according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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

1.1 Product identifier

Product name BORDER®

Other means of identification

Product code 50001298

Unique Formula Identifier

(UFI)

3FH1-03CN-4N4M-UC8X

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

Use of the Sub- : Herbicide

stance/Mixture

Recommended restrictions :

on use

Use as recommended by the label.

For professional users only.

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

Supplier Address FMC Chemicals Hellas MEPE

Syngrou Avenue 348 17674 Kallithea

Greece

Telephone: +30 211 1982768 Telefax: +30 211 1138614

E-mail address: SDS-Info@fmc.com .

#### 1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:

Greece: 30-2111768478 (CHEMTREC)

Medical emergency:

Greece: 30 210 77 93 777

### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Skin sensitisation, Sub-category 1B H317: May cause an allergic skin reaction.

Serious eye damage, Category 1 H318: Causes serious eye damage.

Reproductive toxicity, Category 2 H361d: Suspected of damaging the unborn child.

Short-term (acute) aquatic hazard, Cate-

gory 1

H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Cat-

egory 1

H410: Very toxic to aquatic life with long lasting

effects.

#### 2.2 Label elements

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

Hazard pictograms









Signal word Danger

Hazard statements H317 May cause an allergic skin reaction.

> H318 Causes serious eye damage.

H361d Suspected of damaging the unborn child.

H410 Very toxic to aquatic life with long lasting effects.

P102 Keep out of reach of children. Precautionary statements

Prevention:

P201 Obtain special instructions before use.

P261 Avoid breathing mist or vapours.

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

Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

#### Response:

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

soap.

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

easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/ doctor.

P333 + P313 If skin irritation or rash occurs: Get medical

advice/ attention.

Take off contaminated clothing and wash it P362 + P364

before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Disposal of contents/container in accordance with na-

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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tional legislation.

# **Additional Labelling**

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

tions for use.

For special phrases (SP) and safety intervals, consult the label.

#### 2.3 Other hazards

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

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

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

## **SECTION 3: Composition/information on ingredients**

#### 3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Alcohols, C9-11-iso-, C10-rich, ethoxylated	78330-20-8	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 3 - < 10
mesotrione (ISO)	104206-82-8 609-064-00-X	Repr. 2; H361d STOT RE 2; H373 (Nervous system, Eyes) Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 3 - < 11
octan-1-ol	111-87-5 203-917-6	Acute Tox. 4; H302 Acute Tox. 4; H312 Eye Irrit. 2; H319 Aquatic Chronic 3;	>= 2,5 - < 10

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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		H412	
		Acute toxicity esti- mate	
		Acute oral toxicity: 720 mg/kg Acute dermal toxicity: 1.501 mg/kg	
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
calcium dodecylbenzenesulpho- nate	26264-06-2 247-557-8	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 4; H413	>= 1 - < 2,5
		Acute toxicity esti- mate	
		Acute oral toxicity: 1.300 mg/kg	

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.

Consult a physician.

Keep warm and in a quiet place.

If inhaled : Remove to fresh air.

If unconscious, place in recovery position and seek medical

advice.

If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambu-

lance.

In case of skin contact : If on clothes, remove clothes.

If on skin, rinse well with water.

Wash off with soap and plenty of water.

Get medical attention immediately if irritation develops and

persists.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tis-

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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sue damage and blindness.

In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes. Seek medical advice.

Continue rinsing eyes during transport to hospital.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Do NOT induce vomiting.

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. Take victim immediately to hospital.

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

None known.

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

Treatment : Treat symptomatically.

Immediate medical attention is required in case of ingestion.

#### **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

Suitable extinguishing media : Dry chemical, CO2, 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 prod: :

ucts

Fire may produce irritating, corrosive and/or toxic gases.

Carbon oxides

Nitrogen oxides (NOx)

Sulphur oxides

#### 5.3 Advice for firefighters

Special protective equipment :

for firefighters

Wear self-contained breathing apparatus for firefighting if nec-

essary.

Further information : Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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be disposed of in accordance with local regulations.

#### **SECTION 6: Accidental release measures**

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

Personal precautions : Use personal protective equipment.

Ensure adequate ventilation.

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.

Mark the contaminated area with signs and prevent access to

unauthorized personnel.

Only qualified personnel equipped with suitable protective

equipment may intervene.

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.

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 : Absorb spillage to prevent material damage.

