

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



## MANHATTAN

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	11.12.2024	800080102235	Date of first issue: 11.12.2024

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Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of Ireland and may not meet the regulatory requirements in other countries.

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

#### 1.1 Product identifier

Trade name : MANHATTAN

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

Use of the Sub-stance/Mixture : Plant Protection Product, Herbicide

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

##### COMPANY IDENTIFICATION

##### Manufacturer/importer

Corteva Agriscience UK Limited  
Melbourn Science Park - Cambridge Road - Unit H4, Building H  
Melbourn Cambridgeshire - SG8 6HB  
UNITED KINGDOM

**Customer Information** : +44 8006 89 8899

**Number**

**E-mail address** : SDS@corteva.com

#### 1.4 Emergency telephone number

SGS : +353 818 663 627

National Poisons Information Centre (Beaumont Hospital): 01 809 2166 (8 AM - 10 PM)

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

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.

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### 2.2 Label elements

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

Hazard pictograms :



Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Response:**  
P391 Collect spillage.

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

#### Additional Labelling

EUH208 Contains Pyroxsulam. May produce an allergic reaction.

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. REACH Registration number	Classification	Concentration (% w/w)
Cloquintocet	88349-88-6	Aquatic Chronic 2;	26.6

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	01-2120249233-62-0000	H411	
Pyroxsulam	422556-08-9 613-327-00-4	Skin Sens. 1B; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	18.75
Halauxifen-methyl	943831-98-9	Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 10,000	5.2
Florasulam	145701-23-1 613-230-00-7	Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	3.67
Sodium lignosulfonate	8061-51-6	Eye Irrit. 2; H319	>= 10 - < 20
citric acid	77-92-9 201-069-1 607-750-00-3 01-2119457026-42	Eye Irrit. 2; H319	>= 3 - < 10
Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate	Not Assigned 939-538-4 01-2119976349-20, 01-2119976349-20-0003, 01-2119976349-20-0004, 01-2119976349-20-0005, 01-2119976349-20-0006, 01-2119976349-20-	Eye Irrit. 2; H319	>= 3 - < 10

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Substances with a workplace exposure limit :			
Kaolin	1332-58-7 310-194-1		>= 3 - < 10

For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection).  
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
- If inhaled : Move person to fresh air; if effects occur, consult a physician.
- In case of skin contact : Wash off with plenty of water.
- In case of eye contact : Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
- If swallowed : No emergency medical treatment necessary.

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

None known.

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

- Treatment : No specific antidote.  
Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam
- Unsuitable extinguishing media : None known.

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

- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion prod- : Nitrogen oxides (NOx)



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Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice.  
Smoking, eating and drinking should be prohibited in the application area.  
Take care to prevent spills, waste and minimize release to the environment.  
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

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

Requirements for storage areas and containers : Store in a closed container. Keep in properly labelled containers. Store in accordance with the particular national regulations.

Advice on common storage : Strong oxidizing agents

Packaging material : Unsuitable material: None known.

### 7.3 Specific end use(s)

Specific use(s) : Plant protection products subject to Regulation (EC) No 1107/2009.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Kaolin	1332-58-7	OELV - 8 hrs (TWA) (Respirable dust)	2 mg/m <sup>3</sup>	IE OEL
		TWA (Respirable dust)	0.1 mg/m <sup>3</sup>	2004/37/EC
Further information: Carcinogens or mutagens				

### 8.2 Exposure controls

#### Engineering measures

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.  
Local exhaust ventilation may be necessary for some operations.

