

SAFETY DATA SHEET



TALENDO® EC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	14.07.2023	800080000320	Date of first issue: 14.07.2023

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 Georgia and may not meet the regulatory requirements in other countries.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : TALENDO® EC

Manufacturer or supplier's details

COMPANY IDENTIFICATION

Manufacturer/importer : Corteva Agriscience International S.a.r.l.
Route de Suisse 160
CH-1290 Versoix
Switzerland

E-mail address : SDS@corteva.com

Emergency telephone number : +32 3 575 55 55

Recommended use of the chemical and restrictions on use

Recommended use : Fungicide

2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 4

Skin irritation : Category 2

Serious eye damage : Category 1

Carcinogenicity : Category 2

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 1

GHS-Labeling

Hazard pictograms :

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Signal word : Danger

Hazard statements :
H227 Combustible liquid.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H401 Toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :
Prevention:
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
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.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391 Collect spillage.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Components

Chemical name	CAS-No.	Classification	MAC value mg/m ³ / TSEL value	Concentration (% w/w)
proquinazid (ISO)	189278-12-4	Acute Tox.5; H303 Acute Tox.5; H333 Carc.2; H351 Aquatic Acute1; H400 Aquatic Chronic1; H410	No data available	20,52

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Benzenesulfonic acid, C10-13-alkyl derivs., calcium salt	1335202-81-7	Acute Tox.5; H303 Skin Irrit.2; H315 Eye Dam.1; H318 Aquatic Acute2; H401 Aquatic Chronic3; H412	No data available	>= 3 - < 10
Calcium dodecylbenzene sulfonate	26264-06-2	Acute Tox.4; H302 Acute Tox.5; H313 Skin Irrit.2; H315 Eye Dam.1; H318 Aquatic Acute2; H401	No data available	>= 1 - < 3
Ethylhexanol	104-76-7	Flam. Liq.4; H227 Acute Tox.5; H303 Acute Tox.4; H332 Acute Tox.5; H313 Skin Irrit.2; H315 Eye Irrit.2A; H319 STOT SE3; H335 (Respiratory system) Asp. Tox.2; H305 Aquatic Acute3; H402	MPC-STEL: 10 mg/m3 Class 3 - Moderately dangerous, Substances which require special skin and eye protection Data Source: RU OEL	>= 1 - < 3

For explanation of abbreviations see section 16.

4. 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.

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In case of eye contact	:	Wash contaminated clothing before re-use. 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. Drink 1 or 2 glasses of water.
Most important symptoms and effects, both acute and delayed	:	No cases of human intoxication are known and the symptoms of experimental intoxication are not known.
Notes to physician	:	Treat symptomatically.

5. FIREFIGHTING MEASURES

Flammable properties

Flash point	:	74 °C
Ignition temperature	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flammability (solid, gas)	:	not auto-flammable
Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO ₂)
Unsuitable extinguishing media	:	Do not use direct water stream. High volume water jet
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
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 af-

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fected zone until fire is out and danger of reignition has passed.
 Do not use a solid water stream as it may scatter and spread 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.

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.

6. ACCIDENTAL RELEASE MEASURES

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

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.

Methods and materials for containment and 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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7. HANDLING AND STORAGE

- 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.
- Conditions for safe storage : 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.
- Materials to avoid : Strong oxidizing agents
Explosives
Gases
- Packaging material : Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethylhexanol	104-76-7	TWA	2 ppm	Corteva OEL
		MPC-STEL (aerosol)	10 mg/m ³	RU OEL
Further information: Class 3 - Moderately dangerous, Substances which require special skin and eye protection				
		TWA	1 ppm 5,4 mg/m ³	2017/164/EU

- Engineering measures** : Ensure adequate ventilation, especially in confined areas.

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Personal protective equipment

- Respiratory protection : Where there is potential for airborne exposures in excess of applicable limits, wear approved respiratory protection with dust/mist cartridge.
- Hand protection
- Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
- Eye protection : Wear protective eyewear to prevent contact with this substance.
- Skin and body protection : Personal protective equipment required for early entry:
Coveralls
Chemical-resistant gloves, Category A (such as butyl rubber, naturalrubber, neoprene rubber, or nitrile rubber), all greater than or equalto 14 mils
Shoes plus socks
- Protective measures : Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.
- Hygiene measures : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
Remove clothing/PPE immediately if material gets inside.
Wash thoroughly and put on clean clothing.
Remove personal protective equipment immediately after handling this product.
Wash the outside of gloves before removing.
As soon as possible, wash thoroughly and change into clean clothing.

9. 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

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Melting point/range : Not applicable

Freezing point : No data available

Boiling point/boiling range : No data available

Flash point : 74 °C

Evaporation rate : No data available

Flammability (solid, gas) : not auto-flammable

Self-ignition : 285 °C

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

Auto-ignition temperature : No data available

Viscosity
Viscosity, dynamic : No data available
Viscosity, kinematic : 3,79 mm²/s (20 °C)

Explosive properties : Not explosive

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

10. STABILITY AND REACTIVITY

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

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

Possibility of hazardous reactions : Vapours may form explosive mixture with air. Stable under recommended storage conditions. No hazards to be specially mentioned.

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Vapours may form explosive mixture with air.
May form explosive dust-air mixture.

Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong acids Strong bases
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

11. TOXICOLOGICAL INFORMATION

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. 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

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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

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
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

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

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

Components:**proquinazid (ISO):**

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

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

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

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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

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.

