

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

---

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

#### 1.1 Product identifier

**Product name** SEMAFOR® 20 ST INSECTICIDE

#### Other means of identification

**Product code** 50000394

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

**Use of the Substance/Mixture** : Insecticide

**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 Agricultural Solutions A/S  
Thyborønvej 78  
DK-7673 Harbøre  
Denmark

Telephone: +45 9690 9690  
Telefax: +45 9690 9691  
E-mail address: SDS-Info@fmc.com .

#### 1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:  
Denmark: +45-69918573 (CHEMTREC)

Medical emergency:  
Denmark: +45 82 12 12 12

---

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

Acute toxicity, Category 4 H302: Harmful if swallowed.

Acute toxicity, Category 4 H332: Harmful if inhaled.

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

Skin sensitisation, Sub-category 1B	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Reproductive toxicity, Category 2	H361f: Suspected of damaging fertility.
Specific target organ toxicity - single exposure, Category 1	H370: Causes damage to organs.
Specific target organ toxicity - repeated exposure, Category 1	H372: Causes damage to organs through prolonged or repeated exposure.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

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

Hazard pictograms :



Signal word : Danger

Hazard statements : H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.  
H317 May cause an allergic skin reaction.  
H351 Suspected of causing cancer.  
H361f Suspected of damaging fertility.  
H370 Causes damage to organs.  
H372 Causes damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P260 Do not breathe mist or vapours.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

#### **Response:**

P302 + P352 IF ON SKIN: Wash with plenty of water and soap.  
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.  
P362 + P364 Take off contaminated clothing and wash it

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

before reuse.  
P391 Collect spillage.

### Disposal:

P501 Dispose of contents and/or container in accordance with hazardous waste regulations.

### Hazardous components which must be listed on the label:

bifenthrin (ISO)  
2,2'-oxybisethanol  
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one  
(3:1)

### Additional Labelling

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

### 2.3 Other hazards

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

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)
bifenthrin (ISO)	82657-04-3 607-699-00-7	Acute Tox. 2; H300 Acute Tox. 3; H331 Acute Tox. 4; H312 Skin Sens. 1B; H317 Carc. 2; H351 STOT SE 1; H370 (Central nervous system) STOT RE 1; H372 (Nervous system) Aquatic Acute 1; H400	19,3

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0      Revision Date: 07.03.2024      SDS Number: 50000394      Date of last issue: -  
Date of first issue: 07.03.2024

		Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10.000 M-Factor (Chronic aquatic toxicity): 100.000 Acute toxicity estimate Acute oral toxicity: 42,5 mg/kg Acute inhalation toxicity (dust/mist): 0,6 mg/l Acute dermal toxicity: 2.000 mg/kg 2.000 mg/kg	
propane-1,2-diol	57-55-6 200-338-0		>= 5 - <= 10
2,2' -oxybisethanol	111-46-6 203-872-2 603-140-00-6	Acute Tox. 4; H302 Acute toxicity estimate Acute oral toxicity: 500,0 mg/kg	>= 1 - < 10
D-Glucopyranose, oligomeric, C9-11-alkyl glycosides	132778-08-6	Eye Dam. 1; H318	>= 1 - < 3
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	55965-84-9 613-167-00-5	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 2; H310 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1A; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 EUH071 M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	>= 0,0015 - < 0,0025

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

		<div>specific concentration limit</div> <div>Skin Corr. 1C; H314 ≥ 0,6 %</div> <div>Skin Irrit. 2; H315 0,06 - &lt; 0,6 %</div> <div>Eye Irrit. 2; H319 0,06 - &lt; 0,6 %</div> <div>Skin Sens. 1A; H317 ≥ 0,0015 %</div> <div>Eye Dam. 1; H318 ≥ 0,6 %</div> <div>Acute toxicity estimate</div> <div>Acute oral toxicity: 200 mg/kg</div> <div>Acute inhalation toxicity (dust/mist): 0,33 mg/l</div> <div>Acute dermal toxicity: 87 mg/kg</div>	
--	--	---	--