#### Personal protective equipment

Eye/face protection : Use safety glasses (with side shields).  
Hand protection

Remarks : Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Ni-

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trile/butadiene rubber ("nitrile" or "NBR"). When prolonged or frequently repeated contact may occur, a glove is recommended to prevent contact with the solid material. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

- Skin and body protection : Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.
- Respiratory protection : Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, in dusty atmospheres, use an approved particulate respirator.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Physical state : granules
- Colour : tan
- Odour : mild
- Odour Threshold : No data available
- Melting point/freezing point : No data available
- Boiling point/boiling range : Not applicable
- Upper explosion limit / Upper : No data available

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flammability limit

Lower explosion limit / Lower flammability limit : No data available

Flash point : Not applicable

Auto-ignition 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

Relative density : No data available

Density : No data available

Relative vapour density : No data available

### 9.2 Other information

Explosives : No data available

Oxidizing properties : No data available

Self-ignition : No data available

Evaporation rate : No data available

Surface tension : No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Not classified as a reactivity hazard.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.  
Stable under normal conditions.

### 10.3 Possibility of hazardous reactions



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Hazardous reactions : Stable under recommended storage conditions.  
No hazards to be specially mentioned.  
None known.

### 10.4 Conditions to avoid

Conditions to avoid : None known.

### 10.5 Incompatible materials

Materials to avoid : Strong acids  
Strong bases

### 10.6 Hazardous decomposition products

Carbon oxides  
Nitrogen oxides (NOx)

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## SECTION 11: Toxicological information

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

#### Acute toxicity

##### Product:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg  
Method: OECD Test Guideline 423  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Information source: Internal study report

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.40 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: Information source: Internal study report

Acute dermal toxicity : LD50 (Rat, female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: Information source: Internal study report

##### Components:

##### Cloquintocet:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg  
Symptoms: No deaths occurred at this concentration.

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Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 6.11 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

### **Pyroxsulam:**

Acute oral toxicity : LD50 (Rat, female): > 5,000 mg/kg  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5.42 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute dermal toxicity

### **Halauxifen-methyl:**

Acute oral toxicity : LD50 (Rat, female): > 5,000 mg/kg  
Method: OECD Test Guideline 423  
Symptoms: No deaths occurred at this concentration.

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.39 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
Symptoms: No deaths occurred at this concentration.

### **Florasulam:**

Acute oral toxicity : LD50 (Rat): > 6,000 mg/kg

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LD50 (Mouse): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.0 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute dermal toxicity

### **Sodium lignosulfonate:**

Acute oral toxicity : LD50 (Rat, male and female): > 10,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.48 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

### **citric acid:**

Acute oral toxicity : LD50 (Mouse): 5,400 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity

LD50 (Rat): 3,000 - 12,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute dermal toxicity

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Acute oral toxicity : LD50: > 4,000 mg/kg  
Method: OECD Test Guideline 401  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50: > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute dermal toxicity

### **Kaolin:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

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### Skin corrosion/irritation

#### Product:

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation  
Remarks : Information source: Internal study report

#### Components:

##### **Pyroxsulam:**

Species : Rabbit  
Result : No skin irritation

##### **Halauxifen-methyl:**

Species : Rabbit  
Exposure time : 4 h  
Method : OECD Test Guideline 404  
Result : No skin irritation

##### **citric acid:**

Result : No skin irritation

##### **Kaolin:**

Species : Rabbit  
Result : No skin irritation

### Serious eye damage/eye irritation

#### Product:

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : No eye irritation  
Remarks : Information source: Internal study report

#### Components:

##### **Pyroxsulam:**

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

##### **Halauxifen-methyl:**

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

##### **Sodium lignosulfonate:**

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Result : Eye irritation

### **citric acid:**

Result : Eye irritation

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Result : Mild eye irritation

### **Kaolin:**

Species : Rabbit  
Result : No eye irritation

### **Respiratory or skin sensitisation**

#### **Product:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Assessment : Does not cause skin sensitisation.  
Method : OECD Test Guideline 429  
Remarks : Information source: Internal study report

#### **Components:**

##### **Cloquintocet:**

Species : Mouse  
Result : Does not cause skin sensitisation.

##### **Pyroxsulam:**

Test Type : Maximisation Test  
Species : Guinea pig  
Result : The product is a skin sensitiser, sub-category 1B.

