

SAFETY DATA SHEET



TALENDO®

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.06.2023	800080000320	Date of first issue: 07.06.2023

Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of South Africa and may not meet the regulatory requirements in other countries.

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

1.1 Product identifier

Trade name : TALENDO®

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

Use of the Sub-stance/Mixture : Fungicide

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

Manufacturer/importer

Corteva Agriscience RSA Proprietary Limited ("Corteva Agriscience RSA")
Block A, 2nd Floor, Lakefield Office Park, 272 West Avenue
Centurion, Gauteng, 0163
South Africa

Customer Information : +27 (0) 12 683 5700

Number

E-mail address : SDS@corteva.com

1.4 Emergency telephone number

24-Hour Local Emergency Contact: +27 82 895 0621

24-Hour Emergency Contact: +32 3 575 55 55

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Skin irritation, Category 2

Serious eye damage, Category 1

Carcinogenicity, Category 2

Long-term (chronic) aquatic hazard, Category 1

H315: Causes skin irritation.

H318: Causes serious eye damage.

H351: Suspected of causing cancer.

H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

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Hazard pictograms

:



Signal word

:

Danger

Hazard statements

:

H315 Causes skin irritation.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements

:

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

:

Prevention:

P201 Obtain special instructions before use.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P391 Collect spillage.

Disposal:

P501 Dispose of contents/container in accordance with applicable regulations.

Hazardous components which must be listed on the label:

proquinazid (ISO)

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt

Calcium dodecylbenzene sulfonate

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)

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proquinazid (ISO)	189278-12-4 616-211-00-1	Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	>= 10 - < 20
Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt	1335202-81-7 01-2119560592-37	Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 3 - < 10
Calcium dodecylbenzene sulfonate	26264-06-2 247-557-8 01-2119560592-37	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 1 - < 3
Ethylhexanol	104-76-7 203-234-3 01-2119487289-20	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system)	>= 1 - < 3

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Never give anything by mouth to an unconscious person.
- If inhaled : Move to fresh air.
Consult a physician after significant exposure.
Artificial respiration and/or oxygen may be necessary.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off immediately with soap and plenty of water.
In the case of skin irritation or allergic reactions see a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : If easy to do, remove contact lens, if worn.
Hold eye open and rinse slowly and gently with water for 15-20 minutes.
If eye irritation persists, consult a specialist.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do not induce vomiting without medical advice.
If victim is conscious:
Rinse mouth with water.

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Drink 1 or 2 glasses of water.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No cases of human intoxication are known and the symptoms of experimental intoxication are not known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)

Unsuitable extinguishing media : Do not use direct water stream.
High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
Vapours may form explosive mixtures with air.
Do not allow run-off from fire fighting to enter drains or water courses.
Flash back possible over considerable distance.

Hazardous combustion products : During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.
Combustion products may include and are not limited to:
Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.

Further information : Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.
Do not use a solid water stream as it may scatter and spread

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fire.
Use a water spray to cool fully closed containers.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Use personal protective equipment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions

Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
Prevent from entering into soil, ditches, sewers, underwater.
See Section 12, Ecological Information.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped,
Recovered material should be stored in a vented container.
The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to over-pressurization of the container.
Keep in suitable, closed containers for disposal.
Wipe up with absorbent material (e.g. cloth, fleece).
Non-sparking tools should be used.
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).
Suppress (knock down) gases/vapours/mists with a water spray jet.
See Section 13, Disposal Considerations, for additional information.

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6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- | | | |
|-------------------------|---|---|
| Local/Total ventilation | : | Use with local exhaust ventilation. |
| Advice on safe handling | : | To avoid spills during handling keep bottle on a metal tray.
Avoid formation of aerosol.
Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapours/dust.
Do not smoke.
Handle in accordance with good industrial hygiene and safety practice.
Avoid exposure - obtain special instructions before use.
Smoking, eating and drinking should be prohibited in the application area.
Do not get on skin or clothing.
Avoid inhalation of vapour or mist.
Do not swallow.
Do not get in eyes.
Avoid contact with skin and eyes.
Keep container tightly closed.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. |
| Hygiene measures | : | Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing. Keep working clothes separately. Contaminated work clothing should not be allowed out of the workplace. Wash hands and face before breaks and immediately after handling the product. Remove clothing/PPE immediately if material gets inside. For environmental protection remove and wash all contaminated protective equipment before re-use. Dispose of rinse water in accordance with local and national regulations. |