Neutralize with chalk, alkali solution or ammonia.

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.

#### **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of aerosol.

Do not breathe vapours/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 ap-

plication area.

Provide sufficient air exchange and/or exhaust in work rooms. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national

regulations.

Persons susceptible to skin sensitisation problems or asthma,

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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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 : When using do not eat or drink. When using do not smoke.

Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing and gloves, including

the inside, before re-use.

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

Requirements for storage areas and containers

Store in original container. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply

with the technological safety standards.

Further information on stor-

age conditions

The product is stable under normal conditions of warehouse storage. Protect from frost and extreme heat. Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash

station should be available.

Advice on common storage : Do not store near acids.

Recommended storage tem-

perature

<= 40 °C

Further information on stor-

age stability

No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label

approved by country-specific regulatory authorities.

#### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

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

Substance name	Environmental Compartment	Value
Sorbitan monolaurate, ethoxylat-	Fresh water	0,2 mg/l

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ed		
	Marine water	0,02 mg/l
	Fresh water sediment	1,141 mg/kg dry weight (d.w.)
	Marine sediment	1000 mg/kg dry weight (d.w.)
	Intermittent use (freshwater)	0,239 mg/l
octan-1-ol	Fresh water	200 μg/l
	Marine water	20 μg/l
	Sewage treatment plant	55,5 mg/l
	Fresh water sediment	2,1 mg/kg dry weight (d.w.)
	Marine sediment	0,210 mg/kg dry weight (d.w.)
	Soil	1,6 mg/kg dry weight (d.w.)

#### 8.2 Exposure controls

#### Personal protective equipment

Eye/face protection : Eye wash bottle with pure water

Tightly fitting safety goggles

Wear face-shield and protective suit for abnormal processing

problems.

Hand protection

Material : Wear chemical resistant gloves, such as barrier laminate,

butyl rubber or nitrile rubber.

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.

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable per-

sonal respiratory protection and protective suit.

Protective measures : Plan first aid action before beginning work with this product.

Always have on hand a first-aid kit, together with proper in-

structions.

Wear suitable protective equipment. When using do not eat, drink or smoke.

In the context of professional plant protection use as recommended, the end user must refer to the label and the instruc-

tions for use.

## **SECTION 9: Physical and chemical properties**

# 9.1 Information on basic physical and chemical properties

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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Physical state : liquid

Colour : brown

Odour : Faint odour

Odour Threshold : not determined

Melting point/freezing point : not determined

Initial boiling point and boiling :

range

ca. 101 °C

Upper explosion limit / Upper

flammability limit

not determined

Lower explosion limit / Lower

flammability limit

not determined

Flash point : not determined, boils before flash

Auto-ignition temperature : No data available

Decomposition temperature : not determined

pH : 3,0

Concentration: 1 %

Viscosity

Viscosity, dynamic : not determined

Viscosity, kinematic : not determined

Solubility(ies)

Water solubility : No data available

Solubility in other solvents : No data available

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Partition coefficient: n-

octanol/water

: No data available

Vapour pressure : not determined

Relative density : 1,082 (20 °C)

Relative vapour density : not determined

Particle characteristics

Particle size : No data available

9.2 Other information

Explosives : Not explosive

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

Self-ignition : > 400 °C

Metal corrosion rate : > 6,25 mm/a

Corrosive to metals

Evaporation rate : not determined

Miscibility with water : dispersible

### **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 : Heat, flames and sparks.

Heating of the product will produce harmful and irritant va-

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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pours.

10.5 Incompatible materials

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

10.6 Hazardous decomposition products

Stable under recommended storage conditions.

See subsection 5.2.

#### **SECTION 11: Toxicological information**

#### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### **Acute toxicity**

Not classified based on available information.