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Result : Does not cause skin sensitisation.

##### **Halauxifen-methyl:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : Does not cause skin sensitisation.

##### **Florasulam:**

Species : Guinea pig  
Result : Does not cause skin sensitisation.

##### **Sodium lignosulfonate:**

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Species : Guinea pig  
Result : Does not cause skin sensitisation.

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Species : Mouse  
Result : Does not cause skin sensitisation.

### **Germ cell mutagenicity**

#### **Components:**

##### **Cloquintocet:**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative.

##### **Pyroxsulam:**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

##### **Halauxifen-methyl:**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative.

##### **Florasulam:**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

##### **Sodium lignosulfonate:**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative.

##### **citric acid:**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative.

### **Carcinogenicity**

#### **Components:**

##### **Cloquintocet:**

Carcinogenicity - Assessment : For similar active ingredient(s)., Did not cause cancer in laboratory animals.

##### **Pyroxsulam:**

Carcinogenicity - Assessment : There was equivocal evidence of carcinogenic activity in long-term bioassays. These effects are not believed to be relevant

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to humans.

### **Halauxifen-methyl:**

Carcinogenicity - Assessment : For similar active ingredient(s), Halauxifen., Did not cause cancer in laboratory animals.

### **Florasulam:**

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

### **citric acid:**

Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

### **Kaolin:**

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

### **Reproductive toxicity**

#### **Components:**

### **Cloquintocet:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. For similar active ingredient(s), Did not cause birth defects or any other fetal effects in laboratory animals.

### **Pyroxsulam:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. Did not cause birth defects or any other fetal effects in laboratory animals.

### **Halauxifen-methyl:**

Reproductive toxicity - Assessment : For similar active ingredient(s), Halauxifen., In animal studies, did not interfere with reproduction. Has been toxic to the fetus in laboratory animals at doses toxic to the mother., Did not cause birth defects in laboratory animals.

### **Florasulam:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

### **citric acid:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction. Did not cause birth defects or any other fetal effects in laboratory animals.

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### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.

### **STOT - single exposure**

#### **Product:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

#### **Components:**

#### **Cloquintocet:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

#### **Pyroxsulam:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

#### **Halauxifen-methyl:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

#### **citric acid:**

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

#### **Kaolin:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

### **STOT - repeated exposure**

#### **Product:**

Assessment : Evaluation of available data suggests that this material is not an STOT-RE toxicant.

### **Repeated dose toxicity**

#### **Components:**

#### **Cloquintocet:**

Remarks : Based on available data, repeated exposures are not antici-



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pated to cause significant adverse effects.

### **Halauxifen-methyl:**

Remarks : In animals, effects have been reported on the following organs:  
Kidney.  
Liver.  
Thyroid.

### **Florasulam:**

Remarks : In animals, effects have been reported on the following organs:  
Kidney.

### **Sodium lignosulfonate:**

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

### **citric acid:**

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Remarks : No relevant data found.

### **Kaolin:**

Remarks : Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs.

### **Aspiration toxicity**

#### **Product:**

Based on physical properties, not likely to be an aspiration hazard.

#### **Components:**

##### **Cloquintocet:**

Based on physical properties, not likely to be an aspiration hazard.

##### **Pyroxulam:**

Based on physical properties, not likely to be an aspiration hazard.

##### **Halauxifen-methyl:**

Based on physical properties, not likely to be an aspiration hazard.

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### **Florasulam:**

Based on physical properties, not likely to be an aspiration hazard.

### **Sodium lignosulfonate:**

Based on available information, aspiration hazard could not be determined.

### **citric acid:**

Based on physical properties, not likely to be an aspiration hazard.

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Based on physical properties, not likely to be an aspiration hazard.

### **Kaolin:**

Based on physical properties, not likely to be an aspiration hazard.