7.2 Conditions for safe storage, including any incompatibilities

- | | | |
|---|---|--|
| Requirements for storage areas and containers | : | Store in a closed container. No smoking. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers. Store in accordance with the particular national regulations. |
| Advice on common storage | : | Strong oxidizing agents
Explosives
Gases |
| Packaging material | : | Unsuitable material: None known. |

7.3 Specific end use(s)

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Specific use(s) : Plant protection products subject to Regulation (EC) No 1107/2009.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Ethylhexanol	104-76-7	TWA	1 ppm 5,4 mg/m ³	2017/164/EU
		TWA	2 ppm	Corteva OEL

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Ethylhexanol	Workers	Inhalation	Long-term systemic effects	12,8 mg/m ³
	Workers	Inhalation	Long-term local effects	53,2 mg/m ³
	Workers	Inhalation	Acute local effects	53,2 mg/m ³
	Workers	Skin contact	Long-term systemic effects	23 mg/kg bw/day
	Workers	Inhalation	Acute local effects	106,4 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	2,3 mg/m ³
	Consumers	Inhalation	Long-term local effects	26,6 mg/m ³
	Consumers	Inhalation	Acute local effects	26,6 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	11,4 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	1,1 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
Ethylhexanol	Fresh water	0,017 mg/l
	Intermittent use/release	0,17 mg/l
	Marine water	0,002 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0,284 mg/kg dry weight (d.w.)
	Marine sediment	0,028 mg/kg dry weight (d.w.)
	Soil	0,047 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	55 mg/kg food

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8.2 Exposure controls**Engineering measures**

Ensure adequate ventilation, especially in confined areas.
Contains no substances with occupational exposure limit values.

Personal protective equipment

Eye/face protection : Safety glasses with side-shields conforming to EN166
Hand protection

Remarks : The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. 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 suitability for a specific workplace should be discussed with the producers of the protective gloves. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Before removing gloves clean them with soap and water.

Skin and body protection : Field and greenhouse application:
Full protective clothing Type 3 (EN 14605)
Manufacturing and processing work:
Full protective clothing Type 5 + 6 (EN ISO 13982-2 / EN 13034)

Respiratory protection : Manufacturing and processing work:
Half mask with vapour filter A1 (EN 141)

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
All chemical protective clothing should be visually inspected prior to use. Clothing and gloves should be replaced in case of chemical or physical damage or if contaminated.
Only protected handlers may be in the area during application.

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

Appearance	: liquid
Colour	: brown
Odour	: sweet, ester-like
Odour Threshold	: not determined
pH	: 6,2 (20 °C) Concentration: 10 g/L
Melting point/range	: Not applicable
Freezing point	No data available
Boiling point/boiling range	: No data available

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Flash point	:	74 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	not auto-flammable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	0,9758
Density	:	No data available
Solubility(ies)		
Water solubility	:	emulsifiable
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	3,79 mm ² /s (20 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Self-ignition	:	285 °C
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SECTION 10: Stability and reactivity**10.1 Reactivity**

No dangerous reaction known under conditions of normal use.
Not classified as a reactivity hazard.

10.2 Chemical stability

No decomposition if stored and applied as directed.
Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Vapours may form explosive mixture with air.
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Stable under recommended storage conditions.
No hazards to be specially mentioned.
Vapours may form explosive mixture with air.
May form explosive dust-air mixture.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Strong acids
Strong bases

10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials.
Decomposition products can include and are not limited to:
Carbon oxides

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity****Product:**

Acute oral toxicity	: LD50 (Rat): > 2.000 mg/kg Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	: LC50 (Rat): > 6,9 mg/l Exposure time: 4 h Test atmosphere: vapour Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	: LD50 (Rat): > 5.000 mg/kg Method: OECD Test Guideline 402

Components:**proquinazid (ISO):**

Acute oral toxicity	: LD50 (Rat, male): > 5.000 mg/kg Method: OECD Test Guideline 401 LD50 (Rat, female): 4.846 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	: LC50 (Rat, male and female): > 5,2 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: No deaths occurred at this concentration.