**Product:** 

Acute oral toxicity : LD50 Oral (Rat): > 2.000 mg/kg

Method: OECD Test Guideline 425

GLP: yes

Acute inhalation toxicity : LC50 (Rat): > 3,67 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

GLP: yes

Remarks: No significant adverse effects were reported

Acute dermal toxicity : LD50 Dermal (Rat): > 2.000 mg/kg

Method: OECD Test Guideline 402

GLP: yes

#### **Components:**

#### Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after

single ingestion.

mesotrione (ISO):

Acute oral toxicity : LD50 (Rat, male and female): > 5.000 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg

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Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

octan-1-ol:

Acute oral toxicity : LD50 (Rat, male): 1.800 mg/kg

LD50 (Rat, female): 720 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2,05 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: US EPA Test Guideline OPPTS 870.1300

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 1.500 - < 2.000 mg/kg

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

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

calcium dodecylbenzenesulphonate:

Acute oral toxicity : LD50 (Rat, male and female): 1.300 mg/kg

Remarks: Based on data from similar materials

Acute inhalation toxicity : Remarks: Not classified

Acute dermal toxicity : LD50 (Rat, male and female): > 2000 milligram per kilogram

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: Based on data from similar materials

Skin corrosion/irritation

Not classified based on available information.

**Product:** 

Assessment : Not classified as irritant
Method : OECD Test Guideline 404

Result : slight irritation

GLP : yes

**Components:** 

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Species : Rabbit Exposure time : 4 h

Assessment : No skin irritation

Remarks : Minimal effects that do not meet the threshold for classifica-

tion.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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mesotrione (ISO):

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

octan-1-ol:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Mild skin irritation

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

Species : Rabbit Result : Skin irritation

calcium dodecylbenzenesulphonate:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

**Product:** 

Assessment : Risk of serious damage to eyes.

Method : OECD Test Guideline 405

Result : Risk of serious damage to eyes.

GLP : yes

**Components:** 

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Species : Rabbit Method : Draize Test

Result : Irreversible effects on the eye

mesotrione (ISO):

Species : Rabbit

Method : OECD Test Guideline 405

Result : No eye irritation

Remarks : Minimal effects that do not meet the threshold for classifica-

tion.

octan-1-ol:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritation to eyes, reversing within 21 days

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

Species : Rabbit
Method : Draize Test
Result : Mild 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

#### Respiratory or skin sensitisation

#### Skin sensitisation

May cause an allergic skin reaction.

#### Respiratory sensitisation

Not classified based on available information.

**Product:** 

Method : OECD Test Guideline 429

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

GLP : yes

#### **Components:**

#### Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Result : Does not cause skin sensitisation.

mesotrione (ISO):

Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.

octan-1-ol:

Test Type : Maximisation Test Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.
Remarks : Based on data from similar materials

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

Test Type : Maximisation Test

Species : Guinea pig

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Result : Does not cause skin sensitisation.

calcium dodecylbenzenesulphonate:

Test Type : Maximisation Test

Species : Guinea pig

Method : OECD Test Guideline 406
Result : Not a skin sensitizer.

Remarks : Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

**Components:** 

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Genotoxicity in vitro : Test Type: reverse mutation assay

Result: negative

Remarks: Based on data from similar materials

Germ cell mutagenicity- As-

sessment

: In vivo tests did not show mutagenic effects

octan-1-ol:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Test Type: reverse mutation assay Method: OECD Test Guideline 471

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse (male and female)

Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

Germ cell mutagenicity- As-

sessment

Weight of evidence does not support classification as a germ

cell mutagen.

calcium dodecylbenzenesulphonate:

Genotoxicity in vitro : Test Type: reverse mutation assay

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: chromosome aberration assay

Species: Rat (male and female)

Application Route: Oral Exposure time: 90 d

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Result: negative

Remarks: Based on data from similar materials

Germ cell mutagenicity- As-

sessment

Weight of evidence does not support classification as a germ

cell mutagen.

### Carcinogenicity

Not classified based on available information.

#### **Components:**

# mesotrione (ISO):

Species : Rat

Method : OECD Test Guideline 453

Result : negative

Remarks : No significant adverse effects were reported

Species : Mouse

Method : OECD Test Guideline 453

Result : negative

Remarks : No significant adverse effects were reported

Carcinogenicity - Assess-

ment

: Animal testing did not show any carcinogenic effects.

#### 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 - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

### Reproductive toxicity

Suspected of damaging the unborn child.

#### **Product:**

Reproductive toxicity - As-

Suspected of damaging the unborn child.

sessment

Remarks: The active ingredient is suspected of harming the

unborn child.