## 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.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### **Components:**

#### **Cloquintocet:**

Toxicity to fish : LC50 (Sheepshead minnow (Cyprinodon variegatus)): > 120 mg/l  
Exposure time: 96 h  
Test Type: static test

LC50 (Rainbow trout (Salmo gairdneri)): 89.7 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): 9.7 mg/l  
Exposure time: 48 h  
Test Type: Static renewal test  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : ErC50 (Pseudokirchneriella subcapitata (green algae)): 66.5

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plants	mg/l Exposure time: 72 h Test Type: static test  ErC50 (Skeletonema costatum (marine diatom)): 12.5 mg/l Exposure time: 96 h  ErC50 (Anabaena flos-aquae (cyanobacterium)): 23.7 mg/l Exposure time: 96 h  NOEC (Pseudokirchneriella subcapitata (green algae)): 12.6 mg/l Exposure time: 72 h Test Type: Growth inhibition
Toxicity to fish (Chronic toxicity)	: NOEC: 0.143 mg/l Exposure time: 33 d Species: Pimephales promelas (fathead minnow) Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 0.437 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test
Toxicity to terrestrial organisms	: Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).  oral LD50: > 2250 mg/kg bodyweight. Species: Colinus virginianus (Bobwhite quail)  contact LD50: > 100 µg/bee Exposure time: 48 h Species: Apis mellifera (bees)
<b>Pyroxsulam:</b>	
Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): > 87.0 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 or Equivalent
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 or Equivalent
Toxicity to algae/aquatic plants	: ErC50 (Lemna gibba): 0.00388 mg/l End point: Biomass Exposure time: 7 d Method: OECD 221.  ErC50 (Freshwater algae (Anabaena fols-aquae)): 0.924 mg/l

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End point: Growth rate  
Exposure time: 72 h  
Test Type: Growth inhibition  
Method: OECD Test Guideline 201

NOEC (Lemna gibba): 0.000681 mg/l  
End point: Biomass  
Exposure time: 7 d  
Method: OECD 221.

ErC50 (Myriophyllum spicatum): 0.0107 mg/l  
Exposure time: 14 d

NOEC (Myriophyllum spicatum): 0.00305 mg/l  
Exposure time: 14 d

M-Factor (Acute aquatic toxicity) : 100

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l  
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 3.2 - 10.1 mg/l  
End point: survival  
Exposure time: 40 d  
Species: Pimephales promelas (fathead minnow)  
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 10.4 mg/l  
End point: survival  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: static test

M-Factor (Chronic aquatic toxicity) : 100

Toxicity to soil dwelling organisms : LC50: > 10,000 mg/kg  
Exposure time: 14 d  
Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organisms : LC50: > 5000 mg/kg diet.  
Exposure time: 8 d  
Species: Colinus virginianus (Bobwhite quail)

LD50: > 2000 mg/kg bodyweight.  
Species: Colinus virginianus (Bobwhite quail)

oral LD50: > 107.4 micrograms/bee  
Exposure time: 48 h  
Species: Apis mellifera (bees)

contact LD50: > 100 micrograms/bee  
Exposure time: 48 h

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Species: *Apis mellifera* (bees)

dietary LC50: > 5000 mg/kg diet.

Exposure time: 8 d

Species: *Anas platyrhynchos* (Mallard duck)

NOEC: 5000 mg/kg diet.

Exposure time: 8 d

Species: *Anas platyrhynchos* (Mallard duck)

### Halauxifen-methyl:

- Toxicity to fish : LC50 (*Rainbow trout (Oncorhynchus mykiss)*): 2.01 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 2.12 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): > 3.0 mg/l  
Exposure time: 96 h
- ErC50 (*Myriophyllum spicatum*): 0.000056 mg/l  
End point: Growth rate inhibition  
Exposure time: 14 d  
Test Type: Static renewal test
- ErC50 (blue-green algae): > 3.0 mg/l  
Exposure time: 96 h
- ErC50 (*Lemna gibba* (duckweed)): > 2.27 mg/l  
Exposure time: 7 d
- NOEC (*Myriophyllum spicatum*): 0.000025 mg/l  
End point: Growth rate inhibition  
Exposure time: 14 d  
Test Type: Static renewal test
- ErC50 (*Navicula pelliculosa* (Freshwater diatom)): 1.50 mg/l  
Exposure time: 72 h
- NOEC (*Lemna gibba* (duckweed)): 0.121 mg/l  
Exposure time: 7 d
- M-Factor (Acute aquatic toxicity) : 10,000
- Toxicity to microorganisms : EC50 (activated sludge): > 981 mg/l  
Exposure time: 1 d