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Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Acute oral toxicity : LD50 (Rat, female): 4.445 mg/kg

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

Calcium dodecylbenzene sulfonate:

Acute oral toxicity : LD50 (Rat): > 1.000 mg/kg
Method: Estimated.

Acute inhalation toxicity : LC50 (Rat): > 2 mg/l
Test atmosphere: dust/mist
Method: Estimated.

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: Estimated.

Ethylhexanol:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Target Organs: Central nervous system

Acute inhalation toxicity : LC50 (Rat): 2,17 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

LC50 (Rat): 1,5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 3.000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation**Product:**

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

Components:**proquinazid (ISO):**

Species : Rabbit
Method : OECD Test Guideline 404

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Result : No skin irritation

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Species : Rabbit
Result : Skin irritation

Calcium dodecylbenzene sulfonate:

Species : Rabbit
Result : Skin irritation

Ethylhexanol:

Species : Rabbit
Result : Skin irritation

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

Species : Rabbit
Method : OECD Test Guideline 405
Result : Corrosive

Components:**proquinazid (ISO):**

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

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Species : Rabbit
Result : Corrosive

Calcium dodecylbenzene sulfonate:

Species : Rabbit
Result : Corrosive

Ethylhexanol:

Species : Rabbit
Result : Eye irritation

Respiratory or skin sensitisation**Product:**

Test Type : Maximisation Test
Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Method : US EPA Test Guideline OPPTS 870.2600

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Components:**proquinazid (ISO):**

Test Type	: Maximisation Test
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: Did not cause sensitisation on laboratory animals.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Species	: Guinea pig
Assessment	: Does not cause skin sensitisation.

Calcium dodecylbenzene sulfonate:

Species	: Guinea pig
Assessment	: Does not cause skin sensitisation.

Ethylhexanol:

Test Type	: HRIPT (human repeat insult patch test)
Species	: human
Assessment	: Does not cause skin sensitisation.

Germ cell mutagenicity**Components:****proquinazid (ISO):**

Germ cell mutagenicity- Assessment	: In vitro genetic toxicity studies were negative., In vivo tests did not show mutagenic effects
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Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Germ cell mutagenicity- Assessment	: In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.
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Calcium dodecylbenzene sulfonate:

Germ cell mutagenicity- Assessment	: For similar material(s):, In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.
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Ethylhexanol:

Germ cell mutagenicity- Assessment	: In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.
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Carcinogenicity**Components:****proquinazid (ISO):**

Carcinogenicity - Assessment	: Has caused cancer in laboratory animals.
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Calcium dodecylbenzene sulfonate:

Carcinogenicity - Assessment : For similar material(s); Did not cause cancer in laboratory animals.

Ethylhexanol:

Carcinogenicity - Assessment : In laboratory animals, evidence of carcinogenic activity was observed., There is no evidence that these findings are relevant to humans.

Reproductive toxicity**Components:****proquinazid (ISO):**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. Did not cause birth defects in laboratory animals.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. Did not cause birth defects or any other fetal effects in laboratory animals.

Calcium dodecylbenzene sulfonate:

Reproductive toxicity - Assessment : For similar material(s); In animal studies, did not interfere with reproduction.
For this family of materials; Has been toxic to the fetus in laboratory animals at doses toxic to the mother., Did not cause birth defects in laboratory animals.

Ethylhexanol:

Reproductive toxicity - Assessment : Has caused birth defects in laboratory animals only at doses toxic to the mother., Has been toxic to the fetus in laboratory animals at doses toxic to the mother., These concentrations exceed relevant human dose levels.

STOT - single exposure**Product:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Components:**proquinazid (ISO):**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Calcium dodecylbenzene sulfonate:

Assessment : Evaluation of available data suggests that this material is not

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an STOT-SE toxicant.

