

# SAFETY DATA SHEET



## MILAGRO

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

#### 1.1 Product identifier

**Product name** MILAGRO

#### Other means of identification

**Product code** 50001850

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

Use of the Sub-  
stance/Mixture : Herbicide

Recommended restrictions : Use as recommended by the label.  
on use

#### 1.3 Details of the supplier of the safety data sheet

##### Supplier Address

FMC Chemicals (Pty) Ltd  
Company Registration Number: 1988/001451/07  
West End Office Park, Building C  
Cnr. West Ave & Hall Street  
Centurion, 0014

E-mail address: SDS-Info@fmc.com (E-Mail General Information)

#### 1.4 Emergency telephone

For leak, fire, spill or accident emergencies, call:  
South Africa: 0-800-983-611 (CHEMTREC)

Medical emergency:  
For any emergency or poisoning contact: Griffon Poison Information Centre (24 hrs) - +27-(0)-82-446-8946

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### **Classification (REGULATION (EC) No 1272/2008)**

Acute toxicity, Category 4 H332: Harmful if inhaled.

Skin irritation, Category 2 H315: Causes skin irritation.

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Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
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.

### 2.2 Label elements

#### Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal Word : Warning

Hazard Statements :

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

#### Prevention:

P261 Avoid breathing mist or vapors.  
P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves.

#### Response:

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
P391 Collect spillage.

Hazardous ingredients which must be listed on the label:  
2-ethylhexan-1-ol

### 2.3 Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)

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Fatty acids, coco, Me esters	61788-59-8 262-988-1	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 30 - < 50
calcium dodecylbenzenesulphonate	26264-06-2 247-557-8	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	>= 3 - < 10
12-Hydroxystearic acid, oligomers, reaction products with stearic acid	58128-22-6 500-140-7	Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 1 - < 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 sys- tem)	>= 1 - < 10

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : Consult a physician after significant exposure.  
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If on skin, rinse well with water.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

- Risks : Causes skin irritation.  
May cause an allergic skin reaction.  
Harmful if inhaled.

### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Dry chemical, CO<sub>2</sub>, water spray or regular foam.
- Unsuitable extinguishing media : Do not spread spilled material with high-pressure water streams.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Nitrogen oxides (NO<sub>x</sub>)  
Sulfur oxides  
Carbon oxides  
Chlorine compounds

### 5.3 Advice for firefighters

- Special protective equipment for fire-fighters : Firefighters should wear protective clothing and self-contained breathing apparatus.
- Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.  
Use a water spray to cool fully closed 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.
- Standard procedure for chemical fires.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Ensure adequate ventilation.  
Evacuate personnel to safe areas.  
Use personal protective equipment.  
If it can be safely done, stop the leak.  
Do not touch or walk through the spilled material.  
Never return spills in original containers for re-use.  
For disposal considerations see section 13.

### 6.2 Environmental precautions

- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.

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Try to prevent the material from entering drains or water courses.  
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 : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

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

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

Advice on safe handling : Avoid formation of aerosol.  
Do not breathe vapors/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : General industrial hygiene practice. Avoid contact with skin, eyes and clothing. Do not inhale aerosol.

When using do not eat or drink. When using do not smoke.  
Wash hands before breaks and at the end of workday.

**7.2 Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully re-sealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage : Do not store near acids.

Further information on storage stability : No decomposition if stored and applied as directed.

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## 7.3 Specific end use(s)

## SECTION 8: Exposure controls/personal protection

## 8.1 Control parameters

## Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
2-ethylhexan-1-ol	104-76-7	TWA	1 ppm 5.4 mg/m <sup>3</sup>	2017/164/EU

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

Substance name	End Use	Routes of exposure	Potential health effects	Value
calcium dodecylbenzenesulphonate	Workers	Inhalation	Long-term systemic effects	52 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	57.2 mg/kg
	Consumers	Inhalation	Long-term systemic effects	26 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	28.6 mg/kg
	Consumers	Oral	Long-term systemic effects	13 mg/kg
2-ethylhexan-1-ol	Workers	Inhalation	Long-term systemic effects	12.8 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	23 mg/kg
	Consumers	Inhalation	Long-term systemic effects	2.3 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	11.4 mg/kg
	Consumers	Oral	Long-term systemic effects	1.1 mg/kg

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

Substance name	Environmental Compartment	Value
calcium dodecylbenzenesulphonate	Fresh water	0.28 mg/l
	Sea water	0.458 mg/l
	Fresh water sediment	27.5 mg/kg
	Sea sediment	2.75 mg/kg
	Soil	25 mg/kg
	Oral	20 mg/kg
2-ethylhexan-1-ol	Fresh water	0.017 mg/l
	Intermittent use/release	0.17 mg/l
	Sea water	0.0017 mg/l
	Sewage treatment plant	10 mg/kg dry weight (d.w.)
	Fresh water sediment	0.284 mg/kg dry weight (d.w.)

