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

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

- Use of the Substance/Mixture: Herbicide

1.3 Details of the supplier of the safety data sheet

- Company: Syngenta UK Limited
  CPC4, Capital Park
  Fulbourn, Cambridge CB21 5XE
  United Kingdom
- Telephone: +44 (0) 1223 883400
- Telefax: +44 (0) 1223 882195
- E-mail address of person responsible for the SDS: customer.services@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)**

- Skin irritation, Category 2: H315: Causes skin irritation.
- 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.
2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:

- !: Danger
- : 
- : 
- : 
- : 

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.

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

Precautionary statements:

Prevention:
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 Wash skin thoroughly after handling.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
- P331 Do NOT induce vomiting.
- P391 Collect spillage.

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

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 | CAS-No. | Classification | Concentration |
|------------|---------|----------------|---------------|--------------|

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SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

DEFY

Version 3.0  Revision Date: 16.01.2019  SDS Number: S00040338009

This version replaces all previous versions.

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC-No. Index-No. Registration number</th>
<th>Acute Tox.; H302  Skin Sens.; H317  Aquatic Acute 1; H400  Aquatic Chronic 2; H411</th>
<th>(% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>prosulfocarb (ISO)</td>
<td>52888-80-9 401-730-6 006-072-00-X</td>
<td>Acute Tox. 4; H302  Skin Sens. 1; H317  Aquatic Acute 1; H400  Aquatic Chronic 2; H411</td>
<td>&gt;= 70 - &lt; 90</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified</td>
<td>64742-95-6 265-199-0 649-356-00-4 01-2119455851-35</td>
<td>Flam. Liq. 3; H226  STOT SE 3; H336  STOT SE 3; H335  Asp. Tox. 1; H304  Aquatic Chronic 2; H411</td>
<td>&gt;= 10 - &lt; 20</td>
</tr>
<tr>
<td>calcium dodecylbenzene sulphonate</td>
<td>26264-06-2 247-557-8 01-2119560592-37</td>
<td>Skin Irrit. 2; H315  Eye Dam. 1; H318  Aquatic Chronic 3; H412</td>
<td>&gt;= 3 - &lt; 10</td>
</tr>
<tr>
<td>2-ethylhexan-1-ol</td>
<td>104-76-7 203-234-3 01-2119487289-20</td>
<td>Acute Tox. 4; H332  Skin Irrit. 2; H315  Eye Irrit. 2; H319  STOT SE 3; H335</td>
<td>&gt;= 1 - &lt; 10</td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

If inhaled: Move the victim to fresh air.
   If breathing is irregular or stopped, administer artificial respiration.
   Keep patient warm and at rest.
   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
DEFY

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

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

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters

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

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

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.

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
6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>prosulfocarb (ISO)</td>
<td>52888-80-9</td>
<td>TWA</td>
<td>4 mg/m³</td>
<td>Syngenta</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified</td>
<td>64742-95-6</td>
<td>TWA</td>
<td>19 ppm 100 mg/m³</td>
<td>Supplier</td>
</tr>
<tr>
<td>2-ethylhexan-1-ol</td>
<td>104-76-7</td>
<td>TWA</td>
<td>1 ppm 5.4 mg/m³</td>
<td>2017/164/EU</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic</td>
<td>150 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Dermal</td>
<td>Long-term systemic effects</td>
<td>25 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>32 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Dermal</td>
<td>Long-term systemic effects</td>
<td>11 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Oral</td>
<td>Long-term systemic effects</td>
<td>11 mg/kg</td>
</tr>
<tr>
<td>calcium dodecylbenzene sulphonate</td>
<td>Workers</td>
<td>Dermal</td>
<td>Long-term systemic effects</td>
<td>1.7 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Oral</td>
<td>Short-term exposure, Systemic effects</td>
<td>89 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Dermal</td>
<td>Long-term systemic effects</td>
<td>85 mg/kg</td>
</tr>
<tr>
<td>2-ethylhexan-1-ol</td>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>1.1 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Dermal</td>
<td>Long-term systemic effects</td>
<td>23 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Dermal</td>
<td>Long-term systemic effects</td>
<td>11.4 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>106.4 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>53.2 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>53.2 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>2.3 mg/m³</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>calcium dodecylbenzene sulphonate</td>
<td>Fresh water</td>
<td>0.023 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.0023 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.174 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.0174 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0.62 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>3 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0.01 mg/l</td>
</tr>
<tr>
<td>2-ethylhexan-1-ol</td>
<td>Fresh water</td>
<td>0.017 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.0017 mg/l</td>
</tr>
<tr>
<td></td>
<td>Intermittent use/release</td>
<td>0.17 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>28 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.028 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>10 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>0.047 mg/kg</td>
</tr>
</tbody>
</table>
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 protection**

Tightly fitting safety goggles

Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Equipment should conform to EN 166

**Hand protection**

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

**Remarks**: Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

**Skin and body protection**

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

Remove and wash contaminated clothing before re-use.

