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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 Great Britain 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 : KERB™ FLO

Unique Formula Identifier : 9949-K0EH-M00K-YDQY

(UFI)

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

Use of the Sub- : End use herbicide product

stance/Mixture

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

Manufacturer/importer

Corteva Agriscience UK Ltd CPC2 CAPITAL PARK

FULBOURN CAMBRIDGE - England - CB21 5XE

UNITED KINGDOM

Customer Information : +44 8006 89 8899

Number

E-mail address : SDS@corteva.com

1.4 Emergency telephone number

SGS +32 3 575 55 55 OR

+44 161 88 41235

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Skin sensitisation, Category 1 H31

H317: May cause an allergic skin reaction.

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Carcinogenicity, Category 2

Short-term (acute) aquatic hazard, Cate-

gory 1

Long-term (chronic) aquatic hazard, Cat-

egory 1

H351: Suspected of causing cancer.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting

effects.

2.2 Label elements

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

Hazard pictograms :







Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P201 Obtain special instructions before use. P261 Avoid breathing mist or vapours.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection/ hearing protection.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

P391 Collect spillage.

Disposal:

P501 Dispose of contents/container to a licensed hazardouswaste disposalcontractor or collection site except for empty clean containers whichcan be disposed of as non-hazardous

waste.

Hazardous components which must be listed on the label:

propyzamide (ISO)

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt

1,2-benzisothiazol-3(2H)-one

Additional Labelling

EUH401 To avoid risks to human health and the environment, comply with the instruc-

tions for use.

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2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
propyzamide (ISO)	23950-58-5 245-951-4 616-055-00-4	Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 100	35.09
2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt	68540-70-5	Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 3 - < 10
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 3; H412 M-Factor (Acute aquatic toxicity): 1 specific concentration limit	>= 0.0025 - < 0.025

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		Skin Sens. 1; H317 >= 0.05 %		
Substances with a workplace exposure limit :				
Propylene glycol	57-55-6		>= 3 - < 10	
	200-338-0			
	01-2119456809-23			

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : No emergency medical treatment necessary.

In case of skin contact : Take off contaminated clothing. Rinse skin immediately with

plenty of water for 15-20 minutes. Call a poison control center

or doctor for treatment advice.

Suitable emergency safety shower facility should be available

in work area.

In case of eye contact : Hold eyes open and rinse slowly and gently with water for 15-

20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control

center or doctor for treatment advice.

If swallowed : No emergency medical treatment necessary.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No specific antidote.

Treatment of exposure should be directed at the control of

symptoms and the clinical condition of the patient.

Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or

doctor, or going for treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray

Alcohol-resistant foam

Unsuitable extinguishing

media

: None known.

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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. Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion prod: :

ucts

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

Nitrogen oxides (NOx) Hydrogen chloride gas

5.3 Advice for firefighters

Special protective equipment :

for firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

Specific extinguishing meth-

ods

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Further information : 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.

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6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Clean up remaining materials from spill with suitable absorb-

ant.

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).

Soak up with inert absorbent material (e.g. sand, silica gel,

acid binder, universal binder, sawdust).

See Section 13, Disposal Considerations, for additional infor-

mation.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : 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 ap-

plication area.

Avoid inhalation of vapour or mist.

Do not swallow.

Avoid contact with skin and eyes.

Avoid contact with eyes.

Avoid prolonged or repeated contact with skin.

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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Store in a closed container. 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

Packaging material : Unsuitable material: None known.

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7.3 Specific end use(s)

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
Propylene glycol	57-55-6	Long-term expo- sure limit (8-hour TWA reference period) (Total vapour and parti- cles)	150 ppm 474 mg/m3	GB EH40
		Long-term expo- sure limit (8-hour TWA reference period) (particles)	10 mg/m3	GB EH40
1,2-benzisothiazol- 3(2H)-one	2634-33-5	Time weighted average	0.06 mg/m3	Dow IHG
		Short term expo- sure limit	0.1 mg/m3	Dow IHG
Propylene glycol	57-55-6	Long-term expo- sure limit (8-hour TWA reference period) (Total vapour and parti- cles)	150 ppm 474 mg/m3	GB EH40
		Long-term expo- sure limit (8-hour TWA reference period) (particles)	10 mg/m3	GB EH40

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health ef-	Value
			fects	
Propylene glycol	Workers	Skin contact	Acute systemic ef-	
			fects	
	Remarks:No da	ta available		
	Workers	Inhalation	Acute systemic ef-	
			fects	
	Remarks:No data available			
	Workers	Skin contact	Acute local effects	
	Remarks:No data available			
	Workers	Inhalation	Acute local effects	
	Remarks:No data available			
	Workers	Skin contact	Long-term systemic	
			effects	

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Remarks:No d	ata available				
Workers	Inhalation	Long-term systemic effects	168 mg/m3		
Workers	Skin contact	Long-term local ef- fects			
Remarks:No d	Remarks:No data available				
Workers	Inhalation	Long-term local ef- fects	10 mg/m3		
Consumers	Skin contact	Acute systemic ef- fects			
Remarks:No d	Remarks:No data available				
Consumers	Inhalation	Acute systemic effects			
Remarks:No d	Remarks:No data available				
Consumers	Skin contact	Acute local effects			
Remarks:No d	ata available				
Consumers	Inhalation	Acute local effects			
Remarks:No d	ata available				
Consumers	Skin contact	Long-term systemic effects			
Remarks:No d	Remarks:No data available				
Consumers	Inhalation	Long-term systemic effects	50 mg/m3		
Consumers	Skin contact	Long-term local ef- fects			
Remarks:No d	ata available	<u> </u>	•		
Consumers	Inhalation	Long-term local ef- fects	10 mg/m3		

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
Propylene glycol	Fresh water	260 mg/l
	Marine water	26 mg/l
	Intermittent use/release	183 mg/l
	Sewage treatment plant	20000 mg/l
	Fresh water sediment	572 mg/kg dry
		weight (d.w.)
	Marine sediment	57.2 mg/kg dry
		weight (d.w.)
	Soil	50 mg/kg dry
		weight (d.w.)

8.2 Exposure controls

Engineering measures

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

Personal protective equipment

Eye/face protection

: Use safety glasses (with side shields).

Hand protection

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Remarks : Use gloves chemically resistant to this material. Examples of

preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). 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.

Skin and body protection : Use protective clothing chemically resistant to this material.

Selection of specific items such as face shield, boots, apron,

or full body suit will depend on the task.

Respiratory protection : Respiratory protection should be worn when there is a poten-

tial to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced,

or where indicated by your risk assessment process.

For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved

air-purifying respirator.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Liquid.
Colour : tan
Odour : Mild

Odour Threshold : No data available

pH : 7.91

Method: pH Electrode (1% aqueous suspension)

Melting point/range : Not applicable

Freezing point -5 °C

Boiling point/boiling range : No data available

Flash point : > 100 °C

Method: Closed Cup, closed cup

Evaporation rate : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

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Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : 1.133 g/cm3 (20 °C)

Method: Digital density meter

Solubility(ies)

Water solubility : No data available

Auto-ignition temperature : > 400 °C

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : No significant increase (>5C) in temperature.

9.2 Other information

Surface tension : 61.5 mN/m, 25 °C, EC Method A5

Self-ignition : No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

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 : Stable under recommended storage conditions.

No hazards to be specially mentioned.

None known.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Strong acids

Strong bases

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Strong oxidizing agents

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

Nitrogen oxides (NOx) Hydrogen chloride gas

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

propyzamide (ISO):

Acute oral toxicity : LD50 (Rat, female): 5,620 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2.1 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Maximum attainable concentration.

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

Symptoms: No deaths occurred at this concentration.

Assessment: The substance or mixture has no acute dermal

toxicity

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Acute oral toxicity : Remarks: Low toxicity if swallowed.

Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however,

swallowing larger amounts may cause injury.

LD50 (Rat): > 2,000 mg/kg

1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity : LD50 (Rat): 675.3 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.25 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

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Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Propylene glycol:

Acute oral toxicity : LD50 (Rat): > 20,000 mg/kg

Acute inhalation toxicity : LC50 (Rabbit): 317.042 mg/l

Exposure time: 2 h

Test atmosphere: dust/mist

Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Mist may cause irritation of upper respiratory tract

(nose and throat).

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

Symptoms: No deaths occurred at this concentration.

Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Components:

propyzamide (ISO):

Result : No skin irritation

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit Result : Skin irritation

Propylene glycol:

Species : Rabbit

Result : No skin irritation

Serious eye damage/eye irritation

Components:

propyzamide (ISO):

Result : No eye irritation

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol,

sodium salt:

Result : Eye irritation

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit Result : Corrosive

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Propylene glycol:

Species : Rabbit

Result : No eye irritation

Respiratory or skin sensitisation

Components:

propyzamide (ISO):

Assessment : Does not cause skin sensitisation.

Remarks : Did not cause allergic skin reactions when tested in guinea

pigs.

Remarks : For respiratory sensitization:

No relevant data found.

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol,

sodium salt:

Assessment : May cause sensitisation by skin contact.

Remarks : Has caused allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:

No relevant data found.

1,2-benzisothiazol-3(2H)-one:

Species : Mouse

Assessment : The product is a skin sensitiser, sub-category 1B.

Propylene glycol:

Species : human

Assessment : Does not cause skin sensitisation.

Germ cell mutagenicity

Components:

sessment

propyzamide (ISO):

Germ cell mutagenicity- As-

In vitro genetic toxicity studies were negative., Animal genetic

toxicity studies were negative.

1,2-benzisothiazol-3(2H)-one:

Germ cell mutagenicity- As-

sessment

Not mutagenic when tested in bacterial or mammalian sys-

tems.

Propylene glycol:

Germ cell mutagenicity- As-

sessment

In vitro genetic toxicity studies were negative., Animal genetic

toxicity studies were negative.

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Carcinogenicity

Components:

propyzamide (ISO):

Carcinogenicity - Assess-

ment

Limited evidence of carcinogenicity in animal studies

Has caused cancer in laboratory animals.

Propylene glycol:

Carcinogenicity - Assess-

ment

Did not cause cancer in laboratory animals.

Reproductive toxicity

Components:

propyzamide (ISO):

Reproductive toxicity - As-

sessment

In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to

the parent animals.

Has been toxic to the fetus in laboratory animals at doses toxic to the mother., Did not cause birth defects in laboratory

animals.

1,2-benzisothiazol-3(2H)-one:

Reproductive toxicity - As-

sessment

In animal studies, did not interfere with reproduction., In ani-

mal studies, did not interfere with fertility.

Did not cause birth defects in laboratory animals.

Propylene glycol:

Reproductive toxicity - As-

sessment

: In animal studies, did not interfere with reproduction., In ani-

mal studies, did not interfere with fertility.

Did not cause birth defects or any other fetal effects in labora-

tory animals.

STOT - single exposure

Product:

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

an STOT-SE toxicant.

Components:

propyzamide (ISO):

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

an STOT-SE toxicant.

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2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

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

an STOT-SE toxicant.

1,2-benzisothiazol-3(2H)-one:

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

an STOT-SE toxicant.

Propylene glycol:

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

an STOT-SE toxicant.

Repeated dose toxicity

Components:

propyzamide (ISO):

Remarks : In animals, effects have been reported on the following or-

gans: Liver. Kidney.

Adrenal gland. Thyroid. Ovaries.

Pancreas.

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Remarks : No relevant data found.

1,2-benzisothiazol-3(2H)-one:

Remarks : Based on available data, repeated exposures are not antici-

pated to cause significant adverse effects.

Propylene glycol:

Remarks : In rare cases, repeated excessive exposure to propylene gly-

col may cause central nervous system effects.

Aspiration toxicity

Product:

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

Components:

propyzamide (ISO):

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

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2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

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

Propylene glycol:

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

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 53.6 mg/l

Exposure time: 96 h

Test Type: flow-through test Method: OECD Test Guideline 203 Remarks: For similar material(s):

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 99.2 mg/l

Exposure time: 48 h

Test Type: flow-through test

Method: OECD Test Guideline 202 Remarks: For similar material(s):

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 10.4

mg/l

End point: Growth rate inhibition

Exposure time: 72 h

Remarks: For similar material(s):

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Components:

propyzamide (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 4.7 mg/l

Exposure time: 96 h

Test Type: flow-through test

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Daphnia magna (Water flea)): > 5.6 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.98

mg/l

End point: Biomass Exposure time: 72 h

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EC50 (Lemna gibba): 1.4 mg/l

Exposure time: 14 d

ErC50 (Myriophyllum spicatum): 0.021 mg/l

Exposure time: 14 d

NOEC (Myriophyllum spicatum): 0.0006 mg/l

Exposure time: 14 d

M-Factor (Acute aquatic tox-

icity)

10

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l

Toxicity to fish (Chronic tox-

icity)

NOEC: 0.94 mg/l

Exposure time: 21 d

Species: Oncorhynchus mykiss (rainbow trout)

Test Type: flow-through test

LOEC: 3.75 mg/l Exposure time: 21 d

Species: Oncorhynchus mykiss (rainbow trout)

Test Type: flow-through test

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 0.60 mg/l

End point: growth Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: flow-through test

LOEC: 1.2 mg/l End point: growth Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: flow-through test

MATC (Maximum Acceptable Toxicant Level): 0.85 mg/l

End point: growth Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: flow-through test

M-Factor (Chronic aquatic

toxicity)

100

Toxicity to soil dwelling or-

ganisms

LC50: > 173 mg/kg Exposure time: 14 d

Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organ-

isms

: Remarks: Material is practically non-toxic to birds on a dietary

basis (LC50 > 5000 ppm).

Material is practically non-toxic to birds on an acute basis

(LD50 > 2000 mg/kg).

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



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oral LD50: > 2250 mg/kg bodyweight.

End point: mortality

Species: Colinus virginianus (Bobwhite quail)

dietary LC50: > 10,000 ppm

Exposure time: 8 d

Species: Colinus virginianus (Bobwhite quail)

contact LD50: > 100 micrograms/bee

Exposure time: 48 h

Species: Apis mellifera (bees)

dietary LC50: > 10,000 ppm

Exposure time: 8 d

Species: Anas platyrhynchos (Mallard duck)

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Toxicity to fish : Remarks: Material is practically non-toxic to aquatic organ-

isms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in

the most sensitive species tested).

LC50 (Fish): > 200 mg/l Exposure time: 96 h

1,2-benzisothiazol-3(2H)-one:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.9 mg/l

Exposure time: 96 h

Test Type: flow-through test

Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 3.7 mg/l

Exposure time: 48 h

Test Type: flow-through test

Method: OECD Test Guideline 202 or Equivalent

LC50 (Mysid shrimp (Mysidopsis bahia)): 1.9 mg/l

Exposure time: 96 h

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.8

mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201 or Equivalent

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.21

mq/l

End point: Growth rate Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201 or Equivalent

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ErC50 (diatom Skeletonema costatum): 0.36 mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201 or Equivalent

NOEC (diatom Skeletonema costatum): 0.15 mg/l

End point: Growth rate Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201 or Equivalent

M-Factor (Acute aquatic tox-

icity)

: 1

Toxicity to microorganisms : EC50 (Bacteria (active sludge)): 28.52 mg/l

Exposure time: 3 h

Test Type: Respiration inhibition of activated sludge

Propylene glycol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l

Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Ceriodaphnia dubia (water flea)): 18,340 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)):

19,000 mg/l

End point: Growth rate inhibition

Exposure time: 96 h

Method: OECD Test Guideline 201

Toxicity to microorganisms : NOEC (Pseudomonas putida): > 20,000 mg/l

Exposure time: 18 h

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 13,020 mg/l

End point: number of offspring

Exposure time: 7 d

Species: Ceriodaphnia dubia (water flea)

Test Type: semi-static test

12.2 Persistence and degradability

Components:

propyzamide (ISO):

Biodegradability : Result: Not readily biodegradable.

Remarks: Biodegradation may occur under aerobic conditions

(in the presence of oxygen).

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Stability in water : Test Type: Hydrolysis

pH: 5 - 9 Method: Stable

Photodegradation : Test Type: Half-life (indirect photolysis)

Sensitiser: OH radicals

Rate constant: 9.149E-11 cm3/s

Method: Estimated.

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Biodegradability : Remarks: Material is inherently biodegradable (reaches >

20% biodegradation in OECD test(s) for inherent biodegrada-

bility).

Biodegradation: 60 % Exposure time: 28 d

Method: OECD Test Guideline 302B or Equivalent

1,2-benzisothiazol-3(2H)-one:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 24 % Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent Remarks: Abiotic degradation: The material is rapidly de-

gradable by abiotic means.

ThOD : 2.22 kg/kg

Photodegradation : Sensitiser: OH radicals

Concentration: 1,500,000 1/cm3 Rate constant: 1.696E-11 cm3/s

Method: Estimated.

Propylene glycol:

Biodegradability : Test Type: aerobic

Result: Readily biodegradable.

Biodegradation: 81 % Exposure time: 28 d

Method: OECD Test Guideline 301F or Equivalent

Remarks: 10-day Window: Pass

Biodegradation: 96 % Exposure time: 64 d

Method: OECD Test Guideline 306 or Equivalent Remarks: 10-day Window: Not applicable

Biochemical Oxygen De-

mand (BOD)

69.000 %

Incubation time: 5 d

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70.000 %

Incubation time: 10 d

86.000 %

Incubation time: 20 d

Chemical Oxygen Demand

(COD)

1.53 kg/kg

ThOD : 1.68 kg/kg

Photodegradation : Rate constant: 1.28E-11 cm3/s

Method: Estimated.

12.3 Bioaccumulative potential

Components:

propyzamide (ISO):

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)

Bioconcentration factor (BCF): 49

Partition coefficient: n-

octanol/water

log Pow: 3

Remarks: Bioconcentration potential is low (BCF < 100 or Log

Pow < 3).

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Partition coefficient: n-

octanol/water

Remarks: No relevant data found.

1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Species: Fish

Bioconcentration factor (BCF): 3.2

Method: Calculated.

Partition coefficient: n-

: log Pow: 1.19

octanol/water

Method: OECD Test Guideline 117 or Equivalent

Remarks: Bioconcentration potential is low (BCF < 100 or Log

Pow < 3).

Propylene glycol:

Bioaccumulation : Bioconcentration factor (BCF): 0.09

Method: Estimated.

Partition coefficient: n-

octanol/water

log Pow: -1.07

Method: Measured

Remarks: Bioconcentration potential is low (BCF < 100 or Log

Pow < 3).

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



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12.4 Mobility in soil

Components:

propyzamide (ISO):

Distribution among environ-

mental compartments

Koc: 840 Method: Measured

Remarks: Potential for mobility in soil is low (Koc between 500

and 2000).

Stability in soil : Test Type: aerobic degradation

Dissipation time: 33 d Method: Measured

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol,

sodium salt:

Distribution among environ-

mental compartments

Remarks: No relevant data found.

1,2-benzisothiazol-3(2H)-one:

Distribution among environ-

mental compartments

Koc: 104

Method: Estimated.

Remarks: Potential for mobility in soil is high (Koc between 50

and 150).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an im-

portant fate process.

Propylene glycol:

Distribution among environ-

mental compartments

Koc: < 1

Method: Estimated.

Remarks: Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be

an important fate process.

Potential for mobility in soil is very high (Koc between 0 and

50).

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:

propyzamide (ISO):

Assessment : This substance is not considered to be persistent, bioaccumu-

lating and toxic (PBT).. This substance is not considered to be

very persistent and very bioaccumulating (vPvB).

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2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Assessment : This substance is not considered to be persistent, bioaccumu-

lating and toxic (PBT).. This substance is not considered to be

very persistent and very bioaccumulating (vPvB).

1,2-benzisothiazol-3(2H)-one:

Assessment : This substance has not been assessed for persistence, bioac-

cumulation and toxicity (PBT).

Propylene glycol:

Assessment : This substance is not considered to be persistent, bioaccumu-

lating and toxic (PBT).. This substance is not considered to be

very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Product:

Endocrine disrupting poten-

tial

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

levels of 0.1% or higher.

Components:

propyzamide (ISO):

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list

of substances that deplete the ozone layer.

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list

of substances that deplete the ozone layer.

1,2-benzisothiazol-3(2H)-one:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list

of substances that deplete the ozone layer.

Propylene glycol:

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

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



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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 regu-

If the material as supplied becomes a waste, follow all appli-

cable regional, national and local laws.

SECTION 14: Transport information

14.1 UN number

 ADR
 : UN 3082

 RID
 : UN 3082

 IMDG
 : UN 3082

 IATA
 : UN 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Propyzamide)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Propyzamide)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Propyzamide)

IATA : Environmentally hazardous substance, liquid, n.o.s.

(Propyzamide)

14.3 Transport hazard class(es)

Class Subsidiary risks

 ADR
 : 9

 RID
 : 9

 IMDG
 : 9

 IATA
 : 9

14.4 Packing group

ADR

Packing group : III

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

RID

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

IMDG

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

Remarks : Stowage category A

964

IATA (Cargo)

Packing instruction (cargo :

aircraft)

Packing instruction (LQ) : Y964
Packing group : III

Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passen: 964

ger aircraft)

Packing instruction (LQ) : Y964
Packing group : III

Labels : Miscellaneous

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

rid

Environmentally hazardous : yes

IMDG

Marine pollutant : yes(Propyzamide)

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.

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.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



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SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH Candidate list of substances of very high : Not applicable

concern (SVHC) for Authorisation

The Persistent Organic Pollutants Regulations (retained : Not applicable

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

ain)

Regulation (EC) No 1005/2009 on substances that de: Not applicable

plete the ozone layer

UK REACH List of substances subject to authorisation : Not applicable

(Annex XIV)

Seveso III: Directive 2012/18/EU of the Euro- E1 ENVIRONMENTAL HAZARDS

pean Parliament and of the Council on the control of major-accident hazards involving

dangerous substances.

Registration Number : 13716

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

Full text of H-Statements

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

H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H351 : Suspected of causing cancer.

H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life w

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

Carc. : Carcinogenicity
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation

Skin Irrit. : Skin irritation

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Skin Sens. : Skin sensitisation

Dow IHG : Dow Industrial Hygiene Guideline

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

Dow IHG / STEL : Short term exposure limit Dow IHG / TWA : Time weighted average

GB EH40 / TWA Long-term exposure limit (8-hour TWA reference period) ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM American Society for the Testing of Materials; ECx - Concentration associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; 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; NOEC - Non-Observed Effective Concentration; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; (Q)SAR - (Quantitative) Structure Activity Relationship; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SDS - Safety Data Sheet; UN -United Nations.

Further information

Classification of the mixture: Classification procedure:

Skin Sens. 1 H317 Calculation method Carc. 2 H351 Calculation method

Aquatic Acute 1 H400 Based on product data or assessment

Aquatic Chronic 1 H410 Calculation method

Product code: GF-3300

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.

GB / 6N