Intermittent use/release | 2.3 mg/l |
| | Sewage treatment plant | 39 mg/l |
| | Fresh water sediment | 5.27 mg/kg |
| | Marine sediment | 0.527 mg/kg |
| | Soil | 0.456 mg/kg |
| Ethanol | Fresh water | 0.96 mg/l |
| | Freshwater - intermittent | 2.75 mg/l |
| | Marine water | 0.79 mg/l |
| | Sewage treatment plant | 580 mg/l |
| | Fresh water sediment | 3.6 mg/kg dry weight (d.w.) |
| | Marine sediment | 2.9 mg/kg dry weight (d.w.) |
| | Soil | 0.63 mg/kg dry weight (d.w.) |
| | Oral (Secondary Poisoning) | 380 mg/kg food |

8.2 Exposure controls

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 equipment.

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 expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Equipment should conform to BS EN 14387

Filter type : Combined particulates and organic vapour type (A-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

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Colour : light yellow Odour : musty

Odour Threshold : No data available

pH : 9.5

Melting point/freezing point : No data available

Initial boiling point and boiling

range

Flash point : 45 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Upper explosion limit / Upper

flammability limit

No data available

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.

9.2 Other information

Flammability (liquids) : Not applicable

Molecular weight : No data available

Particle size : No data available

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SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Flammable liquid and vapour.

Vapours may form explosive mixture with air. Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

Acids

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of : 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

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

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

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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

Benzyl alcohol:

Acute oral toxicity : LD50 (Rat): 1,620 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 4.178 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Ethanol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 124.7 mg/l

Exposure time: 4 h
Test atmosphere: vapour

Skin corrosion/irritation

Not classified based on available information.

Product:

Species : Rabbit

Result : Mild skin irritation

Components:

Sodium bis(2-ethylhexyl)sulfosuccinate:

Species : Rabbit

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Method : OECD Test Guideline 404

Result : Skin irritation

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

Species : Rabbit

Result : Mild skin irritation

Benzyl alcohol:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

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:

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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.

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 : Maximisation Test Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

Ethanol:

Test Type : Local lymph node assay (LLNA)

Exposure routes : Skin contact Species : Mouse Result : negative

Germ cell mutagenicity

Not classified based on available information.

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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

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)

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Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

Ethanol:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test

Result: negative

Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)

Species: Mouse

Application Route: Ingestion

Result: equivocal

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 - Assess-

ment

Limited evidence of carcinogenicity in animal studies

Benzyl alcohol:

Species : Mouse
Application Route : Ingestion
Exposure time : 103 weeks

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Method : OECD Test Guideline 451

Result : negative

Reproductive toxicity

Not classified based on available information.

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

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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

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 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 : Rat
NOAEL : 5 mg/kg
LOAEL : 20 mg/kg
Application Route : Oral

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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

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 : 1,280 mg/kg LOAEL : 3,156 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

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SECTION 12: Ecological information

12.1 Toxicity

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.

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 : NOEC: < 0.007 mg/l

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aquatic invertebrates (Chron-

ic toxicity)

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

Benzyl alcohol:

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

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 230 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 770

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 310

mg/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)): > 1,000 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Ceriodaphnia (water flea)): > 1,000 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 (Pseudomonas putida): 6,500 mg/l

Exposure time: 16 h

Toxicity to daphnia and other : NOEC: 9.6 mg/l

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aquatic invertebrates (Chron-Exposure time: 9 d

ic toxicity) Species: Daphnia magna (Water flea)

12.2 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:

Result: not rapidly degradable Biodegradability

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

12.3 Bioaccumulative potential

Components:

Sodium bis(2-ethylhexyl)sulfosuccinate:

Partition coefficient: n-: log Pow: 1.998 octanol/water Remarks: Calculation

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

Partition coefficient: nlog Pow: 3.82

octanol/water

Benzyl alcohol:

Partition coefficient: nlog Pow: 1.05

octanol/water

Ethanol:

Partition coefficient: n-

octanol/water

log Pow: -0.35

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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.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components consid-

ered 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.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.