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.<br>Show this safety data sheet to the doctor in attendance.<br>Do not leave the victim unattended.   |
| Protection of first-aiders | : First Aid responders should pay attention to self-protection and use the recommended protective clothing<br>Avoid inhalation, ingestion and contact with skin and eyes.<br>If potential for exposure exists refer to Section 8 for specific personal protective equipment. |
| If inhaled                 | : Move to fresh air.<br>If unconscious, place in recovery position and seek medical advice.<br>If symptoms persist, call a physician.  |
| In case of skin contact    | : Take off all contaminated clothing immediately.<br>Wash contaminated clothing before re-use.<br>Wash off immediately with plenty of water for at least 15 minutes.<br>Get medical attention if irritation develops and persists.   |

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

- |                        |   |
|------------------------|---|
| In case of eye contact | : Immediately flush eye(s) with plenty of water.<br>Remove contact lenses.<br>Protect unharmed eye.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist.                                     |
| If swallowed           | : Do not induce vomiting without medical advice.<br>Keep respiratory tract clear.<br>Do not give milk or alcoholic beverages.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician. |

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

- |       |  |
|-------|--|
| Risks | : Harmful if swallowed or if inhaled.<br>May cause an allergic skin reaction.<br>Suspected of causing cancer.<br>Suspected of damaging fertility.<br>Causes damage to organs.<br>Causes 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 media | : High volume water jet                           |

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

- |                                       |   |
|---------------------------------------|---|
| Specific hazards during fire-fighting | : Do not allow run-off from fire fighting to enter drains or water courses.   |
| Hazardous combustion products         | : Fire may produce irritating, corrosive and/or toxic gases.<br>Carbon oxides<br>Fluorinated compounds<br>Chlorinated compounds<br>Hydrogen chloride<br>Hydrogen fluoride |

### 5.3 Advice for firefighters

- |   |  |
|---|--|
| Special protective equipment for firefighters | : Firefighters should wear protective clothing and self-contained breathing apparatus. |
| Further information                           | : Collect contaminated fire extinguishing water separately. This                       |

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

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.  
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 : 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 : 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 application area.  
Dispose of rinse water in accordance with local and national regulations.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

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

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

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 re-sealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage 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

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
2,2' -oxybisethanol	111-46-6	GV	2,5 ppm 11 mg/m <sup>3</sup>	DK OEL
Further information: Guiding list of organic solvents.				
		S	5 ppm 22 mg/m <sup>3</sup>	DK OEL
Further information: Guiding list of organic solvents.				

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

Substance name	End Use	Exposure routes	Potential health effects	Value
propane-1,2-diol	Workers	Inhalation	Long-term systemic effects	168 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	10 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term systemic effects	50 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	10 mg/m <sup>3</sup>
2,2' -oxybisethanol	Workers	Inhalation	Long-term local effects	60 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects	43 mg/kg
	Consumers	Inhalation	Long-term systemic effects	12 mg/m <sup>3</sup>



# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0      Revision Date: 07.03.2024      SDS Number: 50000394      Date of last issue: -  
Date of first issue: 07.03.2024

	Consumers	Inhalation	Long-term local effects	12 mg/m3
	Consumers	Dermal	Long-term systemic effects	21 mg/kg
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	Workers	Inhalation	Long-term local effects	0,02 mg/m3
	Workers	Inhalation	Acute local effects	0,04 mg/m3
	Consumers	Inhalation	Long-term local effects	0,02 mg/m3
	Consumers	Inhalation	Acute local effects	0,04 mg/m3
	Consumers	Oral	Long-term systemic effects	0,09 mg/kg
	Consumers	Oral	Acute systemic effects	0,11 mg/kg

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

Substance name	Environmental Compartment	Value
propane-1,2-diol	Fresh water	260 mg/l
	Intermittent use/release	183 mg/l
	Marine water	26 mg/l
	Sewage treatment plant	20 g/l
	Fresh water sediment	572 mg/kg
2,2' -oxybisethanol	Marine sediment	57,2 mg/kg
	Soil	50 mg/kg
	Fresh water	10 mg/l
	Marine water	1 mg/l
	Intermittent use/release	10 mg/l
	Sewage treatment plant	199,5 mg/l
	Fresh water sediment	20,9 mg/kg dry weight (d.w.)
	Marine sediment	2,09 mg/kg dry weight (d.w.)
	Soil	1,53 mg/kg dry weight (d.w.)
	Fresh water	0,00339 mg/l
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	Intermittent use/release	0,00339 mg/l
	Marine water	0,00339 mg/l
	Sewage treatment plant	0,23 mg/l
	Fresh water sediment	0,027 mg/kg
	Marine sediment	0,027 mg/kg

## 8.2 Exposure controls

### Personal protective equipment

Eye/face protection : Eye wash bottle with pure water  
Tightly fitting safety goggles

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

- 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 : No personal respiratory protective equipment normally required.
- Protective measures : Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions.  
Ensure that eye flushing systems and safety showers are located close to the working place.  
Wear suitable protective equipment.

