

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



PLOVER

Version 14.0 Revision Date: 12.05.2021 SDS Number: S189518274 This version replaces all previous versions.

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

1.1 Product identifier

Trade name : PLOVER
Design code : A7402T
Product Registration Number : MAPP 17288
Unique Formula Identifier (UFI) : DHG3-3049-000C-6RE5

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

Use of the Substance/Mixture : Fungicide
Recommended restrictions on use : professional use

1.3 Details of the supplier of the safety data sheet

Company : Syngenta UK Limited
CPC4, Capital Park
Fulbourn, Cambridge CB21 5XE
United Kingdom
Telephone : +44 (0) 1223 883400
Telefax : +44 (0) 1223 882195
E-mail address of person responsible for the SDS : customer.services@syngenta.com

1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2	H319: Causes serious eye irritation.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard,	H410: Very toxic to aquatic life with long lasting


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Category 1 effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

- Hazard pictograms : 
- Signal word : Danger
- Hazard statements : H304 May be fatal if swallowed and enters airways.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.
- Supplemental Hazard Statements : EUH066 Repeated exposure may cause skin dryness or cracking.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
- Precautionary statements : P102 Keep out of reach of children.
P273 Avoid release to the environment.
- Prevention:**
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response:**
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P331 Do NOT induce vomiting.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.
- Disposal:**
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

hydrocarbons, C10-C13, aromatics, <1% naphthalene

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.

Ecological information: 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.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
hydrocarbons, C10-C13, aromatics, <1% naphthalene	Not Assigned 922-153-0 01-2119451097-39	Asp. Tox. 1; H304 Aquatic Chronic 2; H411 EUH066	>= 50 - < 70
difenoconazole	119446-68-3	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 20 - < 25
calcium bis(dodecylbenzenesulphonate), branched	68953-96-8 273-234-6 01-2119964467-24	Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2; H411 Acute toxicity estimate Acute dermal toxicity: 1,100 mg/kg	>= 3 - < 10
alcohols, C16-18 and C18- unsatd., ethoxylated	68920-66-1 500-236-9	Skin Irrit. 2; H315 Aquatic Chronic 3; H412	>= 2.5 - < 10
2-methylpropan-1-ol	78-83-1 201-148-0 603-108-00-1 01-2119484609-23	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system)	>= 1 - < 3

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naphthalene	91-20-3 202-049-5 601-052-00-2	Flam. Sol. 2; H228 Acute Tox. 4; H302 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	$\geq 0.25 - < 1$
toluene	108-88-3 203-625-9 601-021-00-3 01-2119471310-51	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 (Central nervous system) STOT RE 2; H373 Asp. Tox. 1; H304	$\geq 0.1 - < 1$

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
- If inhaled : Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Aspiration may cause pulmonary oedema and pneumonitis.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : There is no specific antidote available.

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Treat symptomatically.
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health.
Flash back possible over considerable distance.

5.3 Advice for firefighters

- Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.
- Further information : Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.
-

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Refer to protective measures listed in sections 7 and 8.
Keep people away from and upwind of spill/leak.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Remove all sources of ignition.
Pay attention to flashback.

6.2 Environmental precautions

- Environmental precautions : Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

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6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Clean contaminated surface thoroughly.
Clean with detergents. Avoid solvents.
Retain and dispose of contaminated wash water.

6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
Use only in an area containing flame proof equipment.
Take precautionary measures against static discharges.
For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from combustible material. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. No smoking.

Further information on storage stability : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
hydrocarbons, C10-C13, aromatics, <1% naphthalene	Not Assigned	TWA	8 ppm 50 mg/m ³	Supplier
difenoconazole	119446-68-3	TWA	5 mg/m ³	Syngenta
2-methylpropan-1-ol	78-83-1	TWA	50 ppm 154 mg/m ³	GB EH40

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		STEL	75 ppm 231 mg/m ³	GB EH40
naphthalene	91-20-3	TWA	10 ppm 50 mg/m ³	91/322/EEC
Further information: Indicative				
toluene	108-88-3	TWA	50 ppm 192 mg/m ³	2006/15/EC
Further information: Indicative, Identifies the possibility of significant uptake through the skin				
		STEL	100 ppm 384 mg/m ³	2006/15/EC
Further information: Indicative, Identifies the possibility of significant uptake through the skin				
		TWA	50 ppm 191 mg/m ³	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		STEL	100 ppm 384 mg/m ³	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
naphthalene	91-20-3	1-hydroxypyrene: 4 µmol/mol creatinine (Urine)	After shift	GB EH40 BAT