Wear as appropriate:

- Impervious clothing

**Respiratory protection**

No personal respiratory protective equipment normally required.

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

**Protective measures**

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : clear
Colour : pale yellow
Odour : aromatic
Odour Threshold : No data available
pH : 6
   Concentration: 1 % w/v
Melting point/range : No data available
Boiling point/boiling range : No data available
Flash point : 73 °C
   Method: Pensky-Martens closed cup
Evaporation rate : No data available
Flammability (solid, gas) : No data available
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Relative vapour density : No data available
Density : 1,012 g/cm³ (25 °C)
Solubility(ies)
   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, dynamic: No data available
Explosive properties: Not explosive
Oxidizing properties: The substance or mixture is not classified as oxidizing.

9.2 Other information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
None reasonably foreseeable.

10.2 Chemical stability
Stable under normal conditions.

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

10.4 Conditions to avoid
Conditions to avoid: No decomposition if used as directed.

10.5 Incompatible materials
Materials to avoid: None known.

10.6 Hazardous decomposition products
Hazardous decomposition products: No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

Acute toxicity

Product:
Acute oral toxicity: LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: The toxicological data has been taken from products of similar composition.
### DEFY

**Version**: 3.0  
**Revision Date**: 16.01.2019  
**SDS Number**: S00040338009  
This version replaces all previous versions.

<table>
<thead>
<tr>
<th>Component</th>
<th>Acute inhalation toxicity</th>
<th>Acute dermal toxicity</th>
</tr>
</thead>
</table>
|           | Acute toxicity estimate: > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method | LD50 (Rat, male and female): > 4,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: The toxicological data has been taken from products of similar composition. |

**Components:**

**prosulfocarb (ISO):**

- **Acute oral toxicity**: LD50 (Rat, female): 1,958 mg/kg  
LD50 (Rat, male): 1,820 mg/kg
- **Acute inhalation toxicity**: LC50 (Rat): > 4.7 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity
- **Acute dermal toxicity**: LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

**Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:**

- **Acute oral toxicity**: LD50 (Rat): 3,952 mg/kg

**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.

### Skin corrosion/irritation

**Product:**

- **Species**: Rabbit  
- **Result**: Irritating to skin.  
- **Remarks**: The toxicological data has been taken from products of similar composition.

**Components:**

**prosulfocarb (ISO):**
### SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**DEFY**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>This version replaces all previous versions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>16.01.2019</td>
<td>S00040338009</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>No skin irritation</td>
</tr>
</tbody>
</table>

**calcium dodecylbenzene sulphonate:**

<table>
<thead>
<tr>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritating to skin.</td>
</tr>
</tbody>
</table>

**2-ethylhexan-1-ol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>Irritating to skin.</td>
</tr>
</tbody>
</table>

**Serious eye damage/eye irritation**

**Product:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>Irritation to eyes, reversing within 21 days</td>
</tr>
</tbody>
</table>

**Remarks:** The toxicological data has been taken from products of similar composition.

**Components:**

**prosulfocarb (ISO):**

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>No eye irritation</td>
</tr>
</tbody>
</table>

**calcium dodecylbenzene sulphonate:**

<table>
<thead>
<tr>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of serious damage to eyes.</td>
</tr>
</tbody>
</table>

**2-ethylhexan-1-ol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>Irritation to eyes, reversing within 21 days</td>
</tr>
</tbody>
</table>

**Respiratory or skin sensitisation**

**Product:**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buehler Test</td>
<td>Guinea pig</td>
<td>May cause sensitisation by skin contact.</td>
</tr>
</tbody>
</table>

**Remarks:** The toxicological data has been taken from products of similar composition.

**Components:**

**prosulfocarb (ISO):**

<table>
<thead>
<tr>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea pig</td>
<td>May cause sensitisation by skin contact.</td>
</tr>
</tbody>
</table>
DEFY

Germ cell mutagenicity

**Components:**

**prosulfocarb (ISO):**
Germ cell mutagenicity - Assessment: Animal testing did not show any mutagenic effects.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified:
Germ cell mutagenicity - Assessment: Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Carcinogenicity

**Components:**

**prosulfocarb (ISO):**
Carcinogenicity - Assessment: No evidence of carcinogenicity in animal studies.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified:
Carcinogenicity - Assessment: Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Reproductive toxicity

**Components:**

**prosulfocarb (ISO):**
Reproductive toxicity - Assessment: No toxicity to reproduction

STOT - single exposure

**Components:**

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

2-ethylhexan-1-ol:
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.
Repeated dose toxicity

**Components:**

prosulfocarb (ISO):
Remarks: No adverse effect has been observed in chronic toxicity tests.