In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Physical state : liquid
- Colour : clear
- red
- yellow
- Odour : slight
- hydrocarbon-like
- Odour Threshold : No data available

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

---

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

pH : No data available

Viscosity  
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Solubility(ies)  
Water solubility : No data available

Solubility in other solvents : No data available

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

Vapour pressure : No data available

Relative density : No data available

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

---

Density : 1,042 - 1,066 g/cm<sup>3</sup>

Bulk density : No data available

Relative vapour density : No data available

Particle characteristics  
Particle size : No data available

Particle Size Distribution : No data available

Shape : No data available

### 9.2 Other information

Explosives : No data available

Oxidizing properties : No data available

---

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

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

### 10.4 Conditions to avoid

Conditions to avoid : Avoid extreme temperatures  
Protect from frost, heat and sunlight.

### 10.5 Incompatible materials

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

### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

### SECTION 11: Toxicological information

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

##### Acute toxicity

Harmful if swallowed or if inhaled.

##### Product:

Acute oral toxicity	: LD50 Oral (Rat): 536 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 4,7 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 Dermal (Rabbit): > 2.000 mg/kg

##### Components:

##### **bifenthrin (ISO):**

Acute oral toxicity	: LD50 (Rat, male and female): 56,7 mg/kg Symptoms: Convulsions, Tremors, ataxia  LD50 (Mouse, female): 42,5 mg/kg Method: OPPTS 870.1100
Acute inhalation toxicity	: LC50 (Rat, female): 0,6 - 1,2 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: Tremors, Convulsions  LC50 (Rat, male): 1,10 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: Tremors, Fatality
Acute dermal toxicity	: LD50 (Rat, male and female): > 2.000 mg/kg Remarks: no mortality

##### **propane-1,2-diol:**

Acute oral toxicity	: LD50 (Rat, male and female): 22.000 mg/kg
Acute inhalation toxicity	: LC0 (Rabbit): 31,7 mg/l Exposure time: 2 h Test atmosphere: vapour Remarks: no mortality
Acute dermal toxicity	: LD50 (Rabbit): > 2.000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

---

### 2,2' -oxybisethanol:

Acute oral toxicity : Acute toxicity estimate: 500,0 mg/kg  
Method: Converted acute toxicity point estimate

LD50 (Rat, male and female): 16.500 mg/kg

### D-Glucopyranose, oligomeric, C9-11-alkyl glycosides:

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

### reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Acute oral toxicity : LD50 Oral (Rat, female): 200 mg/kg  
Method: OECD Test Guideline 423

Acute inhalation toxicity : LC50 (Rat, male and female): 0,33 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit, male): 87 mg/kg

### Skin corrosion/irritation

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

### Product:

Assessment : Not classified as irritant  
Result : slight irritation

### Components:

#### bifenthrin (ISO):

Species : Rabbit  
Result : slight or no skin irritation.  
GLP : yes

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : slight or no skin irritation.  
GLP : yes

#### propane-1,2-diol:

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation

### 2,2' -oxybisethanol:

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

Species	:	reconstructed human epidermis (RhE)
Method	:	OECD Test Guideline 439
Result	:	No skin irritation

### D-Glucopyranose, oligomeric, C9-11-alkyl glycosides:

Species	:	Rabbit
Result	:	slight irritation

### reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Method	:	OECD Test Guideline 404
Result	:	Corrosive after 1 to 4 hours of exposure

### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Product:

Assessment	:	Not classified as irritant
Result	:	slight irritation

#### Components:

##### bifenthrin (ISO):

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Slight or no eye irritation
GLP	:	yes

##### propane-1,2-diol:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

##### 2,2' -oxybisethanol:

Species	:	Rabbit
Result	:	No eye irritation

### D-Glucopyranose, oligomeric, C9-11-alkyl glycosides:

Method	:	in vitro eye irritation test
Result	:	Irreversible effects on the eye

### reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Result	:	Irreversible effects on the eye
--------	---	---------------------------------

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

---

### Respiratory or skin sensitisation

#### Skin sensitisation

May cause an allergic skin reaction.