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

Substance name	End Use	Exposure routes	Potential health effects	Value
hydrocarbons, C10-C13, aromatics, <1% naphthalene	Workers	Inhalation	Long-term systemic effects	151 mg/m ³
	Workers	Dermal	Long-term systemic effects	12.5 mg/kg
	Consumers	Inhalation	Long-term systemic effects	32 mg/m ³
	Consumers	Dermal	Long-term systemic effects	7.5 mg/kg
calcium bis(dodecylbenzenesulphonate), branched	Workers	Oral	Long-term systemic effects	7.5 mg/kg
	Workers	Inhalation	Long-term systemic effects	6 mg/m ³
	Workers	Dermal	Long-term systemic effects	8.5 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.48 mg/m ³
	Consumers	Dermal	Long-term systemic	4.25 mg/kg

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			effects	
	Consumers	Oral	Long-term systemic effects	0.43 mg/kg
alcohols, C16-18 and C18-unsatd., ethoxylated	Workers	Inhalation	Long-term systemic effects	294 mg/m ³
	Workers	Dermal	Long-term systemic effects	2080 mg/kg
	Consumers	Inhalation	Long-term systemic effects	87 mg/m ³
	Consumers	Dermal	Long-term systemic effects	1250 mg/kg
	Consumers	Oral	Long-term systemic effects	25 mg/kg
2-methylpropan-1-ol	Workers	Inhalation	Long-term systemic effects, Long-term local effects	310 mg/m ³
	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	55 mg/m ³
	Consumers	Oral	Long-term systemic effects, Long-term local effects	25 mg/kg
toluene	Workers	Inhalation	Long-term systemic effects	192 mg/m ³
	Workers	Dermal	Long-term systemic effects	384 mg/kg
	Workers	Inhalation	Acute local effects	384 mg/m ³
	Workers	Inhalation	Acute systemic effects	384 mg/m ³
	Workers	Inhalation	Long-term local effects	192 mg/m ³
	Consumers	Oral	Long-term systemic effects	8.13 mg/kg
	Consumers	Dermal	Long-term systemic effects	226 mg/kg
	Consumers	Inhalation	Acute systemic effects	226 mg/m ³
	Consumers	Inhalation	Acute local effects	226 mg/m ³
	Consumers	Inhalation	Long-term local effects	56.5 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	56.5 mg/m ³

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

Substance name	Environmental Compartment	Value
calcium bis(dodecylbenzenesulphonate), branched	Fresh water	0.023 mg/l
	Marine water	0.0023 mg/l
	Intermittent use/release	0.29 mg/l
	Fresh water sediment	1.35 mg/kg
	Marine sediment	0.135 mg/kg

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	Sewage treatment plant	5.5 mg/kg
	Soil	0.124 mg/kg
alcohols, C16-18 and C18-unsatd., ethoxylated	Fresh water	0.007 mg/l
	Marine water	0.001 mg/l
	Sewage treatment plant	10 g/l
	Fresh water sediment	22.79 mg/kg
	Marine sediment	2.28 mg/kg
	Soil	1 mg/kg
	Freshwater - intermittent	0.1 mg/l
2-methylpropan-1-ol	Fresh water	0.4 mg/l
	Sewage treatment plant	10 mg/l
	Soil	0.0699 mg/kg
	Marine sediment	0.152 mg/kg
	Fresh water sediment	1.52 mg/kg
	Marine water	0.04 mg/l
toluene	Fresh water	0.68 mg/l
	Marine sediment	16.39 mg/kg
	Sewage treatment plant	13.61 mg/l
	Intermittent release	0.68 mg/l
	Marine water	0.68 mg/l
	Fresh water sediment	16.39 mg/kg
	Soil	2.89 mg/kg

8.2 Exposure controls

Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.

Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection : Tightly fitting safety goggles
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Equipment should conform to EN 166

Hand protection

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local

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- conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
- Skin and body protection** : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:
Impervious clothing
- Respiratory protection** : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Suitable respiratory equipment:
Respirator with a particle filter (EN 143)
The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
- Filter type** : Particulates type (P)
- Protective measures** : The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.
-

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Physical state : liquid
Colour : yellow to brown
- Odour : aromatic
Odour Threshold : No data available
- Melting point/range : No data available
- Boiling point/boiling range : No data available
- Flammability : No data available
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower flammability limit : No data available

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Flash point : 64 °C
Method: Pensky-Martens closed cup

Auto-ignition temperature : 465 °C

Decomposition temperature
Decomposition : No data available
temperature

pH : 5 - 9
Concentration: 1 % w/v

Viscosity
Viscosity, dynamic : 26.0 mPa.s (20 °C)
10.5 mPa.s (40 °C)