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### 8.2 Exposure controls

#### Personal protective equipment

Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles
Hand protection	:	
Material	:	Protective gloves
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection	:	Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.  Protective suit
Respiratory protection	:	In the case of dust or aerosol formation use respirator with an approved filter.
Protective measures	:	Plan first aid action before beginning work with this product.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Color	:	off-white
Odor	:	odorless
Odor Threshold	:	No data available  No data available
pH	:	4.1 Concentration: 10 g/l  4.3 (undiluted)
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	118 °C Method: Pensky-Martens closed cup
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower	:	No data available

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flammability limit

Vapor pressure : No data available

Density : 102 g/l (20 °C)

Solubility(ies)

Water solubility : emulsifiable

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

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : 323 mPa.s (20 °C)

137 mPa.s (40 °C)

Viscosity, kinematic : No data available

### 9.2 Other information

Self-ignition : 308 °C

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

### 10.4 Conditions to avoid

Conditions to avoid : Avoid extreme temperatures  
Avoid formation of aerosol.

### 10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers.



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**10.6 Hazardous decomposition products**

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

Harmful if inhaled.

**Product:**

- |                           |   |  |
|---------------------------|---|--|
| Acute oral toxicity       | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 425<br>Assessment: The component/mixture is minimally toxic after single ingestion.   |
| Acute inhalation toxicity | : | LC50 (Rat): > 2.15 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: OECD Test Guideline 403<br>Assessment: The component/mixture is moderately toxic after short term inhalation. |
| Acute dermal toxicity     | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 402<br>Assessment: The component/mixture is minimally toxic after single contact with skin.   |

**Components:****Fatty acids, coco, Me esters:**

- |                     |   |                           |
|---------------------|---|---------------------------|
| Acute oral toxicity | : | LD50 (Rat): > 2,000 mg/kg |
|---------------------|---|---------------------------|

**calcium dodecylbenzenesulphonate:**

- |                           |   |   |
|---------------------------|---|---|
| Acute oral toxicity       | : | LD50 (Rat, male and female): 1,300 mg/kg<br>Remarks: Based on data from similar materials<br><br>Acute toxicity estimate: 1,300 mg/kg<br>Method: Calculation method   |
| Acute inhalation toxicity | : | Remarks: Not classified   |
| Acute dermal toxicity     | : | LD50 (Rat, male and female): > 2000 milligram per kilogram<br>Method: OECD Test Guideline 402<br>Assessment: The substance or mixture has no acute dermal toxicity<br>Remarks: Based on data from similar materials |

**12-Hydroxystearic acid, oligomers, reaction products with stearic acid:**

- |                     |   |                           |
|---------------------|---|---------------------------|
| Acute oral toxicity | : | LD50 (Rat): > 2,000 mg/kg |
|---------------------|---|---------------------------|

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

- |                     |   |                               |
|---------------------|---|-------------------------------|
| Acute oral toxicity | : | LD50 (Rat, male): 2,047 mg/kg |
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Acute inhalation toxicity : LC50 (Rat): 4.3 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute toxicity estimate: 4.3 mg/l  
Test atmosphere: dust/mist  
Method: Calculation method

Acute dermal toxicity : LD50 (Rat, male and female): > 3,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### **Skin corrosion/irritation**

Causes skin irritation.

#### **Product:**

Assessment : Irritating to skin.  
Method : OECD Test Guideline 404  
Result : Skin irritation

#### **Components:**

##### **Fatty acids, coco, Me esters:**

Result : No skin irritation

##### **calcium dodecylbenzenesulphonate:**

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

##### **12-Hydroxystearic acid, oligomers, reaction products with stearic acid:**

Species : Rabbit  
Result : Skin irritation

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

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

### **Serious eye damage/eye irritation**

Not classified based on available information.

#### **Product:**

Method : OECD Test Guideline 405  
Result : No eye irritation

#### **Components:**

##### **Fatty acids, coco, Me esters:**

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Result : No eye irritation

**calcium dodecylbenzenesulphonate:**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : Irreversible effects on the eye  
Remarks : Based on data from similar materials

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : Irreversible effects on the eye

**12-Hydroxystearic acid, oligomers, reaction products with stearic acid:**

Species : Rabbit  
Method : Draize Test  
Result : Mild eye irritation

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

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : Irritation to eyes, reversing within 21 days

**Respiratory or skin sensitization****Skin sensitization**

May cause an allergic skin reaction.