#### Components:

### Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Effects on fertility : Species: Rat

Application Route: Dermal

General Toxicity - Parent: NOEL: 250 mg/kg body weight General Toxicity F1: NOEL: 250 mg/kg body weight

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Effects on foetal develop-

ment

: Species: Rat

Application Route: Dermal

General Toxicity Maternal: NOEL: 250 mg/kg body weight

Teratogenicity: NOEL: 250 mg/kg body weight

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

mesotrione (ISO):

Reproductive toxicity - As-

sessment

Some evidence of adverse effects on development, based on

animal experiments., Suspected of damaging the unborn

child.

octan-1-ol:

Effects on fertility : Test Type: one-generation reproductive toxicity

Species: Rat, male and female

**Application Route: Oral** 

Dose: 10, 100, 1000 mg/kg bw/day

General Toxicity - Parent: NOAEL: 1.000 mg/kg bw/day General Toxicity F1: NOAEL: 1.000 mg/kg bw/day

Result: negative

Effects on foetal develop-

ment

Species: Rat

Application Route: Oral

Dose: 0,130,650,975,1300 mg/kg bw/day Duration of Single Treatment: 20 d

General Toxicity Maternal: LOAEL: 650 mg/kg bw/day

Embryo-foetal toxicity: NOAEL: 1.300 mg/kg bw/day

Symptoms: Maternal effects Method: OECD Test Guideline 414

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

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 foetal develop-

ment

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

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

Version Revision Date: SDS Number: Date of last issue: -

1.0 09.07.2024 50001298 Date of first issue: 09.07.2024

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

# STOT - single exposure

Not classified based on available information.

**Product:** 

Assessment : The substance or mixture is not classified as specific target

organ toxicant, single exposure.

**Components:** 

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, single exposure.

mesotrione (ISO):

Assessment : The substance or mixture is not classified as specific target

organ toxicant, single exposure.

Remarks : No significant adverse effects were reported

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

**Product:** 

Assessment : The substance or mixture is classified as specific target organ

toxicant, repeated exposure, category 2.

Components:

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

mesotrione (ISO):

Target Organs : Eyes, Nervous system

Assessment : May cause damage to organs through prolonged or repeated

exposure.

octan-1-ol:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Repeated dose toxicity

**Components:** 

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

Version Revision Date: SDS Number: Date of last issue: -

1.0 09.07.2024 50001298 Date of first issue: 09.07.2024

Species : Rat
NOAEL : 80 mg/kg
Application Route : Dermal
Exposure time : 90 d

Species : Rat
NOAEL : 150 mg/kg
Application Route : Oral
Exposure time : 90 d

octan-1-ol:

Species : Rat, male

NOAEL : 1127 mg/kg bw/day

Application Route : Oral Exposure time : 13 Weeks

Dose : 182, 374, 1127 mg/kg bw/day

Species : Rat, female

NOAEL : 1243 mg/kg bw/day

Application Route : Oral Exposure time : 13 Weeks

Dose : 216, 427, 1243 mg/kg bw/day

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
LOAEL : 286 mg/kg
Application Route : Skin contact
Exposure time : 15 Days

Remarks : Based on data from similar materials

Species : Rat, male and female NOAEL : 100 mg/kg bw/day LOAEL : 200 mg/kg bw/day Application Route : Oral - gavage Exposure time : 28 - 54 Days

Method : OECD Test Guideline 422

Remarks : Based on data from similar materials

**Aspiration toxicity** 

Not classified based on available information.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

Version Revision Date: SDS Number: Date of last issue: -

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#### **Components:**

#### mesotrione (ISO):

The substance does not have properties associated with aspiration hazard potential.

#### 11.2 Information on other hazards

#### **Endocrine disrupting properties**

#### **Product:**

Assessment : The substance/mixture does not contain components consid-

ered 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.

#### **Further information**

**Product:** 

Remarks : No data available

# **SECTION 12: Ecological information**

#### 12.1 Toxicity

**Product:** 

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 129,3 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 180 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 114

mg/l

Exposure time: 72 h

EC50 (Lemna gibba (duckweed)): 0,278 mg/l

Exposure time: 7 d

NOEC (Lemna gibba (duckweed)): 0,016 mg/l

Exposure time: 7 d

Toxicity to soil dwelling or-

ganisms

NOEC: 21 mg/kg

Exposure time: 56 d

Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organ-

isms

LD50: 87 µg/bee

Exposure time: 48 h

End point: Acute contact toxicity Species: Apis mellifera (bees)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

Version Revision Date: SDS Number: Date of last issue: -

1.0 09.07.2024 50001298 Date of first issue: 09.07.2024

LD50: 85 µg/bee Exposure time: 48 h

End point: Acute oral toxicity Species: Apis mellifera (bees)