Ethylhexanol:

Exposure routes	: Inhalation
Target Organs	: Respiratory Tract
Assessment	: May cause respiratory irritation.

Repeated dose toxicity**Components:****proquinazid (ISO):**

Species	: Rat
Application Route	: Diet
Remarks	: In animals, effects have been reported on the following organs: Liver effects Kidney effects Thyroid effects Abnormal serum enzyme levels Organ weight changes altered hematology

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Remarks	: Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
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Calcium dodecylbenzene sulfonate:

Remarks	: Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
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Ethylhexanol:

Remarks	: In animals, effects have been reported on the following organs: Blood. Kidney. Liver. Spleen.
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Aspiration toxicity**Product:**

Based on physical properties, not likely to be an aspiration hazard.

Components:**proquinazid (ISO):**

Based on physical properties, not likely to be an aspiration hazard.

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Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Based on physical properties, not likely to be an aspiration hazard.

Ethylhexanol:

May be harmful if swallowed and enters airways.

SECTION 12: Ecological information**12.1 Toxicity****Product:**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 2,3 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia (water flea)): 1,8 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 2,5 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes
Toxicity to terrestrial organisms	:	oral LD50: > 9975 µg/b Exposure time: 48 h End point: mortality Species: Apis mellifera (bees) Method: OECD Test Guideline 213 GLP:yes contact LD50: > 100 µg/b Exposure time: 48 h End point: mortality Species: Apis mellifera (bees) Method: OECD Test Guideline 214 GLP:yes

Ecotoxicology Assessment

Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.
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Components:**proquinazid (ISO):**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0,349 mg/l Exposure time: 96 h
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	Method: OECD Test Guideline 203 GLP: yes
	LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,454 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 0,287 mg/l Exposure time: 48 h Test Type: flow-through test Method: OECD Test Guideline 202 GLP: yes
	EC50 (Americamysis bahia (mysid shrimp)): 0,11 mg/l Exposure time: 96 h Test Type: flow-through test Method: US EPA Test Guideline OPP 72-3 GLP: yes
Toxicity to algae/aquatic plants	: ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0,740 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes
	EC50 (Lemna gibba (duckweed)): > 0,2 mg/l End point: Frond Exposure time: 14 d Method: US EPA Test Guideline OPP 122-2 & 123-2
M-Factor (Acute aquatic toxicity)	: 1
Toxicity to fish (Chronic toxicity)	: NOEC: 0,0030 mg/l Exposure time: 90 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: Early Life-Stage Method: OECD Test Guideline 210 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 0,0018 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202 GLP: yes
M-Factor (Chronic aquatic toxicity)	: 10
Toxicity to soil dwelling organisms	: LC50: > 1.000 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP: yes

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Toxicity to terrestrial organisms : LD50: > 2.250 mg/kg
Species: *Colinus virginianus* (Bobwhite quail)
Method: US EPA Test Guideline OPP 71-1
GLP:yes

LC50: > 5.620 mg/kg
Exposure time: 5 d
Species: *Colinus virginianus* (Bobwhite quail)
Method: OECD Test Guideline 205
GLP:yes

LC50: > 5.620 mg/kg
Exposure time: 5 d
Species: *Anas platyrhynchos* (Mallard duck)
Method: OECD Test Guideline 205
GLP:yes

oral LD50: > 0,125 mg/kg
Exposure time: 72 h
Species: *Apis mellifera* (bees)
Method: OEPP/EPPO Test Guideline 170
GLP:yes

contact LD50: > 0,197 mg/kg
Exposure time: 72 h
Species: *Apis mellifera* (bees)
Method: OEPP/EPPO Test Guideline 170
GLP:yes

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Toxicity to fish : LC50 (Fish): > 1 - 10 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 2,9 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae/aquatic plants : EC50 (Algae): 29 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to microorganisms : EC50 (Bacteria): 550 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 0,23 mg/l
Exposure time: 72 d
Species: Fish
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic) : NOEC: 1,18 mg/l
Exposure time: 21 d

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Toxicity to microorganisms : EC50 (Bacteria): 256 - 320 mg/l
Exposure time: 16 h

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12.2 Persistence and degradability**Product:**

Biodegradability : Remarks: Not readily biodegradable.
Estimation based on data obtained on active ingredient.