According to the European Waste Catalogue, Waste Codes

are not product specific, but application specific.

Waste codes should be assigned by the user, preferably in

discussion with the waste disposal authorities.

Do not dispose of waste into sewer.

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.

SECTION 14: Transport information

14.1 UN number

ADN : UN 1992

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ADR : UN 1992
RID : UN 1992
IMDG : UN 1992
IATA : UN 1992

14.2 UN proper shipping name

ADN : FLAMMABLE LIQUID, TOXIC, N.O.S.

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

imidazole)

ADR : FLAMMABLE LIQUID, TOXIC, N.O.S.

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

imidazole)

RID : FLAMMABLE LIQUID, TOXIC, N.O.S.

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

imidazole)

IMDG : FLAMMABLE LIQUID, TOXIC, N.O.S.

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

imidazole)

IATA : Flammable liquid, toxic, n.o.s.

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

imidazole)

14.3 Transport hazard class(es)

Subsidiary risks Class **ADN** 3 6.1 **ADR** 3 6.1 RID 6.1 3 **IMDG** 3 6.1 **IATA** 3 6.1

14.4 Packing group

ADN

Packing group : III
Classification Code : FT1
Hazard Identification Number : 36
Labels : 3 (6.1)

ADR

Packing group : III
Classification Code : FT1
Hazard Identification Number : 36
Labels : 3 (6.1)
Tunnel restriction code : (D/E)

RID

Packing group : III

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Classification Code : FT1
Hazard Identification Number : 36
Labels : 3 (6.1)

IMDG

Packing group : III
Labels : 3 (6.1)
EmS Code : F-E, S-D

IATA (Cargo)

Packing instruction (cargo : 366

aircraft)

Packing instruction (LQ) : Y343
Packing group : III

Labels : Flammable Liquids, Toxic

IATA (Passenger)

Packing instruction (passen: 355

ger aircraft)

Packing instruction (LQ) : Y343
Packing group : III

Labels : Flammable Liquids, Toxic

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

14.6 Special precautions for user

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

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17) : Conditions of restriction for the fol-

lowing entries should be considered:

Number on list 3

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Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or

Quantity 2

200 t

not.

Not applicable

Not applicable

Not applicable

Not applicable

Not applicable

UK REACH Candidate list of substances of very high

concern (SVHC) for Authorisation

The Persistent Organic Pollutants Regulations (retained

Regulation (EU) 2019/1021 as amended for Great Brit-

ain)

Regulation (EC) No 1005/2009 on substances that de-

plete the ozone layer

UK REACH List of substances subject to authorisation

(Annex XIV)

GB Export and import of hazardous chemicals - Prior

Informed Consent (PIC) Regulation

Control of Major Accident Hazards Regulations 2015 (COMAH)

Quantity 1 ENVIRONMENTAL 100 t

HAZARDS

P5c FLAMMABLE LIQUIDS 5,000 t 50,000 t

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

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.

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Full text of H-Statements

H225 : Highly flammable liquid and vapour.

H301 : Toxic if swallowed. H302 : Harmful if swallowed. H315 : Causes skin irritation.

H318 : Causes serious eye damage. H319 : Causes serious eye irritation.

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.

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

Eye Irrit. : Eye irritation

Flam. Liq. : Flammable liquids

Skin Irrit. : Skin irritation

STOT RE : Specific target organ toxicity - repeated exposure GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

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

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Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; 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

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:

Classification procedure:

| Flam. Liq. 3 | H226 | Based on product data or assessment |
|-------------------|------|-------------------------------------|
| Acute Tox. 3 | H301 | Based on product data or assessment |
| Acute Tox. 4 | H332 | Based on product data or assessment |
| Eye Irrit. 2 | H319 | Based on product data or assessment |
| Carc. 2 | H351 | Calculation method |
| STOT RE 2 | H373 | Calculation method |
| Aquatic Chronic 1 | H410 | 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. 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.

GB / EN