**Components:** 

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 8,5 mg/l

Exposure time: 96 h

mesotrione (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 900 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EbC50 (green algae): 4,5 mg/l

Exposure time: 72 h

EC50 (Pseudokirchneriella subcapitata (green algae)): 3,5

mg/l

Exposure time: 120 h

EC10 (Lemna gibba (gibbous duckweed)): 0,0014 mg/l

Exposure time: 14 d

EC50 (Lemna gibba (gibbous duckweed)): 0,0077 mg/l

Exposure time: 14 d

M-Factor (Acute aquatic tox-

icity)

10

Toxicity to fish (Chronic tox-

icity)

NOEC: 12,5 mg/l

Exposure time: 28 d

Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chron-

ic toxicity)

NOEC: 180 mg/l Exposure time: 22 d

Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic

toxicity)

: 10

Toxicity to soil dwelling or-

ganisms

LC50: > 2.000 mg/kg Exposure time: 14 d

Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organ-

isms

LD50: > 2.000 mg/kg

Species: Colinus virginianus (Bobwhite quail)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

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LD50: > 11 µg/bee

End point: Acute oral toxicity Species: Apis mellifera (bees)

LD50: > 100 µg/bee

End point: Acute contact toxicity 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.

octan-1-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 13,3 mg/l

Exposure time: 96 h

Test Type: flow-through test

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 20 mg/l

Exposure time: 24 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC10 (Desmodesmus subspicatus (green algae)): 4,2 mg/l

Exposure time: 48 h

Test Type: static test

EC50 (Desmodesmus subspicatus (green algae)): 6,5 mg/l

Exposure time: 48 h Test Type: static test

Toxicity to microorganisms

(Protozoa): 44 mg/l

Exposure time: 72 h

Test Type: Cell multiplication inhibition test Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 1 mg/l

Exposure time: 21 d

Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

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

Toxicity to daphnia and other :

EC50 (Crustaceans): 1.614 mg/l

aquatic invertebrates

plants

Exposure time: 48 h

Toxicity to algae/aquatic

EC50 (Skeletonema costatum (marine diatom)): > 10.000 mg/l

Exposure time: 72 h

calcium dodecylbenzenesulphonate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 10 mg/l

Exposure time: 96 h

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

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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

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 daphnia and other aquatic invertebrates (Chron-

ic toxicity)

NOEC: 1,65 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Remarks: Based on data from similar materials

NOEC: 1,18 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Remarks: Based on data from similar materials

Toxicity to soil dwelling or-

ganisms

LC50: 1.000 mg/kg Exposure time: 14 d

exposure time. 14 d

Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207

Toxicity to terrestrial organ-

isms

LD50: 1.356 mg/kg Exposure time: 14 d

Species: Colinus virginianus (Bobwhite quail)

Method: OECD Test Guideline 223

**Ecotoxicology Assessment** 

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

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#### 12.2 Persistence and degradability

**Product:** 

Biodegradability : Remarks: Not readily biodegradable.

Product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water

treatment plants.

**Components:** 

Alcohols, C9-11-iso-, C10-rich, ethoxylated:

Biodegradability : Result: Readily biodegradable.

mesotrione (ISO):

Biodegradability : Remarks: Not readily biodegradable.

octan-1-ol:

Biodegradability : Inoculum: activated sludge

Result: Readily biodegradable. Biodegradation: 82,2 % Exposure time: 28 d

Method: OECD Test Guideline 301B

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

calcium dodecylbenzenesulphonate:

Biodegradability : Result: Readily biodegradable.

Method: OECD Test Guideline 301E

12.3 Bioaccumulative potential

**Product:** 

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Information refers to the main component.

**Components:** 

mesotrione (ISO):

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: 0,11 (20 °C) Remarks: unbuffered water

log Pow: 0,9 (20 °C)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

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pH: 5

log Pow: -1 (20 °C)

pH: 7

octan-1-ol:

Partition coefficient: n- : log Pow: 3,5 (23 °C)

octanol/water pH: 5,7

calcium dodecylbenzenesulphonate:

Bioaccumulation : Species: Fish

Bioconcentration factor (BCF): 70,79

Method: QSAR

Partition coefficient: n-

octanol/water

log Pow: 4,77 (25 °C)

#### 12.4 Mobility in soil

**Product:** 

Distribution among environ-

mental compartments

Remarks: Under normal conditions the active ingredient is

moderately mobile to mobile in soil.