#### Respiratory sensitisation

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

#### Product:

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

#### Components:

##### bifenthrin (ISO):

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	May cause sensitisation by skin contact.
GLP	:	yes

##### propane-1,2-diol:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	negative

##### 2,2' -oxybisethanol:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	Regulation (EC) No. 440/2008, Annex, B.6
Result	:	Does not cause skin sensitisation.

##### reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

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

### Germ cell mutagenicity

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

#### Components:

##### bifenthrin (ISO):

Genotoxicity in vitro	:	Test Type: gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: negative
-----------------------	---	--



# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

---

Test Type: reverse mutation assay  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Test Type: Mouse lymphoma assay  
Metabolic activation: with and without metabolic activation  
Result: negative

Genotoxicity in vivo : Test Type: Sex-linked Recessive Lethal Test  
Species: *Drosophila melanogaster* (vinegar fly)  
Result: negative

Test Type: unscheduled DNA synthesis assay  
Species: Rat  
Method: OECD Test Guideline 486  
Result: negative

### propane-1,2-diol:

Genotoxicity in vitro : Test Type: reverse mutation assay  
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Species: Mouse  
Result: negative

### 2,2' -oxybisethanol:

Genotoxicity in vitro : Test Type: reverse mutation assay  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse (male)  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative

### Carcinogenicity

Suspected of causing cancer.

#### Product:

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

#### Components:

##### bifenthrin (ISO):

Species : Rat, female  
Application Route : Oral

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

Exposure time	: 2 Years
NOAEL	: 3 mg/kg bw/day
Result	: negative
Species	: Mouse, male
Application Route	: Oral
Exposure time	: 18 month(s)
NOAEL	: 7,6 mg/kg bw/day
Result	: positive
Symptoms	: malignant tumors

### propane-1,2-diol:

Species	: Rat
Application Route	: Oral
Exposure time	: 2 Years
Result	: negative

### 2,2' -oxybisethanol:

Species	: Rat, male and female
Application Route	: Oral
Exposure time	: 108 weeks
Result	: negative

### Reproductive toxicity

Suspected of damaging fertility.

#### Product:

Reproductive toxicity - Assessment	: Some evidence of adverse effects on sexual function and fertility, based on animal experiments.
------------------------------------	---

#### Components:

##### bifenthrin (ISO):

Effects on fertility	: Test Type: Two-generation study Species: Rat Application Route: Oral General Toxicity - Parent: NOAEL: 3 mg/kg bw/day General Toxicity F1: NOAEL: 5 mg/kg bw/day Result: negative
Effects on foetal development	: Test Type: Embryo-foetal development Species: Rabbit Application Route: Oral General Toxicity Maternal: NOAEL: 2,7 mg/kg bw/day Teratogenicity: NOAEL: 2,7 mg/kg bw/day Symptoms: Maternal effects Result: No teratogenic effects  Test Type: Embryo-foetal development Species: Rat

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

Application Route: Oral  
General Toxicity Maternal: NOAEL: 1 mg/kg bw/day  
Teratogenicity: NOAEL: 2 mg/kg bw/day  
Result: No teratogenic effects

Species: Rat  
Application Route: Oral  
General Toxicity Maternal: LOAEL: 7,2 mg/kg bw/day  
Developmental Toxicity: LOAEL: 7,2 mg/kg bw/day  
Embryo-foetal toxicity: NOEL: 9,0 mg/kg bw/day  
Method: OECD Test Guideline 426  
Result: Animal testing did not show any effects on fertility.,  
Some evidence of adverse effects on development, based on animal experiments.

### propane-1,2-diol:

Effects on fertility : Test Type: reproductive and developmental toxicity study  
Species: Mouse  
Application Route: Oral  
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Mouse  
Application Route: Oral  
Method: OECD Test Guideline 414  
Result: Animal testing did not show any effects on fertility.  
Remarks: Based on data from similar materials

### 2,2' -oxybisethanol:

Effects on fertility : Test Type: reproductive and developmental toxicity study  
Species: Mouse, male and female  
Application Route: Oral  
Result: negative

Effects on foetal development : Species: Rat  
Application Route: Oral  
Method: OECD Test Guideline 414  
Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

### STOT - single exposure

Causes damage to organs.

### Product:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

---

### Components:

#### **bifenthrin (ISO):**

Target Organs	:	Central nervous system
Assessment	:	Causes damage to organs.

#### **STOT - repeated exposure**

Causes damage to organs through prolonged or repeated exposure.

### Product:

Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.
------------	---	--

### Components:

#### **bifenthrin (ISO):**

Target Organs	:	Central nervous system
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

#### **Repeated dose toxicity**

### Components:

#### **bifenthrin (ISO):**

Species	:	Rat, male and female
NOEL	:	100 ppm
Application Route	:	Oral - feed
Exposure time	:	90 d
Remarks	:	No toxicologically significant effects were found.

Species	:	Dog, male and female
NOEL	:	2,5 mg/kg bw/day
Application Route	:	Oral - feed
Exposure time	:	13 w
Symptoms	:	Tremors

#### **propane-1,2-diol:**

Species	:	Rat, male and female
NOAEL	:	1.700 mg/kg
Application Route	:	Oral
Exposure time	:	2 Years

Species	:	Rat, male and female
NOAEL	:	1.000 mg/kg
LOAEL	:	160 mg/kg
Application Route	:	Inhalation
Exposure time	:	90 Days

#### **2,2' -oxybisethanol:**

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

Species	: Rat, male and female
NOAEL	: 300 mg/kg
Application Route	: Oral
Exposure time	: 98 d

Species	: Dog, male
NOAEL	: 2.220 mg/kg
Exposure time	: 28 d
Method	: OECD Test Guideline 410

### reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Species	: Dog
NOAEL	: 22 mg/kg
Application Route	: Oral

Species	: Rat
NOAEL	: 16,3 - 24,7 mg/kg
Application Route	: Skin contact

Species	: Rat
NOAEL	: 2.36 mg/m <sup>3</sup>
Application Route	: Inhalation

### Aspiration toxicity

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

### Components:

#### bifenthrin (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 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.
------------	---

### Neurological effects

#### Components:

#### bifenthrin (ISO):

Remarks	: No neurotoxicity observed in animal studies
---------	---

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

### Further information

#### Product:

Remarks : No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

##### **bifenthrin (ISO):**

Toxicity to fish	: LC50 (Salmo gairdneri): 0,00015 mg/l Exposure time: 96 h Test Type: flow-through test  LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,00035 mg/l Exposure time: 96 h Test Type: flow-through test  LC50 (Oncorhynchus mykiss (rainbow trout)): 0,000256 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 GLP: yes  LC50 (Pimephales promelas (fathead minnow)): 0,000234 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia (water flea)): 0,00011 mg/l Exposure time: 48 h  LC50 (Daphnia (water flea)): 0,0016 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: EC50 (algae): 0,822 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	: 10.000
Toxicity to fish (Chronic toxicity)	: NOEC: 0,00012 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 0,0013 µg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

NOEC: 0,00095 µg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 100.000

Toxicity to soil dwelling organisms : LD50: > 16 mg/kg  
Exposure time: 14 d  
Species: Eisenia fetida (earthworms)

Method: OECD Test Guideline 216  
Remarks: No significant adverse effect on nitrogen mineralization.

Toxicity to terrestrial organisms : LD50: 1.800 mg/kg  
Species: Colinus virginianus (Bobwhite quail)

LD50: > 2.150 mg/kg  
Species: Anas platyrhynchos (Mallard duck)

LD50: 0.1 - 0.35 µg/bee  
Exposure time: 24 h  
End point: Acute oral toxicity  
Species: Apis mellifera (bees)  
Method: OECD Test Guideline 213

LD50: 0.1 - 0.3 µg/bee  
Exposure time: 24 h  
End point: Acute contact toxicity  
Species: Apis mellifera (bees)  
Method: OECD Test Guideline 214

### propane-1,2-diol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 40.613 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : (Mysidopsis bahia (opossum shrimp)): 18.800 mg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 34.100 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 20.000 mg/l  
Exposure time: 18 h

Toxicity to daphnia and other aquatic invertebrates (Chron- : NOEC: 13.020 mg/l  
Exposure time: 7 d

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

ic toxicity)

### 2,2'-oxybisethanol:

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 75.200 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 10.000 mg/l Exposure time: 24 h
Toxicity to algae/aquatic plants	: NOEC (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Method: OECD Test Guideline 201
Toxicity to microorganisms	: EC20 (activated sludge): > 1.995 mg/l Exposure time: 30 min Test Type: Respiration inhibition Method: ISO 8192
Toxicity to fish (Chronic toxicity)	: NOEC: 15.380 mg/l Exposure time: 7 d Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 8.590 mg/l Exposure time: 7 d Species: Ceriodaphnia dubia (water flea)

### D-Glucopyranose, oligomeric, C9-11-alkyl glycosides:

Toxicity to fish	: LC50 (Brachydanio rerio (zebrafish)): 2,95 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Crustaceans): 26,2 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: EC50 (Skeletonema costatum (Diatom)): 9,05 mg/l Exposure time: 72 h Method: ISO 10253
Toxicity to microorganisms	: EC50 (Pseudomonas putida): > 560 mg/l

### reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 0,19 mg/l Exposure time: 96 h GLP: yes
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 0,16 mg/l Exposure time: 48 h  NOEC (Daphnia magna (Water flea)): 0,1 mg/l Exposure time: 21 d



# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

	EC50 (Daphnia magna (Water flea)): 0,18 mg/l Exposure time: 21 d
Toxicity to algae/aquatic plants	: NOEC (Skeletonema costatum (marine diatom)): 0,00049 mg/l Exposure time: 48 h Method: OECD Test Guideline 201  NOEC (Skeletonema costatum (marine diatom)): 0,019 mg/l Exposure time: 72 h Method: OECD Test Guideline 201  EC50 (Skeletonema costatum (marine diatom)): 0,037 mg/l Exposure time: 48 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	: 100
Toxicity to microorganisms	: NOEC (activated sludge): 0,91 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 GLP: yes  EC50 (activated sludge): 4,5 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 GLP: yes
Toxicity to fish (Chronic toxicity)	: NOEC: 0,02 mg/l Exposure time: 35 d Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 0,1 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)  Chronic Toxicity Value: 0,18 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	: 100

### 12.2 Persistence and degradability

#### Components:

#### **bifenthrin (ISO):**

Biodegradability : Result: Not readily biodegradable.

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

### propane-1,2-diol:

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 23,6 %  
Exposure time: 64 d  
Method: OECD Test Guideline 306

### 2,2' -oxybisethanol:

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 25 - 92 %  
Exposure time: 28 d

### D-Glucopyranose, oligomeric, C9-11-alkyl glycosides:

Biodegradability : Result: Readily biodegradable.

### reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Biodegradability : Result: Readily biodegradable.

## 12.3 Bioaccumulative potential

### Components:

#### bifenthrin (ISO):

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Bioconcentration factor (BCF): 1.709  
Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.  
See section 9 for octanol-water partition coefficient.

Partition coefficient: n-octanol/water : log Pow: 6,6

#### propane-1,2-diol:

Partition coefficient: n-octanol/water : log Pow: -1,07

#### 2,2' -oxybisethanol:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)  
Bioconcentration factor (BCF): 100

Partition coefficient: n-octanol/water : log Pow: -1,98 (20 °C)

#### D-Glucopyranose, oligomeric, C9-11-alkyl glycosides:

Partition coefficient: n-octanol/water : log Pow: 3,7  
Method: OECD Test Guideline 117

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

### reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1):

Bioaccumulation : Exposure time: 28 d  
Bioconcentration factor (BCF): < 54  
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : Pow: 0,75

### 12.4 Mobility in soil

#### Components:

#### bifenthrin (ISO):

Distribution among environmental compartments : Koc: 236610 ml/g, log Koc: 5,37  
Remarks: immobile

Stability in soil :

### 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 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.

### 12.7 Other adverse effects

#### Product:

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

## 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-

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

cal or used container.  
Send to a licensed waste management company.

Waste, residues, etc. must be collected, stored and disposed of in tightly closed container labeled: "Contains a substance that is covered by the Danish health and safety regulation in terms of cancer risk."