Calcium dodecylbenzene sulfonate:

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

Ethylhexanol:

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

Carcinogenicity**Components:****proquinazid (ISO):**

Carcinogenicity - Assessment : Has caused cancer in laboratory animals.

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.

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essment 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 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:

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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.

Calcium dodecylbenzene sulfonate:

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

Ethylhexanol:

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

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.

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.

12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2,3 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes

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- 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 (Apis mellifera (bees)): > 9975 µg/b
Exposure time: 48 h
End point: mortality
Method: OECD Test Guideline 213
GLP: yes
- contact LD50 (Apis mellifera (bees)): > 100 µg/b
Exposure time: 48 h
End point: mortality
Method: OECD Test Guideline 214
GLP: yes

Ecotoxicology Assessment

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

Components:**proquinazid (ISO):**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,349 mg/l
Exposure time: 96 h
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

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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 (Oncorhynchus mykiss (rainbow trout)): 0,0030 mg/l
Exposure time: 90 d
Test Type: Early Life-Stage
Method: OECD Test Guideline 210
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0,0018 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 202
GLP: yes

M-Factor (Chronic aquatic toxicity) : 10
Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 1.000 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 207
GLP: yes

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

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

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

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

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

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

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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 fish (Chronic toxicity)	:	NOEC (Fish): 0,23 mg/l Exposure time: 72 d Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 1,18 mg/l Exposure time: 21 d Test Type: flow-through test
Toxicity to microorganisms	:	EC50 (Bacteria): 550 mg/l Exposure time: 3 h

Calcium dodecylbenzene sulfonate:

Toxicity to fish	:	LC50 (Rainbow trout (<i>Salmo gairdneri</i>)): 3,2 - 5,6 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on information for a similar material:
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2,5 mg/l Exposure time: 48 h Test Type: Static Method: OECD Test Guideline 202 Remarks: For similar material(s):
Toxicity to algae/aquatic plants	:	ErC50 (<i>Pseudokirchneriella subcapita</i>): 65,4 mg/l Exposure time: 72 h Test Type: Static Method: OECD Test Guideline 201 Remarks: For similar material(s):
		NOEC (<i>Pseudokirchneriella subcapita</i>): 7,9 mg/l Exposure time: 72 h Test Type: Static Method: OECD Test Guideline 201 Remarks: For similar material(s):

Ethylhexanol:

Toxicity to fish	:	LC50 (<i>Oncorhynchus mykiss</i> (rainbow trout)): 32 - 37 mg/l Exposure time: 96 h
		LC50 (<i>Fathead minnow</i> (<i>Pimephales promelas</i>)): 28,2 mg/l Exposure time: 96 h Method: OECD Test Guideline 203

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- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 35,2 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- EC50 (Daphnia magna (Water flea)): 39 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202 or Equivalent
- Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 11,5 mg/l
End point: Growth rate inhibition
Exposure time: 72 h
Method: OECD Test Guideline 201 or Equivalent
- Toxicity to microorganisms : EC50 (Bacteria): 256 - 320 mg/l
Exposure time: 16 h

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.

SAFETY DATA SHEET



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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

Biochemical Oxygen Demand (BOD) : 26 - 70 %
Incubation time: 5 d

75 - 81 %
Incubation time: 10 d

86 - 87 %
Incubation time: 20 d

Chemical Oxygen Demand (COD) : 2,70 kg/kg

ThOD : 2,95 kg/kg

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

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

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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).

Mobility in soil**Product:**

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

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).

Other adverse effects**Components:****proquinazid (ISO):**

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

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

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

Results of PBT and vPvB 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).

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

Calcium dodecylbenzene sulfonate:

Results of PBT and vPvB assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

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

Ethylhexanol:

Results of PBT and vPvB 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).

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

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : 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.

14. TRANSPORT INFORMATION**ADR**

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Proquinazid)
Class	:	9
Packing group	:	III

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Labels : 9
 Hazard Identification Number : 90
 Tunnel restriction code : (-)
 Environmentally hazardous : yes

UNRTDG

UN number : UN 3082
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
 N.O.S.
 (Proquinazid)

Class : 9
 Packing group : III
 Labels : 9

IATA-DGR

UN/ID No. : UN 3082
 Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
 (Proquinazid)

Class : 9
 Packing group : III
 Labels : Miscellaneous
 Packing instruction (cargo aircraft) : 964
 Packing instruction (passenger aircraft) : 964

IMDG-Code

UN number : UN 3082
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
 N.O.S.
 (Proquinazid)

Class : 9
 Packing group : III
 Labels : 9
 EmS Code : F-A, S-F
 Marine pollutant : yes(Proquinazid)
 Remarks : Stowage category A

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Further information

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.

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.

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15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

Full text of H-Statements

H227	Combustible liquid.
H302	Harmful if swallowed.
H303	May be harmful if swallowed.
H305	May be harmful if swallowed and enters airways.
H313	May be harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H333	May be harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful 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
Asp. Tox.	:	Aspiration hazard
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
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
RU OEL	:	SanPiN 1.2.3685-21 Table 2.1, Table 2.8, Table 2.16 & Table 2.17 Maximum permissible concentrations (MPC) in the air of the working area
2017/164/EU / TWA	:	Limit Value - eight hours
Corteva OEL / TWA	:	8-hr TWA
RU OEL / MPC-STEL	:	Maximum Permissible Concentration - Short Term Exposure

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; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada);

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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; 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.

Product code: GF-4031

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 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.

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