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Toxicity to fish (Chronic toxicity) : NOEC: 0.536 mg/l  
Exposure time: 35 d  
Species: Pimephales promelas (fathead minnow)  
Test Type: flow-through test  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.484 mg/l  
End point: number of offspring  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test

M-Factor (Chronic aquatic toxicity) : 10,000

Toxicity to soil dwelling organisms : LC50: > 1,000 mg/kg  
Exposure time: 14 d  
End point: mortality  
Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organisms : dietary LC50: > 5,620 ppm  
Exposure time: 5 d  
Species: Colinus virginianus (Bobwhite quail)  
Method: Other guidelines

dietary LC50: > 5,620 ppm  
Exposure time: 5 d  
Species: Anas platyrhynchos (Mallard duck)  
Method: Other guidelines

oral LD50: > 2250 mg/kg bodyweight.  
End point: mortality  
Species: Colinus virginianus (Bobwhite quail)

contact LD50: > 98.1 µg/bee  
Exposure time: 48 h  
End point: mortality  
Species: Apis mellifera (bees)

oral LD50: > 108 µg/bee  
Exposure time: 48 h  
End point: mortality  
Species: Apis mellifera (bees)

### Florasulam:

Toxicity to fish : Remarks: Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Test Type: static test

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- Method: OECD Test Guideline 203 or Equivalent
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 292 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202 or Equivalent
- Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.00894 mg/l  
End point: Growth rate inhibition  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201 or Equivalent
- EC50 (Myriophyllum spicatum): > 0.305 mg/l  
End point: Growth inhibition  
Exposure time: 14 d
- M-Factor (Acute aquatic toxicity) : 100
- Toxicity to fish (Chronic toxicity) : NOEC: 119 mg/l  
End point: mortality  
Exposure time: 28 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Test Type: flow-through test
- NOEC: > 2.9 mg/l  
End point: Other  
Exposure time: 33 d  
Species: Pimephales promelas (fathead minnow)  
Test Type: flow-through test
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 38.90 mg/l  
End point: growth  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test
- MATC (Maximum Acceptable Toxicant Level): 50.2 mg/l  
End point: growth  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test
- M-Factor (Chronic aquatic toxicity) : 100
- Toxicity to soil dwelling organisms : LC50: > 1,320 mg/kg  
Exposure time: 14 d  
Species: Eisenia fetida (earthworms)
- Toxicity to terrestrial organisms : Remarks: Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

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Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

oral LD50: 1047 mg/kg bodyweight.  
Species: Coturnix japonica (Japanese quail)

dietary LC50: > 5,000 ppm  
Exposure time: 8 d  
Species: Anas platyrhynchos (Mallard duck)

oral LD50: > 100 micrograms/bee  
Exposure time: 48 h  
Species: Apis mellifera (bees)

contact LD50: > 100 micrograms/bee  
Exposure time: 48 h  
Species: Apis mellifera (bees)

### Sodium lignosulfonate:

Toxicity to fish : Remarks: Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50 (Pimephales promelas (fathead minnow)): 615 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202 or Equivalent  
Remarks: For this family of materials:

### citric acid:

Toxicity to fish : Remarks: Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50 (Lepomis macrochirus (Bluegill sunfish)): 1,516 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203 or Equivalent

LC50 (Leuciscus idus (Golden orfe)): 440 - 760 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,535 mg/l  
Exposure time: 24 h  
Test Type: Static  
Method: OECD Test Guideline 202 or Equivalent