**Respiratory sensitization**

Not classified based on available information.

**Product:**

Test Type : Local lymph node assay (LLNA)  
Method : OECD Test Guideline 429  
Result : May cause sensitization by skin contact.

Test Type : Buehler Test  
Method : OECD Test Guideline 406  
Result : negative

Remarks : Causes sensitization.

**Components:****Fatty acids, coco, Me esters:**

Result : Does not cause skin sensitization.

**calcium dodecylbenzenesulphonate:**

Test Type : Maximization Test  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Not a skin sensitizer.

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Remarks : Based on data from similar materials

### **12-Hydroxystearic acid, oligomers, reaction products with stearic acid:**

Test Type	: Maximization Test
Species	: Guinea pig
Result	: Does not cause skin sensitization.

### **Germ cell mutagenicity**

Not classified based on available information.

### **Components:**

#### **calcium dodecylbenzenesulphonate:**

Genotoxicity in vitro	: Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials
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Genotoxicity in vivo	: Test Type: chromosome aberration assay Species: Rat (male and female) Application Route: Oral Exposure time: 90 d Result: negative Remarks: Based on data from similar materials
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Germ cell mutagenicity- Assessment	: Weight of evidence does not support classification as a germ cell mutagen.
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#### **2-ethylhexan-1-ol:**

Genotoxicity in vitro	: Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative
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Genotoxicity in vivo	: Test Type: Micronucleus test Species: Mouse Application Route: Intraperitoneal injection Result: negative
----------------------	--

### **Carcinogenicity**

Not classified based on available information.

### **Components:**

#### **calcium dodecylbenzenesulphonate:**

Species	: Rat, male and female
Application Route	: Oral
Exposure time	: 720 d
NOAEL	: 250 mg/kg body weight
Result	: negative
Remarks	: Based on data from similar materials

Carcinogenicity - Assessment	: Weight of evidence does not support classification as a carcinogen
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**2-ethylhexan-1-ol:**

Species	: Rat
Application Route	: Oral
Exposure time	: 24 month(s)
Result	: negative

**Reproductive toxicity**

Not classified based on available information.

**Components:****calcium dodecylbenzenesulphonate:**

Effects on fertility	: Test Type: Fertility/early embryonic development Species: Rat, male and female Application Route: Ingestion General Toxicity Parent: NOAEL: 400 mg/kg body weight Method: OECD Test Guideline 422 Result: negative
Effects on fetal development	: Test Type: reproductive and developmental toxicity study Species: Rat Application Route: Ingestion General Toxicity Maternal: NOAEL: 300 mg/kg body weight Developmental Toxicity: NOAEL: 600 mg/kg body weight Method: OECD Test Guideline 422 Result: negative
Reproductive toxicity - Assessment	: Weight of evidence does not support classification for reproductive toxicity

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

Effects on fetal development	: Test Type: Embryo-fetal development Species: Mouse Application Route: Oral Method: OECD Test Guideline 414 Result: negative
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**STOT-single exposure**

Not classified based on available information.

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

Assessment	: May cause respiratory irritation.
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**STOT-repeated exposure**

Not classified based on available information.

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**Repeated dose toxicity****Components:****calcium dodecylbenzenesulphonate:**

Species	: Rat, male and female
NOAEL	: 85 mg/kg
LOAEL	: 145 mg/kg
Application Route	: Oral
Exposure time	: 9 months
Remarks	: Based on data from similar materials

Species	: Rat, male and female
NOAEL	: 100 mg/kg
LOAEL	: 200 mg/kg
Application Route	: Oral
Exposure time	: 28 d
Method	: OECD Test Guideline 422
Remarks	: Based on data from similar materials

Species	: Rat, male
LOAEL	: 286 mg/kg
Application Route	: Skin contact
Exposure time	: 15 d
Remarks	: Based on data from similar materials

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

Species	: Rat
	: 250 mg/kg
Application Route	: Oral
Exposure time	: 13 weeks
Method	: OECD Test Guideline 408

**Aspiration toxicity**

Not classified based on available information.

