

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

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

1.1 Product identifier

Trade name : ARTEA
Design code : A10506F

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

Use of the Substance/Mixture : Fungicide

1.3 Details of the supplier of the safety data sheet

Company : Syngenta SA (Pty) Ltd
P.O. Box 1044, No. 4 Krokodil drift Avenue
Brits 0250
South Africa

Telephone : +27 (0)12 2506 300

Telefax : -

E-mail address of person responsible for the SDS : sds.ame@syngenta.com

1.4 Emergency telephone number

Emergency telephone number : +27 (0) 82 446 8946 (Griffon)

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.
Reproductive toxicity, Category 1B	H360Df: May damage the unborn child. Suspected of damaging fertility.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.
Specific target organ toxicity - repeated exposure, Category 2, Liver	H373: May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

Hazard statements : H319 Causes serious eye irritation.
H360Df May damage the unborn child. Suspected of damaging fertility.
H373 May cause damage to organs (Liver) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

tetrahydro-2-furyl-methanol
propiconazole (ISO)
cyproconazole (ISO)

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
tetrahydro-2-furyl-methanol	97-99-4 202-625-6 603-061-00-7 01-2119968921-26-xxxx	Eye Irrit. 2; H319 Repr. 1B; H360Df	>= 50 - < 70
propiconazole (ISO)	60207-90-1 262-104-4 613-205-00-0	Acute Tox. 4; H302 Skin Sens. 1; H317 Repr. 1B; H360D	>= 20 - < 25

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

	01-2120865953-40-xxxx	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 <hr/> M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	
poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-	99734-09-5	Aquatic Chronic 3; H412	$\geq 10 - < 20$
cyproconazole (ISO)	94361-06-5 650-032-00-X 01-2120875673-42-xxxx	Acute Tox. 3; H301 Repr. 1B; H360D STOT RE 2; H373 (Liver) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 <hr/> M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	$\geq 2,5 - < 10$
calcium dodecylbenzene sulphonate	26264-06-2 247-557-8 01-2119560592-37-xxxx	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	$\geq 1 - < 2,5$
2-methylpropan-1-ol	78-83-1 201-148-0 603-108-00-1 01-2119484609-23-xxxx	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)	$\geq 1 - < 3$

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.

ARTEA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
3.1	28.09.2022	S00036898809	

- 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.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Nonspecific
No symptoms known or expected.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : There is no specific antidote available.
Treat symptomatically.

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.

ARTEA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
3.1	28.09.2022	S00036898809	

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.

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.

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.

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
propiconazole (ISO)	60207-90-1	TWA	5 mg/m ³	Syngenta
cyproconazole (ISO)	94361-06-5	TWA	0,4 mg/m ³	Syngenta
2-methylpropan-1-ol	78-83-1	OEL-RL	100 ppm	ZA OEL
Further information: Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents				

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

Substance name	End Use	Exposure routes	Potential health effects	Value
propiconazole (ISO)	Consumers	Oral	Long-term systemic effects	0,08 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	0,14 mg/kg bw/day
	Workers	Dermal	Long-term systemic effects	0,38 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	1,35 mg/m ³
castor oil, ethoxylated	Consumers	Inhalation	Long-term systemic effects	0,24 mg/m ³
	Workers	Inhalation	Long-term systemic effects	16,4 mg/m ³
	Workers	Dermal	Long-term systemic effects	4,67 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2,9 mg/m ³
calcium dodecylbenzene sulphonate	Consumers	Dermal	Long-term systemic effects	1,67 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	1,67 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	52 mg/m ³
	Workers	Inhalation	Acute systemic effects	52 mg/m ³
	Workers	Inhalation	Long-term local effects	52 mg/m ³
	Workers	Inhalation	Acute local effects	52 mg/m ³
	Workers	Dermal	Long-term systemic effects	57,2 mg/kg
	Workers	Dermal	Acute systemic effects	80 mg/kg
	Workers	Dermal	Long-term local effects	1,57 mg/cm ²

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

	Workers	Dermal	Acute local effects	1,57 mg/cm ²
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
tetrahydro-2-furyl-methanol	Workers	Inhalation	Long-term systemic effects	1,4 mg/m ³
	Workers	Dermal	Long-term systemic effects	1 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0,25 mg/m ³
	Consumers	Dermal	Long-term systemic effects	0,25 mg/kg
	Consumers	Oral	Long-term systemic effects	0,175 mg/kg
cyproconazole (ISO)	Workers	Inhalation	Long-term systemic effects	0,544 mg/m ³
	Consumers	Oral	Long-term systemic effects	0,032 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	0,172 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,096 mg/m ³
	Workers	Dermal	Long-term systemic effects	0,48 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
propiconazole (ISO)	Fresh water	0,019 mg/l
	Freshwater - intermittent	0,043 mg/l
	Sewage treatment plant	10 mg/l
	Marine water	0,001 mg/l
	Fresh water sediment	1,85 mg/l
	Marine sediment	0,067 mg/l
	Soil	0,008 mg/l
	Secondary poisoning	1,767 mg/l
castor oil, ethoxylated	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.)
calcium dodecylbenzene sulphonate	Fresh water	0,28 mg/l
	Marine water	0,458 mg/l
	Freshwater - intermittent	0,654 mg/l
	Sewage treatment plant	50 mg/l
	Fresh water sediment	27,5 mg/kg
	Marine sediment	2,75 mg/kg