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### 12.2 Persistence and degradability

#### Components:

##### **Pyroxsulam:**

Biodegradability : Test Type: aerobic  
Result: Not biodegradable  
Biodegradation: 20 - 30 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B or Equivalent  
Remarks: 10-day Window: Fail

##### **Halauxifen-methyl:**

Biodegradability : Test Type: O2 consumption  
Result: Not biodegradable  
Biodegradation: 38.68 %  
Exposure time: 14 d  
Method: OECD Test Guideline 301D

##### **Florasulam:**

Biodegradability : Result: Not biodegradable  
Biodegradation: 2 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B or Equivalent  
Remarks: 10-day Window: Fail

Biochemical Oxygen Demand (BOD) : 0.012 kg/kg  
Incubation time: 5 d

ThOD : 0.85 kg/kg

Stability in water : Degradation half life: > 30 d

Photodegradation : Rate constant: 7.04E-11 cm<sup>3</sup>/s  
Method: Estimated.

##### **Sodium lignosulfonate:**

Biodegradability : Result: Not biodegradable  
Biodegradation: < 5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301E  
Remarks: 10-day Window: Fail

Photodegradation : Rate constant: 1.089E-10 cm<sup>3</sup>/s  
Method: Estimated.

##### **citric acid:**

Biodegradability : Test Type: aerobic  
Result: Readily biodegradable.  
Biodegradation: 97 %

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Exposure time: 28 d  
Method: OECD Test Guideline 301B or Equivalent  
Remarks: 10-day Window: Pass

Test Type: aerobic  
Result: Readily biodegradable.  
Biodegradation: 98 %  
Exposure time: 7 d  
Method: OECD Test Guideline 302B or Equivalent  
Remarks: 10-day Window: Not applicable

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Biodegradability : Result: Readily biodegradable.  
Remarks: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Method: OECD Test Guideline 301D

### **12.3 Bioaccumulative potential**

#### **Components:**

##### **Pyroxsulam:**

Partition coefficient: n-octanol/water :

log Pow: -1.01  
Method: Measured  
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

##### **Halauxifen-methyl:**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Exposure time: 42 d  
Temperature: 21.8 °C  
Concentration: 0.00194 mg/l  
Bioconcentration factor (BCF): 233

Partition coefficient: n-octanol/water : log Pow: 3.76  
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

##### **Florasulam:**

Bioaccumulation : Species: Fish  
Exposure time: 28 d  
Temperature: 13 °C  
Bioconcentration factor (BCF): 0.8  
Method: Measured

Partition coefficient: n-octanol/water :

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log Pow: -1.22  
pH: 7.0  
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

### **Sodium lignosulfonate:**

Bioaccumulation : Species: Fish  
Bioconcentration factor (BCF): 3.2

Partition coefficient: n-octanol/water :

log Pow: -3.45  
Method: Estimated.  
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

### **citric acid:**

Bioaccumulation : Species: Fish  
Bioconcentration factor (BCF): 0.01  
Method: Measured

Partition coefficient: n-octanol/water :

log Pow: -1.72 (20 °C)  
Method: Measured  
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

## 12.4 Mobility in soil

### **Components:**

#### **Pyroxsulam:**

Distribution among environmental compartments : Koc: 7.4 ml/g  
Method: OECD Test Guideline 106  
Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

#### **Halauxifen-methyl:**

Distribution among environmental compartments : Koc: 5684  
Remarks: Expected to be relatively immobile in soil (Koc > 5000).

#### **Florasulam:**

Distribution among environmental compartments : Koc: 4 - 54  
Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

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Stability in soil : Dissipation time: 0.7 - 4.5 d

### **Sodium lignosulfonate:**

Distribution among environmental compartments : Koc: > 99999  
Method: Estimated.  
Remarks: Expected to be relatively immobile in soil (Koc > 5000).