**Further information****Product:**

Remarks	: No data available
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**SECTION 12: Ecological information****12.1 Toxicity****Product:**

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 64.4 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 10 mg/l Exposure time: 48 h
Toxicity to algae/aquatic	: EC50 (Pseudokirchneriella subcapitata (green algae)): 0.7

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plants		mg/l Exposure time: 72 h  EC50 (Lemna gibba (duckweed)): 5.81 µg/l Exposure time: 7 d  EC50 (Anabaena flos-aquae (cyanobacterium)): 2.22 mg/l Exposure time: 72 h
Toxicity to soil dwelling organisms	:	LC50: > 1,000 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms)  EC50: 935 mg/kg Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	:	LD50: > 2,000 mg/kg Species: Coturnix japonica (Japanese quail)  LD50: >400 Species: Apis mellifera (bees)  LC50: >432 Species: Apis mellifera (bees)

### Ecotoxicology Assessment

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

### Components:

#### Fatty acids, coco, Me esters:

### Ecotoxicology Assessment

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

#### calcium dodecylbenzenesulphonate:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 10 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials  LC50 (Pimephales promelas (fathead minnow)): 4.6 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.5 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials

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Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): 7.9 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

EC50 (Pseudokirchneriella subcapitata (green algae)): 65.4 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): 500 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) : NOEC: 0.23 mg/l  
Exposure time: 30 d  
Species: Fish  
Method: QSAR

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.253 mg/l  
Exposure time: 30 d  
Species: Daphnia  
Method: QSAR

Toxicity to soil dwelling organisms : LC50: 1,000 mg/kg  
Exposure time: 14 d  
Species: Eisenia fetida (earthworms)  
Method: OECD Test Guideline 207

Toxicity to terrestrial organisms : LD50: 1,356 mg/kg  
Exposure time: 14 d  
Species: Colinus virginianus (Bobwhite quail)  
Method: OECD Test Guideline 223

### 12-Hydroxystearic acid, oligomers, reaction products with stearic acid:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Crustaceans): 1,614 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l  
Exposure time: 72 h

### 2-ethylhexan-1-ol:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 17.1 - 28.2 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 : EC10 (Desmodesmus subspicatus (green algae)): 3.2 mg/l  
Exposure time: 72 h



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EC50 (Desmodesmus subspicatus (green algae)): 11.5 mg/l  
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Anabaena flos-aquae (cyanobacterium)): 16.6 mg/l  
Exposure time: 72 h

## 12.2 Persistence and degradability

### Components:

#### **Fatty acids, coco, Me esters:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 78 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301C

#### **calcium dodecylbenzenesulphonate:**

Biodegradability : Result: Readily biodegradable.  
Method: OECD Test Guideline 301E

#### **12-Hydroxystearic acid, oligomers, reaction products with stearic acid:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 57 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301C

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

Biodegradability : Result: Readily biodegradable.

## 12.3 Bioaccumulative potential

### Components:

#### **Fatty acids, coco, Me esters:**

Bioaccumulation : Bioconcentration factor (BCF): 290

Partition coefficient: n-  
octanol/water : log Pow: > 3

#### **calcium dodecylbenzenesulphonate:**

Bioaccumulation : Species: Fish  
Bioconcentration factor (BCF): 70.79  
Method: QSAR

Partition coefficient: n-  
octanol/water : log Pow: 4.77 (25 °C)

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

Partition coefficient: n-  
octanol/water : log Pow: 2.9 (25 °C)

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### 12.4 Mobility in soil

No data available

### 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.

### 12.6 Other adverse effects

#### Product:

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

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.

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## SECTION 14: Transport information

### 14.1 UN number

IMDG : UN 3082  
IATA : UN 3082

### 14.2 UN proper shipping name

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Nicosulfuron)

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(2-Ethylhexan-1-ol, Benzenesulfonic acid, dodecyl-, calcium salt, Fatty acids, coco, methyl esters)

**IATA** : Environmentally hazardous substance, liquid, n.o.s. (Nicosulfuron)  
(2-Ethylhexan-1-ol, Benzenesulfonic acid, dodecyl-, calcium salt)

### 14.3 Transport hazard class(es)

**IMDG** : 9

**IATA** : 9

### 14.4 Packing group

**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

**IMDG**  
Marine pollutant : 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

The ingredients of this product are reported in the following inventories:

TCSI : On the inventory, or in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

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AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL.  2-[(4,6-DIMETHOXYPYRIMIDIN-2-YLCARBAMOYL)SULFAMOYL]-N,N-DIMETHYLNICOTINAMIDE
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

## 15.2 Chemical Safety Assessment

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### SECTION 16: Other information

#### Full text of H-Statements

H302	:	Harmful if swallowed.
H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

#### Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation
STOT SE	:	Specific target organ toxicity - single exposure
2017/164/EU	:	Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
2017/164/EU / TWA	:	Limit Value - eight hours

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Test-

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ing 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

Other information :

### Classification of the mixture:

Acute Tox. 4	H332
Skin Irrit. 2	H315
Skin Sens. 1	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

### Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment

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