

SAFETY DATA SHEET

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



DEFY

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 19.04.2024 |
| 8.4 | 17.10.2024 | S00040338009 | Date of first issue: 10.01.2018 |

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

1.1 Product identifier

Trade name : DEFY

Design code : A8545H

Product Registration Number : MAPP 16202

Unique Formula Identifier (UFI) : RDC3-T007-900M-ECF2

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

Use of the Sub-stance/Mixture : Herbicide

Recommended restrictions on use : professional use

1.3 Details of the supplier of the safety data sheet

Company : Syngenta UK Limited
Jealott's Hill International Research Centre
Bracknell, Berkshire RG42 6EY
United Kingdom

Telephone : +44 (0) 1223 883400

Telefax : -

E-mail address of person responsible for the SDS : MSDSenquiries.UK@syngenta.com

1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

| | |
|--|---|
| Eye irritation, Category 2 | H319: Causes serious eye irritation. |
| Skin sensitisation, Category 1 | H317: May cause an allergic skin reaction. |
| Aspiration hazard, Category 1 | H304: May be fatal if swallowed and enters airways. |
| Short-term (acute) aquatic hazard, Category 1 | H400: Very toxic to aquatic life. |
| Long-term (chronic) aquatic hazard, Category 1 | H410: Very toxic to aquatic life with long lasting effects. |

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Category 1
Skin irritation, Category 2

effects.
H315: Causes skin irritation.

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 : Danger

Hazard statements : H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : P102 Keep out of reach of children.

Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P331 Do NOT induce vomiting.

P391 Collect spillage.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Hazardous components which must be listed on the label:

prosulfocarb (ISO)
hydrocarbons, C9, aromatics

Additional Labelling

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

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) |
|---|---|---|--------------------------|
| prosulfocarb (ISO) | 52888-80-9 401-730-6 006-072-00-X | Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 | >= 70 - < 90 |
| hydrocarbons, C9, aromatics | 128601-23-0 649-356-00-4 | Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411 | >= 10 - < 20 |
| benzenesulfonic acid, C10-13-alkyl derivs., calcium salts | 1335202-81-7 | Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412 | >= 3 - < 10 |
| 2-ethylhexan-1-ol | 104-76-7 203-234-3 | Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) | >= 1 - < 10 |

For explanation of abbreviations see section 16.

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SECTION 4: First aid measures

4.1 Description of first aid measures

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

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Aspiration may cause pulmonary oedema and pneumonitis.
- Risks : Harmful if swallowed.
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : There is no specific antidote available.
Treat symptomatically.
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam

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Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

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

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)
Sulphur oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

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

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6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|---------------------------------|-------------|-------------------------------|---------------------------------|-------------|
| prosulfocarb (ISO) | 52888-80-9 | TWA | 4 mg/m ³ | Syngenta |
| hydrocarbons, C9, aromatics | 128601-23-0 | TWA | 19 ppm 100 mg/m ³ | Supplier |
| 2-ethylhexan-1-ol | 104-76-7 | TWA | 1 ppm 5.4 mg/m ³ | GB EH40 |
| | | TWA | 1 ppm 5.4 mg/m ³ | 2017/164/EU |
| Further information: Indicative | | | | |

Derived No Effect Level (DNEL)

| Substance name | End Use | Exposure routes | Potential health effects | Value |
|-----------------------------|-----------|-----------------|----------------------------|-----------------------|
| hydrocarbons, C9, aromatics | Workers | Inhalation | Long-term systemic effects | 150 mg/m ³ |
| | Workers | Dermal | Long-term systemic effects | 25 mg/kg |
| | Consumers | Inhalation | Long-term systemic effects | 32 mg/m ³ |
| | Consumers | Dermal | Long-term systemic effects | 11 mg/kg |
| | Consumers | Oral | Long-term systemic | 11 mg/kg |

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| | | | effects | |
|---|-----------|------------|----------------------------|-------------------------|
| benzenesulfonic acid, C10-13-alkyl derivs., calcium salts | Consumers | Oral | Long-term systemic effects | 89 mg/kg |
| | Consumers | Dermal | Long-term systemic effects | 85 mg/kg |
| | Workers | Dermal | Long-term systemic effects | 1.7 mg/kg |
| 2-ethylhexan-1-ol | Consumers | Ingestion | Long-term systemic effects | 1.1 mg/kg |
| | Workers | Dermal | Long-term systemic effects | 23 mg/kg |
| | Consumers | Dermal | Long-term systemic effects | 11.4 mg/kg |
| | Workers | Inhalation | Acute local effects | 106.4 mg/m ³ |
| | Consumers | Inhalation | Acute local effects | 53.2 mg/m ³ |
| | Workers | Inhalation | Long-term systemic effects | 53.2 mg/m ³ |
| | Consumers | Inhalation | Long-term systemic effects | 2.3 mg/m ³ |

Predicted No Effect Concentration (PNEC)

| Substance name | Environmental Compartment | Value |
|---|---------------------------|-------------|
| benzenesulfonic acid, C10-13-alkyl derivs., calcium salts | Fresh water | 0.023 mg/l |
| | Marine water | 0.002 mg/l |
| | Fresh water sediment | 0.174 mg/kg |
| | Marine sediment | 0.017 mg/kg |
| | Soil | 0.62 mg/kg |
| 2-ethylhexan-1-ol | Fresh water | 0.017 mg/l |
| | Marine water | 0.0017 mg/l |
| | Intermittent use/release | 0.17 mg/l |
| | Fresh water sediment | 28 mg/kg |
| | Marine sediment | 0.028 mg/kg |
| | Sewage treatment plant | 10 mg/kg |
| | Soil | 0.047 mg/kg |

8.2 Exposure controls

Engineering measures

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

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

Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye/face protection : Tightly fitting safety goggles
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Hand protection

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

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Remove and wash contaminated clothing before re-use.

Wear as appropriate:

Impervious clothing

Respiratory protection : No personal respiratory protective equipment normally required.

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid
Colour : pale yellow
Odour : aromatic
Odour Threshold : No data available

pH : 6
Concentration: 1 %w/v

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available

Flash point : 73 °C
Method: Pensky-Martens closed cup

Evaporation rate : No data available

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Flammability (solid, gas) : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Density : 1,012 g/cm³ (25 °C)

Solubility(ies)

Water solubility : No data available

Solubility in other solvents : No data available

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

Auto-ignition temperature : 380 °C

Decomposition temperature : No data available

Viscosity

Viscosity, kinematic : No data available

Explosive properties : Not explosive

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

9.2 Other information

Particle size : No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : None known.

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10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : Acute toxicity estimate: 1,327 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : LD50 (Rat, male and female): > 4,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Components:

prosulfocarb (ISO):

Acute oral toxicity : LD50 (Rat, male): 1,049 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.72 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

hydrocarbons, C9, aromatics:

Acute oral toxicity : LD50 (Rat): 3,492 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6,193 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

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Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Acute oral toxicity : LD50 (Rat): 4,445 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

2-ethylhexan-1-ol:

Acute oral toxicity : LD50 (Rat): 2,047 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 0.89 - 5.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rat): > 3,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified due to lack of data.

Components:

prosulfocarb (ISO):

Species : Rabbit
Result : No skin irritation

hydrocarbons, C9, aromatics:

Result : No skin irritation

Result : Repeated exposure may cause skin dryness or cracking.

benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Species : Rabbit
Result : Irritating to skin.

2-ethylhexan-1-ol:

Species : Rabbit
Result : Irritating to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

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Product:

Species : Rabbit
Result : Irritation to eyes, reversing within 21 days
Remarks : Based on data from similar materials

Components:

prosulfocarb (ISO):

Species : Rabbit
Result : No eye irritation

hydrocarbons, C9, aromatics:

Result : No eye irritation

benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Species : Rabbit
Result : Risk of serious damage to eyes.

2-ethylhexan-1-ol:

Species : Rabbit
Result : Irritation to eyes, reversing within 21 days

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Product:

Test Type : Buehler Test
Species : Guinea pig
Result : May cause sensitisation by skin contact.
Remarks : Based on data from similar materials

Components:

prosulfocarb (ISO):

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Result : The product is a skin sensitizer, sub-category 1B.

hydrocarbons, C9, aromatics:

Result : Does not cause skin sensitisation.

2-ethylhexan-1-ol:

Species : Humans
Result : Not a skin sensitizer.

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Germ cell mutagenicity

Not classified due to lack of data.

Components:

prosulfocarb (ISO):

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

hydrocarbons, C9, aromatics:

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ cell mutagen.

2-ethylhexan-1-ol:

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

Carcinogenicity

Not classified due to lack of data.

Components:

prosulfocarb (ISO):

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

hydrocarbons, C9, aromatics:

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

2-ethylhexan-1-ol:

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

Reproductive toxicity

Not classified due to lack of data.

Components:

prosulfocarb (ISO):

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

hydrocarbons, C9, aromatics:

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity, No effects on or via lactation

2-ethylhexan-1-ol:

Reproductive toxicity - Assessment : No toxicity to reproduction, No effects on or via lactation

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STOT - single exposure

Not classified due to lack of data.

Components:

hydrocarbons, C9, aromatics:

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

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

2-ethylhexan-1-ol:

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

STOT - repeated exposure

Not classified due to lack of data.

Components:

prosulfocarb (ISO):

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

hydrocarbons, C9, aromatics:

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

2-ethylhexan-1-ol:

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

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

hydrocarbons, C9, aromatics:

May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3 mg/l

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Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.2 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.18 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.010 mg/l
End point: Growth rate
Exposure time: 96 h
Remarks: Based on data from similar materials

Components:

prosulfocarb (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.84 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.51 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.120 mg/l
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.009 mg/l
End point: Growth rate
Exposure time: 72 h

ErC50 (Desmodesmus subspicatus (green algae)): 0.180 mg/l
Exposure time: 72 h

EC10 (Desmodesmus subspicatus (green algae)): 0.082 mg/l
End point: Growth rate
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : EC10: 0.063 mg/l
Exposure time: 32 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.045 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

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hydrocarbons, C9, aromatics:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3.2 mg/l
Exposure time: 48 h
- Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 2.9 mg/l
Exposure time: 72 h
- NOEC (Raphidocelis subcapitata (freshwater green alga)): 1 mg/l
End point: Growth rate
Exposure time: 72 h
- Toxicity to fish (Chronic toxicity) : NOEC: 1.23 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 2.14 mg/l
Exposure time: 21 d
Species: Daphnia (water flea)

Ecotoxicology Assessment

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

benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

- Toxicity to fish : LC50 (Fish): > 1 - < 10 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.9 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials
- Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 29 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials
- NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.5 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials
- Toxicity to fish (Chronic toxicity) : NOEC: 0.23 mg/l
Exposure time: 72 d
Species: Oncorhynchus mykiss (rainbow trout)
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1.18 mg/l
Exposure time: 21 d

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ic toxicity) Species: Daphnia magna (Water flea)
Remarks: Based on data from similar materials

2-ethylhexan-1-ol:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 17.1 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 39 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : EC50 (Desmodesmus subspicatus (green algae)): 16.6 mg/l
plants Exposure time: 72 h

12.2 Persistence and degradability

Components:

prosulfocarb (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 159 - 279 d
Remarks: Persistent in water.

hydrocarbons, C9, aromatics:

Biodegradability : Result: Readily biodegradable.

benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Biodegradability : Result: Readily biodegradable.

2-ethylhexan-1-ol:

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

prosulfocarb (ISO):

Bioaccumulation : Remarks: Bioaccumulates

12.4 Mobility in soil

Components:

prosulfocarb (ISO):

Distribution among environ- : Remarks: Slightly mobile in soils
mental compartments

Stability in soil : Dissipation time: 35 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

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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:

prosulfocarb (ISO):

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).. Substance is not very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects

Product:

Endocrine disrupting potential : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number

ADR : UN 3082
RID : UN 3082
IMDG : UN 3082
IATA : UN 3082

14.2 UN proper shipping name

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ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(PROSULFOCARB, SOLVENT NAPHTHA)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(PROSULFOCARB, SOLVENT NAPHTHA)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(PROSULFOCARB, SOLVENT NAPHTHA)

IATA : Environmentally hazardous substance, liquid, n.o.s.
(PROSULFOCARB, SOLVENT NAPHTHA)

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
Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

RID

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IMDG

Packing group : III
Labels : 9
EmS Code : F-A, S-F
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IATA (Cargo)

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Packing instruction (cargo aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IATA (Passenger)

Packing instruction (passenger aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 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

Relevant EU provisions transposed through retained EU law

| | |
|--|---|
| UK REACH List of restrictions (Annex 17) | : Conditions of restriction for the following entries should be considered: Number on list 3 |
| UK REACH Candidate list of substances of very high | : Not applicable |

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concern (SVHC) for Authorisation

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain) : Not applicable

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

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

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation : Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH) E1 ENVIRONMENTAL HAZARDS

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

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

SECTION 16: Other information

Full text of H-Statements

| | |
|------|--|
| H226 | : Flammable liquid and vapour. |
| H302 | : Harmful if swallowed. |
| H304 | : May be fatal if swallowed and enters airways. |
| H315 | : Causes skin irritation. |
| H317 | : May cause an allergic skin reaction. |
| H318 | : Causes serious eye damage. |
| H319 | : Causes serious eye irritation. |
| H332 | : Harmful if inhaled. |
| H335 | : May cause respiratory irritation. |
| H336 | : May cause drowsiness or dizziness. |
| H400 | : Very toxic to aquatic life. |
| H411 | : 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 |
| Eye Dam. | : Serious eye damage |
| Eye Irrit. | : Eye irritation |
| Flam. Liq. | : Flammable liquids |
| Skin Irrit. | : Skin irritation |
| Skin Sens. | : Skin sensitisation |
| 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 |
| GB EH40 | : UK. EH40 WEL - Workplace Exposure Limits |

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| | | |
|-------------------|---|--|
| Syngenta | : | Syngenta Occupational Exposure Limit |
| 2017/164/EU / TWA | : | Limit Value - eight hours |
| GB EH40 / TWA | : | Long-term exposure limit (8-hour TWA reference period) |
| Syngenta / TWA | : | Time weighted average |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - 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

Classification of the mixture:

| | |
|-------------------|------|
| Eye Irrit. 2 | H319 |
| Skin Sens. 1 | H317 |
| Asp. Tox. 1 | H304 |
| Aquatic Acute 1 | H400 |
| Aquatic Chronic 1 | H410 |
| Skin Irrit. 2 | H315 |

Classification procedure:

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

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 guid-

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GB / EN