Viscosity, kinematic : No data available

Solubility(ies)
Solubility in other solvents : No data available

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

Vapour pressure : No data available

Density : 1.071 g/cm³ (20 °C)

Relative vapour density : No data available

Particle characteristics
Particle size : No data available

9.2 Other information

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Evaporation rate : No data available

Miscibility with water : Miscible

Surface tension : 36.0 mN/m, 25 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

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10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure : Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): 3,129 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.17 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is minimally toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Components:

difenoconazole:

Acute oral toxicity : LD50 (Rat, male and female): 1,453 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat, male and female): > 3,300 mg/m³
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,010 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

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calcium bis(dodecylbenzenesulphonate), branched:

Acute dermal toxicity : Acute toxicity estimate: 1,100 mg/kg
Method: Converted acute toxicity point estimate

2-methylpropan-1-ol:

Acute oral toxicity : LD50 (Rat): 2,830 - 3,350 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 24.6 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 - 2,460 mg/kg

naphthalene:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation

Result : Repeated exposure may cause skin dryness or cracking.

Components:

hydrocarbons, C10-C13, aromatics, <1% naphthalene:

Result : Repeated exposure may cause skin dryness or cracking.

difenoconazole:

Species : Rabbit
Result : No skin irritation

calcium bis(dodecylbenzenesulphonate), branched:

Result : Irritating to skin.

alcohols, C16-18 and C18-unsatd., ethoxylated:

Result : Irritating to skin.

2-methylpropan-1-ol:

Result : Irritating to skin.

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toluene:

Species : Rabbit
Result : Irritating to skin.

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : Eye irritation

Components:

difenoconazole:

Species : Rabbit
Result : Irritation to eyes, reversing within 7 days

calcium bis(dodecylbenzenesulphonate), branched:

Result : Risk of serious damage to eyes.

2-methylpropan-1-ol:

Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

Species : Guinea pig
Result : Did not cause sensitisation on laboratory animals.

Components:

difenoconazole:

Species : Guinea pig
Result : Did not cause sensitisation on laboratory animals.

2-methylpropan-1-ol:

Species : Guinea pig
Result : Did not cause sensitisation on laboratory animals.
Remarks : Information given is based on data obtained from similar substances.

Germ cell mutagenicity

Components:

difenoconazole:

Germ cell mutagenicity-Assessment : Animal testing did not show any mutagenic effects.

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Carcinogenicity

Components:

difenoconazole:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

naphthalene:

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Components:

difenoconazole:

Reproductive toxicity - Assessment : No toxicity to reproduction

toluene:

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Components:

2-methylpropan-1-ol:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

toluene:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT - repeated exposure

Components:

toluene:

Target Organs : Central nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

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Repeated dose toxicity

Components:

difenoconazole:

Remarks : No adverse effect has been observed in chronic toxicity tests.

Aspiration toxicity

Components:

hydrocarbons, C10-C13, aromatics, <1% naphthalene:

May be fatal if swallowed and enters airways.

toluene:

May be fatal if swallowed and enters airways.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : 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 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.7 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4.3 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 4.4 mg/l
Exposure time: 72 h

NOEC (Desmodesmus subspicatus (green algae)): 0.22 mg/l
End point: Growth rate
Exposure time: 72 h

Components:

hydrocarbons, C10-C13, aromatics, <1% naphthalene:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 3.6 mg/l
Exposure time: 96 h

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Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 1.1 mg/l
Exposure time: 48 h
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants : EL50 (Raphidocelis subcapitata (freshwater green alga)): 7.9 mg/l
End point: Growth rate
Exposure time: 72 h
Remarks: Information given is based on data obtained from similar substances.

NOELR (Raphidocelis subcapitata (freshwater green alga)): 0.22 mg/l
End point: Growth rate
Exposure time: 72 h
Remarks: Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

difenoconazole:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.1 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.77 mg/l
Exposure time: 48 h

EC50 (Americamysis): 0.15 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Navicula pelliculosa (Freshwater diatom)): 0.091 mg/l
Exposure time: 72 h

NOEC (Navicula pelliculosa (Freshwater diatom)): 0.053 mg/l
Exposure time: 72 h

ErC50 (Desmodesmus subspicatus (green algae)): 0.0876 mg/l
Exposure time: 72 h

EC10 (Desmodesmus subspicatus (green algae)): 0.015 mg/l
End point: Growth rate
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 10

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- Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
- Toxicity to fish (Chronic toxicity) : NOEC: 0.0076 mg/l
Exposure time: 34 d
Species: Pimephales promelas (fathead minnow)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.0056 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
- NOEC: 0.0023 mg/l
Exposure time: 28 d
Species: Americamysis
- M-Factor (Chronic aquatic toxicity) : 10

calcium bis(dodecylbenzenesulphonate), branched:

Ecotoxicology Assessment

- Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

alcohols, C16-18 and C18-unsatd., ethoxylated:

- Toxicity to fish : LC50 (Fish): estimated 1.26 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Aquatic invertebrates (general)): 2.6 mg/l
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EC50 (algae): 2.3 mg/l
Exposure time: 72 h
- EC10 (algae): 0.33 mg/l
End point: Biomass
Exposure time: 72 h

2-methylpropan-1-ol:

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,430 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 1,100 mg/l
Exposure time: 48 h
- Toxicity to algae/aquatic plants : EC50 (Raphidocelis subcapitata (freshwater green alga)): 1,799 mg/l
Exposure time: 72 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 20 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

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naphthalene:

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

toluene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.5 mg/l
Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3.78 mg/l
Exposure time: 48 h

12.2 Persistence and degradability

Components:

hydrocarbons, C10-C13, aromatics, <1% naphthalene:

Biodegradability : Result: Readily biodegradable.

difenoconazole:

Biodegradability : Result: Not readily biodegradable.
Stability in water : Degradation half life: 1 d
Remarks: Product is not persistent.

alcohols, C16-18 and C18-unsatd., ethoxylated:

Biodegradability : Result: rapidly biodegradable
Remarks: Based on data from similar materials

2-methylpropan-1-ol:

Biodegradability : Result: Readily biodegradable.

toluene:

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

difenoconazole:

Bioaccumulation : Remarks: High bioaccumulation potential.

Partition coefficient: n-octanol/water : log Pow: 4.4 (25 °C)

toluene:

Bioaccumulation : Remarks: Does not bioaccumulate.

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12.4 Mobility in soil

Components:

difenoconazole:

Distribution among environmental compartments : Remarks: Low mobility in soil.
Stability in soil : Dissipation time: 149 - 187 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

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..

Components:

difenoconazole:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

2-methylpropan-1-ol:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

naphthalene:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..

toluene:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT)..

12.6 Endocrine disrupting properties

Product:

Assessment : 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.

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12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.
- Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
- Waste Code : uncleaned packagings
15 01 10, packaging containing residues of or contaminated by hazardous substances
-

SECTION 14: Transport information

14.1 UN number or ID number

- ADN : UN 3082
ADR : UN 3082
RID : UN 3082
IMDG : UN 3082
IATA : UN 3082

14.2 UN proper shipping name

- ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(DIFENOCONAZOLE AND SOLVENT NAPHTHA)
- ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(DIFENOCONAZOLE AND SOLVENT NAPHTHA)
- RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(DIFENOCONAZOLE AND SOLVENT NAPHTHA)
- IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
-

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IATA : N.O.S.
(DIFENOCONAZOLE AND SOLVENT NAPHTHA)
: Environmentally hazardous substance, liquid, n.o.s.
(DIFENOCONAZOLE AND SOLVENT NAPHTHA)

14.3 Transport hazard class(es)

ADN : 9
ADR : 9
RID : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADN
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

ADR
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

RID
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

IMDG
Packing group : III
Labels : 9
EmS Code : F-A, S-F

IATA (Cargo)
Packing instruction (cargo aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

IATA (Passenger)
Packing instruction (passenger aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

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14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : 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 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 3
toluene (Number on list 48)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : naphthalene

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E1	ENVIRONMENTAL HAZARDS	Quantity 1 100 t	Quantity 2 200 t
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Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Use plant protection products safely. Always read the label and product information before use.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

SECTION 16: Other information

Full text of H-Statements

H225	: Highly flammable liquid and vapour.
H226	: Flammable liquid and vapour.
H228	: Flammable solid.
H302	: Harmful if swallowed.
H304	: May be fatal if swallowed and enters airways.
H312	: Harmful in contact with skin.
H315	: Causes skin irritation.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness.
H351	: Suspected of causing cancer.
H361d	: Suspected of damaging the unborn child.
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.
H412	: Harmful to aquatic life with long lasting effects.
EUH066	: Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Flam. Sol.	: Flammable solids
Repr.	: Reproductive toxicity
Skin Irrit.	: Skin irritation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
2006/15/EC	: Europe. Indicative occupational exposure limit values
91/322/EEC	: Europe. Commission Directive 91/322/EEC on establishing indicative limit values
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
GB EH40 BAT	: UK. Biological monitoring guidance values
2006/15/EC / TWA	: Limit Value - eight hours

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2006/15/EC / STEL : Short term exposure limit
91/322/EEC / TWA : Limit Value - eight hours
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Eye Irrit. 2 H319
Asp. Tox. 1 H304
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

Classification procedure:

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

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

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the

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specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN