According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



### **REFINE SUPER SX**

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

### 1.1 Product identifier

Product name REFINE SUPER SX

Other means of identification

Product code 50000042

### 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.

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

<u>Supplier Address</u> FMC Agricultural Solutions A/S

Thyborønvej 78 DK-7673 Denmark

Telephone: +45 9690 9690 Telefax: +45 9690 9691

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

mation)

### 1.4 Emergency telephone number

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

Finland: 358-942419014 (CHEMTREC)

Medical emergency: Finland: 0800 147 111

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

#### 2.1 Classification of the substance or mixture

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

Specific target organ toxicity - repeated H373:

exposure, Category 2

H373: May cause damage to organs through pro-

longed or repeated exposure.

Short-term (acute) aquatic hazard, Cate-

H400: Very toxic to aquatic life.

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gory 1

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 : Warning

Hazard statements : H373 May cause damage to organs through prolonged or

repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : P102 Keep out of reach of children.

**Prevention:** 

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Response:

P314 Get medical advice/ attention if you feel unwell.

P391 Collect spillage.

Disposal:

P501 Surplus, unusable plant protection product shall be exported to a collection point for hazardous waste and empty, rinsed sales packaging to an appropriate collection point

Hazardous components which must be listed on the label:

Tribenuron-methyl

**Additional Labelling** 

EUH208 Contains tribenuron-methyl (ISO). May produce an allergic reaction.

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

tions for use.

2.3 Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT). This mixture contains no substance considered to be very persistent and very bioaccumulating (vPvB).

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.

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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.	Classification	Concentration (% w/w)
	Index-No. Registration number		
thifensulfuron-methyl (ISO)	79277-27-3	Aquatic Acute 1; H400	>= 20 - < 25
	016-096-00-2	Aquatic Chronic 1; H410	
		M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	
Tribenuron-methyl	101200-48-0 401-190-1 607-177-00-9	Skin Sens. 1; H317 STOT RE 2; H373 (Thyroid, Nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 ———— M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	>= 20 - < 25
sodium carbonate	497-19-8 207-838-8 011-005-00-2	Eye Irrit. 2; H319	>= 10 - < 20
Phosphoric acid, trisodium salt, dodecahydrate	10101-89-0	Acute Tox. 3; H331 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system)	>= 1 - < 10
		Acute toxicity esti-	

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mate

Acute inhalation toxicity (dust/mist):

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.

0,830083 mg/l

Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical

advice.

If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician.

If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.

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 : May cause damage to organs through prolonged or repeated

exposure.

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

Treatment : Treat symptomatically.

# **SECTION 5: Firefighting measures**

### 5.1 Extinguishing media

Suitable extinguishing media : Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing : High volume water jet

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media

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

Carbon oxides Sulphur oxides

Nitrogen oxides (NOx) Oxides of phosphorus

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

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.

Avoid dust formation. Avoid breathing dust.

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 : 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 respirable particles.

Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8.

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Smoking, eating and drinking should be prohibited in the ap-

plication area.

Dispose of rinse water in accordance with local and national

regulations.

Advice on protection against

fire and explosion

Avoid dust formation. Provide appropriate exhaust ventilation

at places where dust is formed.

Hygiene measures : 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 resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological

safety standards.

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.

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

Substance name	End Use	Exposure routes	Potential health effects	Value
sodium carbonate	Workers	Inhalation	Long-term local ef- fects	10 mg/m3
	Consumers	Inhalation	Acute local effects	10 mg/m3
Phosphoric acid, trisodium salt, dodec- ahydrate	Workers	Inhalation	Long-term systemic effects	4,07 mg/m3
	Consumers	Inhalation	Long-term systemic effects	3,04 mg/m3

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

Substance name	Environmental Compartment	Value
Phosphoric acid, trisodium salt,	Sewage treatment plant	50 mg/l
dodecahydrate		

### 8.2 Exposure controls

### Personal protective equipment

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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Eye 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 : Dust impervious protective suit

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : Use respiratory protection unless adequate local exhaust ven-

tilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Equipment should conform to EN 143

Filter type : Particulates type (P)

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

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

### 9.1 Information on basic physical and chemical properties

Appearance : solid, granular

Colour : light brown

Odour : slight

Odour Threshold : not determined

Melting point/freezing point : not determined

Boiling point/boiling range : Decomposition

Flammability : Not highly flammable, may be ignitable

Upper explosion limit / Upper

flammability limit

not determined

Lower explosion limit / Lower :

flammability limit

0,01 %(V)

Flash point : not determined

Decomposition temperature : not determined

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pH : 9,4 (20 °C)

Concentration: 10 g/l

Viscosity

Viscosity, kinematic : not determined

Solubility(ies)

Water solubility : soluble

Partition coefficient: n-

octanol/water

Not available for this mixture.

Vapour pressure : Not available for this mixture.

Bulk density : ca. 707 kg/m3packed

Relative vapour density : not determined

9.2 Other information

Explosives : Not explosive

Oxidizing properties : The product is not oxidizing.

Self-ignition : 387 °C

Evaporation rate : Not applicable

Minimum ignition energy : > 1.000 mJ

### **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.

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Strong acids and strong bases

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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Strong oxidizing agents

### 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 (Rat): > 5.000 mg/kg

Method: Fixed Dose Method

GLP: yes

Remarks: Information source: Internal study report

Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: No data is available on the product itself.

The product contains no ingredient classified for inhalation

toxicity.

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg

Method: OECD Test Guideline 402

GLP: yes

Remarks: Information source: Internal study report

### Components:

thifensulfuron-methyl (ISO):

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 7.9 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

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

Tribenuron-methyl:

Acute oral toxicity : LD50: > 5.000 mg/kg

Method: OECD Test Guideline 425

Acute inhalation toxicity : LC50 (Rat): > 5,14 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg

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Method: OECD Test Guideline 402

sodium carbonate:

Acute oral toxicity : LD50 (Rat, male and female): 2.800 mg/kg

Acute inhalation toxicity : LC50 (Rat, male): 2,3 mg/l

Exposure time: 2 h

Test atmosphere: dust/mist

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

Target Organs: Skin Symptoms: Erythema

Phosphoric acid, trisodium salt, dodecahydrate:

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

Method: OECD Test Guideline 420

Remarks: no mortality

Acute inhalation toxicity : LC50 (Rat, male and female): > 0,83 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Remarks: Based on data from similar materials

no mortality

Acute toxicity estimate: 0,830083 mg/l

Test atmosphere: dust/mist Method: Calculation method

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

Method: OECD Test Guideline 402

Remarks: Based on data from similar materials

no mortality

Skin corrosion/irritation

Not classified based on available information.

**Product:** 

Species : Rat

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

Result : No skin irritation

GLP : yes

Remarks : Based on data from a similar product.

**Components:** 

Tribenuron-methyl:

Species : Rabbit

Assessment : Not classified as irritant

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Method : OECD Test Guideline 404 Remarks : May cause mild irritation.

Based on available data, the classification criteria are not met.

sodium carbonate:

Species : Rabbit Exposure time : 4 h

Method : OECD Test Guideline 404

Result : No skin irritation

Phosphoric acid, trisodium salt, dodecahydrate:

Species : Rabbit Result : Skin irritation

Species : Rabbit

Result : No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

**Product:** 

Species : Rabbit

Assessment : Not classified as irritant
Method : OECD Test Guideline 405

Result : No eye irritation

GLP : yes

Remarks : Based on data from a similar product.

**Components:** 

Tribenuron-methyl:

Species : Rabbit

Assessment : No eye irritation

Method : OECD Test Guideline 405
Remarks : May cause mild irritation.

Based on available data, the classification criteria are not met.

sodium carbonate:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Phosphoric acid, trisodium salt, dodecahydrate:

Species : Rabbit

Method : EPA OTS 798.4500

Result : Irritation to eyes, reversing within 21 days

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### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

### Respiratory sensitisation

Not classified based on available information.

**Product:** 

Local lymph node test Test Type

**Species** Mouse

Assessment Not a skin sensitizer. Method OECD Test Guideline 429

Result Does not cause skin sensitisation.

**GLP** ves

Based on data from similar materials Remarks

Not classified

### **Components:**

### thifensulfuron-methyl (ISO):

Species Guinea pig

Result Does not cause skin sensitisation.

# Tribenuron-methyl:

Test Type **Maximisation Test Species** Guinea pig

Assessment May cause sensitisation by skin contact.

Method OECD Test Guideline 406 Result Causes skin sensitization.

# Phosphoric acid, trisodium salt, dodecahydrate:

Test Type : Local lymph node assay (LLNA)

Species Mouse

Method : OECD Test Guideline 429

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

### Germ cell mutagenicity

Not classified based on available information.

# **Product:**

Remarks: The product contains no ingredients known to be Genotoxicity in vitro

mutagenic.

#### **Components:**

### thifensulfuron-methyl (ISO):

Germ cell mutagenicity- As-

Weight of evidence does not support classification as a germ

sessment cell mutagen.

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Tribenuron-methyl:

Germ cell mutagenicity- As-

sessment

Did not show mutagenic effects in animal experiments.

sodium carbonate:

Genotoxicity in vitro : Test Type: reverse mutation assay

Method: Mutagenicity (Salmonella typhimurium - reverse mu-

tation assay) 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.

Phosphoric acid, trisodium salt, dodecahydrate:

Genotoxicity in vitro : Test Type: gene mutation test

Method: OECD Test Guideline 490

Result: negative

Remarks: Based on data from similar materials

Test Type: Micronucleus test Method: OECD Test Guideline 487

Result: negative

Germ cell mutagenicity- As-

sessment

: In vitro tests did not show mutagenic effects

Carcinogenicity

Not classified based on available information.

**Product:** 

Remarks : The product contains no ingredients known to be carcinogen-

ic.

**Components:** 

thifensulfuron-methyl (ISO):

Carcinogenicity - Assessment

Weight of evidence does not support classification as a car-

cinogen

Tribenuron-methyl:

Remarks : No significant adverse effects were reported

Carcinogenicity - Assess-

ment

Did not show carcinogenic effects in animal experiments.

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### Reproductive toxicity

Not classified based on available information.

**Product:** 

Effects on fertility : Remarks: The product contains no ingredients found to have

adverse effects on reproduction.

**Components:** 

Tribenuron-methyl:

Reproductive toxicity - As-

sessment

No toxicity to reproduction

Animal testing did not show any effects on foetal development., Did not show teratogenic effects in animal experiments.

sodium carbonate:

Effects on foetal develop-

ment

Species: Rat

**Application Route: Oral** 

Dose: 2.45, 11.4, 52.9, 245 milligram per kilogram

Duration of Single Treatment: 6 - 15 d

General Toxicity Maternal: NOAEL: > 245 mg/kg body weight

Teratogenicity: NOAEL: > 245 mg/kg body weight

Result: negative

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

Phosphoric acid, trisodium salt, dodecahydrate:

Effects on fertility : Species: Rat, male and female

Application Route: Oral Dose: 1000 mg/kgbw

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

Method: OECD Test Guideline 422

Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Test Type: reproductive and developmental toxicity study

Species: Rat

Application Route: Oral

Dose: 4.1,19,88.3,410mg/kgbw/day Duration of Single Treatment: 20 d

General Toxicity Maternal: NOAEL: > 410 mg/kg bw/day Embryo-foetal toxicity: NOAEL: > 410 mg/kg bw/day

Result: negative

Remarks: Based on data from similar materials

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

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### 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:** 

Tribenuron-methyl:

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

organ toxicant, single exposure.

Phosphoric acid, trisodium salt, dodecahydrate:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

**Product:** 

Assessment : May cause damage to organs through prolonged or repeated

exposure.

Components:

Tribenuron-methyl:

Target Organs : Thyroid, Nervous system

Assessment : May cause damage to organs through prolonged or repeated

exposure.

sodium carbonate:

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

organ toxicant, repeated exposure.

Repeated dose toxicity

**Components:** 

Tribenuron-methyl:

Species : Rabbit LOAEL : 80 mg/kg

Target Organs : Thyroid, Nervous system

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

toxicant, repeated exposure, category 2.

Remarks : Increased mortality or reduced survival

sodium carbonate:

Species : , male and female NOAEL : > 0,01 mg/kg

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Application Route : inhalation (dust/mist/fume)

Test atmosphere : dust/mist

### Phosphoric acid, trisodium salt, dodecahydrate:

Species : Dog, female

NOAEL : 492.77 mg/kg bw/day LOAEL : 1433.56 mg/kg bw/day

Application Route : Oral - feed Exposure time : 90 d

Dose : 129.31,492.77,1433.56mg/kgbw/d

Target Organs : Kidney

Remarks : Based on data from similar materials

Species : Dog, male

NOAEL : 322.88 mg/kg bw/day LOAEL : 1107.12 mg/kg bw/day

Application Route : Oral - feed Exposure time : 90 d

Dose : 94.23,322.88,1107.12mg/kgbw/da

Target Organs : Kidney

Remarks : Based on data from similar materials

# **Aspiration toxicity**

Not classified based on available information.

#### **Product:**

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

### **Components:**

### Tribenuron-methyl:

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

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### **SECTION 12: Ecological information**

### 12.1 Toxicity

**Product:** 

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 130 mg/l

Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

GLP: yes

Remarks: Information given is based on data obtained from

similar product.

Toxicity to daphnia and other :

aquatic invertebrates

(Daphnia magna (Water flea)): > 130 mg/l

End point: Immobilization Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

GLP: yes

Remarks: Information given is based on data obtained from

similar product.

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0,16

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

GLP: yes

Remarks: (Data on the product itself)
Information source: Internal study report

ErC50 (Lemna gibba (duckweed)): 0,0036 mg/l

Exposure time: 14 d

Method: OECD Test Guideline 221

GLP: yes

Remarks: (Data on the product itself)
Information source: Internal study report

NOEC (Lemna gibba (duckweed)): < 1 mg/l

Exposure time: 14 d Remarks: Estimated value

Toxicity to soil dwelling or-

ganisms

LC50: > 1.000 mg/kg Exposure time: 14 d

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

GLP:yes

Toxicity to terrestrial organ-

isms

LD50: > 112.2 µg/bee

Exposure time: 48 h

End point: Acute oral toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 213

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GLP:yes

LD50: > 100 µg/bee Exposure time: 48 h

End point: Acute contact toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 214

GLP:yes

**Components:** 

thifensulfuron-methyl (ISO):

Toxicity to fish : LC50 (Salmo gairdneri): 100 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 470 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

IC50 (green algae): 0,0159 mg/l

Exposure time: 72 h

EC50 (Lemna minor (duckweed)): 1,3 μg/l

M-Factor (Acute aquatic tox-

icity)

100

Toxicity to fish (Chronic tox-

icity)

NOEC: 250 mg/l Exposure time: 28 d Species: Salmo gairdneri

Toxicity to daphnia and other aquatic invertebrates (Chron-

ic toxicity)

NOEC: 100 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic

toxicity)

100

Toxicity to soil dwelling or-

ganisms

LC50: > 2.000 mg/kg

Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organ-

isms

LD50: > 5.620 ppm

Species: Colinus virginianus (Bobwhite quail)

LD50: > 2.510 mg/kg

Species: Anas platyrhynchos (Mallard duck)

LD50: > 7,1  $\mu$ g/bee

Species: Apis mellifera (bees)

**Ecotoxicology Assessment** 

Acute aquatic toxicity : Very toxic to aquatic life.

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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

Tribenuron-methyl:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 738 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Crustaceans): > 320 mg/l

Exposure time: 48 h

EC50 (Daphnia magna (Water flea)): > 894 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Raphidocelis subcapitata (freshwater green alga)):

0,068 mg/l

Exposure time: 72 h

ErC50 (Lemna gibba (duckweed)): 0,0047 mg/l

Exposure time: 7 d

NOEC (Lemna gibba (duckweed)): 0,001 mg/l

Exposure time: 7 d

M-Factor (Acute aquatic tox-

icity)

100

Toxicity to fish (Chronic tox-

icity)

NOEC: 114 mg/l

Exposure time: 21 d

Species: Cyprinodon variegatus (sheepshead minnow)

Method: OECD Test Guideline 211

NOEC: 560 mg/l Exposure time: 21 d

Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC: 41 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic

toxicity)

100

Toxicity to soil dwelling or-

ganisms

NOEC: 3,2 mg/kg

Exposure time: 56 d

Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organ-

isms

LD50: > 2.250 mg/kg

Species: Colinus virginianus (Bobwhite quail)

LD50: > 5.620 ppm

Species: Colinus virginianus (Bobwhite quail)

Remarks: Dietary

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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LD50: > 5.620 ppm

Species: Anas platyrhynchos (Mallard duck)

Remarks: Dietary

LD50: > 98.4  $\mu$ g/bee Exposure time: 48 h

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

LD50: > 9.1 µg/bee Exposure time: 48 h

End point: Acute oral 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.

sodium carbonate:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 300 mg/l

Exposure time: 96 h Test Type: static test

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Ceriodaphnia (water flea)): 200 mg/l

Exposure time: 48 h Test Type: semi-static test

Phosphoric acid, trisodium salt, dodecahydrate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h Method: EU Method C3

Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h Method: EU Method C3

Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): 1.000 mg/l

Exposure time: 3 h

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

NOEC (activated sludge): 1.000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

Toxicity to soil dwelling or-

ganisms

LC50: > 3.500 mg/kg Exposure time: 14 d

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

Remarks: Based on data from similar materials

### 12.2 Persistence and degradability

**Product:** 

Biodegradability : Result: Not readily biodegradable.

Remarks: Estimation based on data obtained on active ingre-

dient.