### **citric acid:**

Distribution among environmental compartments : Remarks: No relevant data found.

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Distribution among environmental compartments : Remarks: No relevant data found.

## 12.5 Results of PBT and vPvB assessment

### **Product:**

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

### **Components:**

#### **Cloquintocet:**

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).. Substance is not very persistent and very bioaccumulative (vPvB).

#### **Pyroxsulam:**

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

#### **Halauxifen-methyl:**

Assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).. Substance is not very persistent and very bioaccumulative (vPvB).

#### **Florasulam:**

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

#### **Sodium lignosulfonate:**

Assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

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### **citric acid:**

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

### **Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:**

Assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

### **Kaolin:**

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

## 12.6 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

### **Components:**

#### **Cloquintocet:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### **Pyroxsulam:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### **Halauxifen-methyl:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### **Florasulam:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### **Sodium lignosulfonate:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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### citric acid:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

### Fatty acid chlorides, C18 unsatd., reaction products with sodium N-methyltaurinate:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

### Kaolin:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.  
If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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## SECTION 14: Transport information

### 14.1 UN number or ID number

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

### 14.2 UN proper shipping name

ADR	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Halauxifen-methyl, Pyroxsulam)
RID	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Halauxifen-methyl, Pyroxsulam)

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**IMDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Halauxifen-methyl, Pyroxsulam)

**IATA** : Environmentally hazardous substance, solid, n.o.s.  
(Halauxifen-methyl, Pyroxsulam)

### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
<b>ADR</b>	: 9	
<b>RID</b>	: 9	
<b>IMDG</b>	: 9	
<b>IATA</b>	: 9	

### 14.4 Packing group

**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  
Remarks : Stowage category A

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 956  
Packing instruction (LQ) : Y956  
Packing group : III  
Labels : Miscellaneous

**IATA (Passenger)**  
Packing instruction (passenger aircraft) : 956  
Packing instruction (LQ) : Y956  
Packing group : III  
Labels : Miscellaneous

### 14.5 Environmental hazards

**ADR**  
Environmentally hazardous : yes

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### RID

Environmentally hazardous : yes

### IMDG

Marine pollutant : yes(Halauxifen-methyl, Pyroxsulam)

### 14.6 Special precautions for user

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA Special provision A197, and ADR/RID special provision 375.

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.

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	E1	ENVIRONMENTAL HAZARDS
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### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

The mixture is evaluated within the frame of the provisions of Regulation (EC) No. 1107/2009. Refer to the label for exposure assessment information.



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according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



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### SECTION 16: Other information

#### Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

#### Full text of H-Statements

H317 : May cause an allergic skin reaction.  
H319 : Causes serious eye irritation.  
H400 : Very toxic to aquatic life.  
H410 : Very toxic to aquatic life with long lasting effects.  
H411 : Toxic to aquatic life with long lasting effects.

#### Full text of other abbreviations

Aquatic Acute : Short-term (acute) aquatic hazard  
Aquatic Chronic : Long-term (chronic) aquatic hazard  
Eye Irrit. : Eye irritation  
Skin Sens. : Skin sensitisation  
2004/37/EC : Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work  
IE OEL : Ireland. List of Chemical Agents and Carcinogens with Occupational Exposure Limit Values - Code of Practice, Schedule 1 and 2  
2004/37/EC / TWA : Long term exposure limit  
IE OEL / OELV - 8 hrs (TWA) : Occupational exposure limit value (8-hour reference period)

ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; ECx - Concentration associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; 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; NOEC - Non-Observed Effective Concentration; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; (Q)SAR - (Quantitative) Structure Activity Relationship; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SDS - Safety Data Sheet; UN - United Nations.

EC-Number - European Community number REACH - Regulation (EC) No 1907/2006 of the European Parliament and of Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.

#### Further information

##### Classification of the mixture:

Aquatic Acute 1	H400
Aquatic Chronic 1	H410

##### Classification procedure:

Calculation method
Calculation method

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



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