Components:**proquinazid (ISO):**

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 1 %
Exposure time: 28 d
Remarks: Material is not readily biodegradable according to OECD/EEC guidelines.

Stability in water : Test Type: Photolysis
Degradation half life (DT50): 0,03 d

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent
Remarks: 10-day Window: Pass

Calcium dodecylbenzene sulfonate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 95 %
Exposure time: 28 d
Method: OECD Test Guideline 301E or Equivalent
Remarks: 10-day Window: Pass

Ethylhexanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: > 95 %
Exposure time: 5 d
Method: OECD Test Guideline 302B or Equivalent
Remarks: 10-day Window: Not applicable

Biodegradation: 68 %
Exposure time: 17 d
Method: OECD Test Guideline 301B or Equivalent
Remarks: 10-day Window: Pass

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals
Rate constant: 1,32E-11 cm³/s
Method: Estimated.

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12.3 Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT).
This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

Remarks: Does not bioaccumulate.
Estimation based on data obtained on active ingredient.

Components:**proquinazid (ISO):**

Bioaccumulation : Species: *Lepomis macrochirus* (Bluegill sunfish)
Bioconcentration factor (BCF): 821
Method: OECD Test Guideline 305
GLP: yes
Remarks: The substance has a high potential of bioaccumulation.

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Bioaccumulation : Bioconcentration factor (BCF): 2 - 1.000

Partition coefficient: n-octanol/water : log Pow: 2,89
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Calcium dodecylbenzene sulfonate:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 71
Method: Estimated.

Partition coefficient: n-octanol/water : log Pow: 4,77 (25 °C)
Method: estimated
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Ethylhexanol:

Partition coefficient: n-octanol/water : log Pow: 3,1
Method: Measured
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

12.4 Mobility in soil**Product:**

Distribution among environmental compartments : Remarks: The product is not expected to be mobile in soils.

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Components:**proquinazid (ISO):**

Distribution among environmental compartments : Koc: 821
Remarks: The product is not expected to be mobile in soils.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Distribution among environmental compartments : Remarks: No relevant data found.

Ethylhexanol:

Distribution among environmental compartments : Koc: 800
Method: Estimated.
Remarks: Potential for mobility in soil is low (Koc between 500 and 2000).

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:**proquinazid (ISO):**

Assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

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).

Calcium dodecylbenzene sulfonate:

Assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Ethylhexanol:

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

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(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Components:**proquinazid (ISO):**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Calcium dodecylbenzene sulfonate:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Ethylhexanol:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Product : If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.
If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

SECTION 14: Transport information**14.1 UN number**

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

14.2 UN proper shipping name

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

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
Labels	: 9
EmS Code	: F-A, S-F
Remarks	: Stowage category A

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(Proquinazid)

14.6 Special precautions for user

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA Special provision A197, and ADR/RID special provision 375.

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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**

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

15.2 Chemical safety assessment

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

The mixture is evaluated within the frame of the provisions of Regulation (EC) No. 1107/2009. Refer to the label for exposure assessment information.

SECTION 16: Other information**Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company. Classification was done in accordance with UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Purple Book and complies with the Regulations for Hazardous Chemical Agents, 2021.

Full text of H-Statements

H302	: Harmful if swallowed.
H315	: Causes skin irritation.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H335	: May cause respiratory irritation.
H351	: Suspected of causing cancer.
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

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Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Skin Irrit.	: Skin irritation
STOT SE	: Specific target organ toxicity - single exposure
2017/164/EU	: Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
Corteva OEL	: Corteva Occupational Exposure Limit
2017/164/EU / TWA	: Limit Value - eight hours
Corteva OEL / TWA	: 8-hr TWA

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

Other information : Take notice of the directions of use on the label.

Classification of the mixture:

Classification procedure:

Skin Irrit. 2	H315	Based on product data or assessment
Eye Dam. 1	H318	Based on product data or assessment
Carc. 2	H351	Calculation method
Aquatic Chronic 1	H410	Based on product data or assessment

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