**Components:** 

mesotrione (ISO):

Distribution among environ-

mental compartments

Koc: 122 ml/g, log Koc: 2,08 Remarks: Mobile in soils

#### 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 Endocrine disrupting properties

**Product:** 

Assessment : The substance/mixture does not contain components consid-

ered 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.

#### 12.7 Other adverse effects

#### **Product:**

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

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Additional ecological infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life.

### **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 chemi-

cal or used container.

Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.

Do not re-use empty containers.

Packaging that is not properly emptied must be disposed of as

the unused product.

Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

#### **SECTION 14: Transport information**

#### 14.1 UN number or ID number

ADN : UN 3265
ADR : UN 3265
RID : UN 3265
IMDG : UN 3265
IATA : UN 3265

14.2 UN proper shipping name

**ADN** : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(Mesotrione)

ADR : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(Mesotrione)

RID : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(Mesotrione)

IMDG : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

(Mesotrione)

IATA : Corrosive liquid, acidic, organic, n.o.s.

(Mesotrione)

14.3 Transport hazard class(es)

Class Subsidiary risks

**ADN** : 8

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

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ADR : 8
RID : 8
IMDG : 8
IATA : 8

#### 14.4 Packing group

ADN

Packing group : III
Classification Code : C3
Hazard Identification Number : 80
Labels : 8

**ADR** 

Packing group : III
Classification Code : C3
Hazard Identification Number : 80
Labels : 8
Tunnel restriction code : (E)

**RID** 

Packing group : III
Classification Code : C3
Hazard Identification Number : 80
Labels : 8

**IMDG** 

Packing group : III Labels : 8

EmS Code : F-A, S-B

856

IATA (Cargo)

Packing instruction (cargo :

aircraft)

Packing instruction (LQ) : Y841
Packing group : III

Labels : Corrosive

IATA (Passenger)

Packing instruction (passen- : 852

ger aircraft)

Packing instruction (LQ) : Y841
Packing group : III

Labels : Corrosive

#### 14.5 Environmental hazards

**ADN** 

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



# **BORDER®**

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**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 Maritime transport in bulk according to IMO instruments

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 - Restrictions on the manufacture, placing on the market and use of certain dangerous substances. mixtures and articles (Annex XVII)

Conditions of restriction for the following entries should be considered: Number on list 3

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer

Not applicable

Regulation (EU) 2019/1021 on persistent organic pollu-

tants (recast)

Not applicable

Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import

of dangerous chemicals

Not applicable

REACH - List of substances subject to authorisation

(Annex XIV)

Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

**ENVIRONMENTAL HAZARDS** 

#### Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

E1

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.

Re-Entry Deadline: Consult the label

Take note of Directive 94/33/EC on the protection of young people at work or stricter national

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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regulations, where applicable.

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

TCSI : Not in compliance with the inventory

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

AIIC : Not in compliance with the inventory

DSL : This product contains the following components that are not

on the Canadian DSL nor NDSL.

mesotrione (ISO)

POTASSIUM SORBATE

mixture of polyorganosiloxanes and fillers

Smectite-group minerals

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

A chemical safety assessment is not required for this product (mixture).

#### **SECTION 16: Other information**

#### **Full text of H-Statements**

H302 : Harmful if swallowed.
H312 : Harmful in contact with skin.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.

H361d : Suspected of damaging the unborn child.

H373 : May cause damage to organs through prolonged or repeated

exposure.

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.
 H413 : May cause long lasting harmful effects to aquatic life.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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#### 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

Repr. : Reproductive toxicity

Skin Irrit. : Skin irritation

STOT RE : Specific target organ toxicity - repeated exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; 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: TRGS - Technical Rule for Hazardous Substances: TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### **Further information**

Other information : The information pr

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according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



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materials or in any process, unless specified in the text.

Classification of the mixture:		Classification procedure:	
Skin Sens. 1B	H317	Based on product data or assessment	
Eye Dam. 1	H318	Based on product data or assessment	
Repr. 2	H361d	Calculation method	
Aquatic Acute 1	H400	Expert judgement and weight of evidence determination.	
Aquatic Chronic 1	H410	Based on product data or assessment	

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