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

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
tetrahydro-2-furyl-methanol	Marine water	0,04 mg/l
	Fresh water	1,9 mg/l
	Marine sediment	0,19 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	8,6 mg/kg
cyproconazole (ISO)	Marine water	0,86 mg/kg
	Soil	0,6 mg/kg
	Fresh water	0,0021 mg/l
	Freshwater - intermittent	0,00077 mg/l
	Marine water	0,00021 mg/l
	Marine water - intermittent	0,0026 mg/l
	Sewage treatment plant	3,2 mg/l
	Soil	0,011 mg/kg
	Fresh water sediment	0,5 mg/kg
Marine sediment	0,05 mg/kg	
	Secondary poisoning	0,6 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/face protection : Tightly fitting safety goggles
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

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 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

ARTEA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
3.1	28.09.2022	S00036898809	

- replaced if there is any indication of degradation or chemical breakthrough.
- 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 : No personal respiratory protective equipment normally required.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- 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

- | | | |
|--|---|---------------------------------|
| Appearance | : | clear to slightly turbid |
| Colour | : | yellow to brown |
| Odour | : | not characteristic, strong |
| Odour Threshold | : | No data available |
| pH | : | 5 - 9
Concentration: 1 % w/v |
| Melting point/range | : | No data available |
| Boiling point/boiling range | : | No data available |
| Flash point | : | 75 °C |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | No data available |
| 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 |
| Density | : | 1,12 g/cm ³ (25 °C) |
| Solubility(ies) | : | |
| Water solubility | : | No data available |

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	59,5 mPa.s (20 °C)
		23,3 mPa.s (40 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Surface tension	:	37,8 mN/m, 1 g/l
Particle size	:	No data available

SECTION 10: Stability and reactivity**10.1 Reactivity**

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

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 toxicological effects**

Information on likely routes of : Ingestion

ARTEA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
3.1	28.09.2022	S00036898809	

exposure

Inhalation
Skin contact
Eye contact

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): > 2.000 mg/kg
Assessment: The component/mixture is minimally toxic after single ingestion.
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Components:

propiconazole (ISO):

Acute oral toxicity : LD50 (Rat, female): 550 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 5,8 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5.000 mg/kg

poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

Acute oral toxicity : LD50 Oral (Rat): 5.000 mg/kg

cyproconazole (ISO):

Acute oral toxicity : LD50 (Rat, male): 350 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2,03 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

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

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2.000 - 2.460 mg/kg

Skin corrosion/irritation**Product:**

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

Components:**propiconazole (ISO):**

Species : Rabbit
Result : No skin irritation

cyproconazole (ISO):

Species : Rabbit
Result : No skin irritation

calcium dodecylbenzene sulphonate:

Result : Irritating to skin.

2-methylpropan-1-ol:

Result : Irritating to skin.

Serious eye damage/eye irritation**Product:**

Species : Rabbit
Result : Eye irritation
Remarks : Based on data from similar materials

Components:**tetrahydro-2-furyl-methanol:**

Result : Eye irritation

propiconazole (ISO):

Species : Rabbit
Result : No eye irritation

cyproconazole (ISO):

Species : Rabbit
Result : No eye irritation

ARTEA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
3.1	28.09.2022	S00036898809	

calcium dodecylbenzene sulphonate:

Result : Risk of serious damage to eyes.

2-methylpropan-1-ol:

Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

Test Type : Buehler Test
 Species : Guinea pig
 Result : Did not cause sensitisation on laboratory animals.
 Remarks : Based on data from similar materials

Components:

propiconazole (ISO):

Species : Guinea pig
 Result : The product is a skin sensitiser, sub-category 1B.

cyproconazole (ISO):

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:

propiconazole (ISO):

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

poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

Germ cell mutagenicity-Assessment : In vitro tests did not show mutagenic effects

cyproconazole (ISO):

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

Carcinogenicity

Components:

propiconazole (ISO):

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

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

Assessment carcinogen

cyproconazole (ISO):

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

Reproductive toxicity**Components:****tetrahydro-2-furyl-methanol:**

Reproductive toxicity - Assessment : Clear evidence of adverse effects on development, based on animal experiments., Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

propiconazole (ISO):

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

cyproconazole (ISO):

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

STOT - single exposure**Components:****propiconazole (ISO):**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

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.