Aspiration toxicity

**Components:**

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified:
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
Exposure time: 96 h
Remarks: Based on test results obtained with similar product.

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 2.2 mg/l
Exposure time: 48 h
Remarks: Based on test results obtained with similar product.

Toxicity to algae/aquatic plants: ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.18 mg/l
Exposure time: 96 h
Remarks: Based on test results obtained with similar product.

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.010 mg/l
End point: Growth rate
Exposure time: 96 h
Remarks: Based on test results obtained with similar product.

**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 (Pseudokirchneriella subcapitata (green algae)): 0.120 mg/l
Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.009
mg/l
End point: Growth rate
Exposure time: 72 h

ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.68 mg/l
Exposure time: 72 h

NOEC (Navicula pelliculosa (Freshwater diatom)): 0.2 mg/l
End point: Growth rate
Exposure time: 72 h

Toxicity to fish (Chronic toxicity): NOEC: 0.31 mg/l
Exposure time: 21 d
Species: Oncorhynchus mykiss (rainbow trout)

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

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified:
Toxicity to fish: LL50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EL50 (Daphnia magna (Water flea)): 3.2 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants: ErC50 (Pseudokirchneriella subcapitata (green algae)): 2.6 - 2.9 mg/l
Exposure time: 72 h
Test Type: Growth inhibition

NOEC (Pseudokirchneriella subcapitata (green algae)): 1 mg/l
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: 28 d
Species: Daphnia magna (Water flea)

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

calcium dodecylbenzene sulphonate:
Ecotoxicology Assessment
Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.

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 aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 39 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants: EC50 (Desmodesmus subspicatus (green algae)): 16.6 mg/l
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.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified:
Biodegradability: Result: Readily biodegradable.

2-ethylhexan-1-ol:
Biodegradability: Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

prosulfocarb (ISO):
Bioaccumulation: Remarks: Prosulfocarb bioaccumulates.

12.4 Mobility in soil

Components:

prosulfocarb (ISO):
Distribution among environmental compartments: Remarks: Slightly mobile in soils

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

12.5 Results of PBT and vPvB assessment

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

prosulfocarb (ISO):
Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:
Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

2-ethylhexan-1-ol:
Assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects
No data available

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.

Waste Code: 15 01 10, packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number
ADN: UN 3082
ADR: UN 3082
RID: UN 3082
14.2 UN proper shipping name

**ADN** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PROSULFOCARB AND SOLVENT NAPHTHA)

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

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

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

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

14.3 Transport hazard class(es)

**ADN** : 9

**ADR** : 9

**RID** : 9

**IMDG** : 9

**IATA** : 9

14.4 Packing group

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

**ADR**
- Packing group : III
- 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

IATA (Cargo)
Packing instruction (cargo aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

IATA (Passenger)
Packing instruction (passenger aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

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
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

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

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Conditions of restriction for the following entries should be considered:

Number on list 3

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified (Number on list 29, 28)


E1 ENVIRONMENTAL HAZARDS

<table>
<thead>
<tr>
<th></th>
<th>Quantity 1</th>
<th>Quantity 2</th>
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<tbody>
<tr>
<td></td>
<td>100 t</td>
<td>200 t</td>
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Other regulations:
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Use plant protection products safely. Always read the label and product information before use.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

<table>
<thead>
<tr>
<th>H226</th>
<th>Flammable liquid and vapour.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H304</td>
<td>May be fatal if swallowed and enters airways.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H317</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>
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 / TWA : Limit Value - eight hours

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; 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 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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information
Classification of the mixture: Classification procedure:
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

DEFY

Version 3.0  Revision Date: 16.01.2019  SDS Number: S00040338009  This version replaces all previous versions.

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<tr>
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<tbody>
<tr>
<td>Skin Irrit. 2</td>
<td>H315</td>
<td>On basis of test data.</td>
<td></td>
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<tr>
<td>Eye Irrit. 2</td>
<td>H319</td>
<td>Based on product data or assessment</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1</td>
<td>H317</td>
<td>Based on product data or assessment</td>
<td></td>
</tr>
<tr>
<td><strong>Calculation method</strong></td>
<td></td>
<td></td>
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<tr>
<td>Asp. Tox. 1</td>
<td>H304</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>H400</td>
<td>Based on product data or assessment</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>H410</td>
<td>Based on product data or assessment</td>
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Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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