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

#### 14.2 UN proper shipping name

ADN	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bifenthrin)
ADR	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bifenthrin)
RID	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bifenthrin)
IMDG	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bifenthrin)
IATA	: Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin)

#### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 9	
ADR	: 9	
RID	: 9	
IMDG	: 9	
IATA	: 9	

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

---

### 14.4 Packing group

#### ADN

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

#### ADR

Packing group	: III
Classification Code	: M6
Hazard Identification Number	: 90
Labels	: 9
Tunnel restriction code	: (-)

#### RID

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

#### IMDG

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

#### IATA (Cargo)

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

#### IATA (Passenger)

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

### 14.5 Environmental hazards

#### ADN

Environmentally hazardous	: yes
---------------------------	-------

#### ADR

Environmentally hazardous	: yes
---------------------------	-------

#### RID

Environmentally hazardous	: yes
---------------------------	-------

#### IMDG

Marine pollutant	: yes
------------------	-------

#### IATA (Passenger)

Environmentally hazardous	: yes
---------------------------	-------

#### IATA (Cargo)

Environmentally hazardous	: yes
---------------------------	-------

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

### 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 75, 3
--	---	--

If you intend to use this product as tattoo ink, please contact your vendor.

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 pollutants (recast)	:	Not applicable
---	---	----------------

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	bifenthrin (ISO)
--	---	------------------

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.	H3	STOT SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE
---	----	---

	E1	ENVIRONMENTAL HAZARDS
--	----	-----------------------

### Other regulations:

When evaluating a workplace, measures must be taken to ensure that employees are not exposed to conditions that may pose a risk during pregnancy or breastfeeding (cf. The Danish Working Environment Authority's Executive Order on The Performance of Work)

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version 1.0	Revision Date: 07.03.2024	SDS Number: 50000394	Date of last issue: - Date of first issue: 07.03.2024
----------------	------------------------------	-------------------------	--

Young people under the age of 18 are not allowed to use or be exposed to the product professionally. Young people above the age of 15 are, however, except from this rule if the product is a necessary part of their education.

The substance/mixture is subject to the provisions of : bifenthrin (ISO)  
BEK nr. 1795 of 18/12/2015 (as amended) "Executive order on Measures to Protect Workers from the Risks related to Exposure to Carcinogenic Substances and Materials at Work". The work with this substance/mixture may pose a cancer risk.

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

TCSI	: On the inventory, or in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AIIC	: Not in compliance with the inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL.  2-METHYLBIPHENYL-3-YLMETHYL (Z)-(1RS,3RS)-3-(2-CHLORO-3,3,3-TRIFLUOROPROP-1-ENYL)-2,2-DIMETHYLCYCLOPROPANECARBOXYLATE Smectite-group minerals
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: On the inventory, or 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

H300	: Fatal if swallowed.
H301	: Toxic if swallowed.
H302	: Harmful if swallowed.

# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

H310	: Fatal in contact with skin.
H312	: Harmful in contact with skin.
H314	: Causes severe skin burns and eye damage.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H330	: Fatal if inhaled.
H331	: Toxic if inhaled.
H351	: Suspected of causing cancer.
H370	: Causes damage to organs.
H372	: Causes damage to organs through prolonged or repeated exposure.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
EUH071	: Corrosive to the respiratory tract.

### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Skin Corr.	: Skin corrosion
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
DK OEL	: Denmark. Occupational Exposure Limits
DK OEL / S	: Exposure period of 15 minutes
DK OEL / GV	: Long term exposure limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure-Activity Relationship



# SAFETY DATA SHEET

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



## SEMAFOR® 20 ST INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	07.03.2024	50000394	Date of first issue: 07.03.2024

tative) 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

#### Classification of the mixture:

Acute Tox. 4	H302
Acute Tox. 4	H332
Skin Sens. 1B	H317
Carc. 2	H351
Repr. 2	H361f
STOT SE 1	H370
STOT RE 1	H372
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### Classification procedure:

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

### Disclaimer

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. You can contact FMC Corporation to ensure that this document is the most current available from FMC Corporation. No warranty of fitness for any particular purpose, warranty of merchantability or any other warranty, expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. The user is responsible for determining whether the product is fit for a particular purpose and suitable for the user's conditions and methods of use. Since the conditions and methods of use are beyond the control of FMC Corporation, FMC Corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

### Prepared by

FMC Corporation

FMC and the FMC Logo are trademarks of FMC Corporation and/or an affiliate.

© 2021-2024 FMC Corporation. All Rights Reserved.

DK / 6N