**Components:** 

Tribenuron-methyl:

Biodegradability : Result: Not readily biodegradable.

Remarks: The product/substance is not persistent in the envi-

ronment.

Primary degradation half-lives vary with circumstances, from a

few days to a few weeks in aerobic water and soil.

Metabolites are considered as persistent.

According to the results of tests of biodegradability this prod-

uct is not readily biodegradable.

sodium carbonate:

Biodegradability : Remarks: The methods for determining biodegradability are

not applicable to inorganic substances.

12.3 Bioaccumulative potential

**Product:** 

Bioaccumulation : Remarks: Does not bioaccumulate.

Estimation based on data obtained on active ingredient.

**Components:** 

thifensulfuron-methyl (ISO):

Bioaccumulation : Remarks: Does not bioaccumulate.

Tribenuron-methyl:

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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Bioaccumulation : Bioconcentration factor (BCF): < 1

Remarks: Does not bioaccumulate.

Partition coefficient: n-

octanol/water

log Pow: -0,38

sodium carbonate:

Bioaccumulation : Remarks: Does not bioaccumulate.

### 12.4 Mobility in soil

#### **Product:**

Distribution among environmental compartments Remarks: Under normal conditions the active ingredient/s is/are of high to intermediate mobility in soil. There is a poten-

tial for leaching to groundwater.

### **Components:**

### thifensulfuron-methyl (ISO):

Distribution among environmental compartments

Remarks: Mobile in soils

### Tribenuron-methyl:

Distribution among environmental compartments

Remarks: Under normal conditions the active ingredient/s is/are of high to intermediate mobility in soil. There is a poten-

tial for leaching to groundwater.

#### 12.5 Results of PBT and vPvB assessment

# **Product:**

Assessment : This mixture contains no substance considered to be persis-

tent, bioaccumulating and toxic (PBT).. This mixture contains no substance considered to be very persistent and very bio-

accumulating (vPvB).

: 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.

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



# **REFINE SUPER SX**

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#### 12.7 Other adverse effects

### Product:

Additional ecological infor-

mation

No other ecological effects to be specially mentioned. See product label for additional application instructions relat-

ing to environmental precautions.

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

### **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.

Dispose of as unused product. Do not re-use empty containers.

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

#### 14.1 UN number or ID number

ADN : UN 3077
ADR : UN 3077
RID : UN 3077
IMDG : UN 3077
IATA : UN 3077

### 14.2 UN proper shipping name

**ADN** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Thifensulfuron-methyl, Tribenuron-methyl)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Thifensulfuron-methyl, Tribenuron-methyl)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Thifensulfuron-methyl, Tribenuron-methyl)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



# **REFINE SUPER SX**

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(Thifensulfuron-methyl, Tribenuron-methyl)

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

(Thifensulfuron-methyl, Tribenuron-methyl)

### 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 : M7
Hazard Identification Number : 90
Labels : 9

### **ADR**

Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

### RID

Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

#### **IMDG**

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

IATA (Cargo)

Packing instruction (cargo : 956

aircraft)

Packing instruction (LQ) : Y956
Packing group : III

Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passen- : 956

ger aircraft)

Packing instruction (LQ) : Y956
Packing group : III

Labels : Miscellaneous

### 14.5 Environmental hazards

### ADN

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



### **REFINE SUPER SX**

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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 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)

: Not applicable

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

Not applicable

Regulation (EC) No 1005/2009 on substances that de-

plete the ozone layer

Not applicable

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

tants (recast)

: 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 - 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.

E1

**ENVIRONMENTAL HAZARDS** 

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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### Other regulations:

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

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

No Chemical Safety Assessment has been carried out for this mixture.

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

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

H315 : Causes skin irritation.

H317 : May cause an allergic skin reaction. H319 : Causes serious eye irritation.

H331 : Toxic if inhaled.

H335 : May cause respiratory irritation.

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.

#### Full text of other abbreviations

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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Acute Tox. : Acute toxicity

Aquatic Acute : Short-term (acute) aquatic hazard Aquatic Chronic : Long-term (chronic) aquatic hazard

Eye Irrit. : Eye irritation
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation

STOT RE : Specific target organ toxicity - repeated exposure STOT SE : Specific target organ toxicity - single 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 : see user defined free text

Classification of the mixture: Classification procedure:

STOT RE 2 H373 Calculation method

Aquatic Acute 1 H400 Based on product data or assessment

Aquatic Chronic 1 H410 Calculation method

### **Disclaimer**

According to Commission Regulation (EU) 2020/878 of amending Regulation (EC) No 1907/2006



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