STOT - repeated exposure**Components:****propiconazole (ISO):**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

cyproconazole (ISO):

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

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

SECTION 12: Ecological information

12.1 Toxicity

Product:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 14 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 38 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials
- Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 0,37 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials
- NOEC (Desmodesmus subspicatus (green algae)): 0,1 mg/l
End point: Growth rate
Exposure time: 96 h
Remarks: Based on data from similar materials
- EC10 (Desmodesmus subspicatus (green algae)): 0,04 mg/l
End point: Growth rate
Exposure time: 96 h
Remarks: Based on data from similar materials

Components:

propiconazole (ISO):

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4,3 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Americamysis): 0,51 mg/l
Exposure time: 96 h
- Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 8,9 mg/l
Exposure time: 96 h
- EC10 (Raphidocelis subcapitata (freshwater green alga)): 0,96 mg/l
End point: Growth rate
Exposure time: 72 h
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
- Toxicity to fish (Chronic toxicity) : NOEC: 0,068 mg/l
Exposure time: 95 d
Species: Cyprinodon variegatus (sheepshead minnow)

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,11 mg/l
Exposure time: 28 d
Species: Americamysis

M-Factor (Chronic aquatic toxicity) : 1

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 21 mg/l
Exposure time: 96 h

Ecotoxicology Assessment

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

cyproconazole (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 19 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 26 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 0,077 mg/l
Exposure time: 96 h

NOEC (Desmodesmus subspicatus (green algae)): 0,021 mg/l
Exposure time: 96 h

ErC50 (Lemna gibba (gibbous duckweed)): > 0,2 mg/l
Exposure time: 7 d

NOEC (Lemna gibba (gibbous duckweed)): 0,025 mg/l
End point: Growth rate
Exposure time: 7 d

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC: 0,305 mg/l
Exposure time: 93 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,023 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

calcium dodecylbenzene sulphonate:**Ecotoxicology Assessment**

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

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)

12.2 Persistence and degradability**Components:****propiconazole (ISO):**

Biodegradability : Result: Not readily biodegradable.

cyproconazole (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 5 d (20 °C)
Remarks: Product is not persistent.

2-methylpropan-1-ol:

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential**Components:****propiconazole (ISO):**

Bioaccumulation : Remarks: Medium bioaccumulation potential.

Partition coefficient: n-octanol/water : log Pow: 3,72 (25 °C)

cyproconazole (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3,1 (25 °C)

ARTEA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
3.1	28.09.2022	S00036898809	

12.4 Mobility in soil

Components:

propiconazole (ISO):

Distribution among environmental compartments : Remarks: Low to medium mobility in soil.
 Stability in soil : Dissipation time: 66 - 170 d
 Percentage dissipation: 50 % (DT50)
 Remarks: Product is not persistent.

cyproconazole (ISO):

Distribution among environmental compartments : Remarks: Low to medium mobility in soil.
 Stability in soil : Dissipation time: 100 - 124 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:

propiconazole (ISO):

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).

poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

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).

12.6 Other adverse effects

Product:

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

ARTEA

Version 3.1 Revision Date: 28.09.2022 SDS Number: S00036898809 This version replaces all previous versions.

levels of 0.1% or higher.

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.

SECTION 14: Transport information

14.1 UN number

- UNRTDG : UN 3082
IMDG : UN 3082
IATA : UN 3082

14.2 UN proper shipping name

- UNRTDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PROPICONAZOLE, CYPROCONAZOLE)
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PROPICONAZOLE AND CYPROCONAZOLE)
IATA : Environmentally hazardous substance, liquid, n.o.s. (PROPICONAZOLE AND CYPROCONAZOLE)

14.3 Transport hazard class(es)

- UNRTDG : 9
IMDG : 9
IATA : 9

14.4 Packing group

- UNRTDG
Packing group : III
Labels : 9
IMDG
Packing group : III

ARTEA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
3.1	28.09.2022	S00036898809	

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

14.5 Environmental hazards

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Other regulations:

None known.

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

H226 : Flammable liquid and vapour.
H301 : Toxic if swallowed.
H302 : Harmful if swallowed.
H315 : Causes skin irritation.

ARTEA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
3.1	28.09.2022	S00036898809	

H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness.
H360D	: May damage the unborn child.
H360Df	: May damage the unborn child. Suspected of damaging fertility.
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.
H412	: Harmful 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
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Repr.	: Reproductive toxicity
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
ZA OEL	: South Africa. The Regulations for Hazardous Chemical Agents, Occupational Exposure Limits
ZA OEL / OEL-RL	: Occupational Exposure Limit Restricted limit - 8- hour exposure or equivalent (12 hour shifts)

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;

ARTEA

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
3.1	28.09.2022	S00036898809	

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; 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**Classification of the mixture:**

Eye Irrit. 2	H319
Repr. 1B	H360Df
Aquatic Acute 1	H400
Aquatic Chronic 1	H410
STOT RE 2	H373

Classification procedure:

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

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