SAFETY DATA SHEET
according to the Hazardous Products Regulations

PIXXARO™ A Herbicide

Version	Revision Date:	SDS Number:	Date of last issue: 11/16/2023
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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 Canada and may not meet the regulatory requirements in other countries.

SECTION 1. IDENTIFICATION

Product name : PIXXARO™ A Herbicide
Other means of identification : No data available

Manufacturer or supplier's details
COMPANY IDENTIFICATION
Manufacturer/importer : CORTEVA AGRISCIENCE CANADA COMPANY
SUITE 240, 115 QUARRY PARK RD. SE
CALGARY AB, T2C 5G9
CANADA
Customer Information Number : 800-667-3852
E-mail address : solutions@corteva.com

Emergency telephone number : Corteva Canada Solutions: 1-800-667-3852

Recommended use of the chemical and restrictions on use
Recommended use : End use herbicide product

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations
Serious eye damage : Category 1

Skin sensitisation : Sub-category 1B

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS label elements
Hazard pictograms :

Signal word : Danger

Hazard statements : H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**
P261 Avoid breathing mist or vapours.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.

Response:
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
fluroxypyr-meptyl (ISO)	fluroxypyr-meptyl (ISO)	81406-37-3	34.9
Cloquintocet-mexyl	Cloquintocet-mexyl	99607-70-2	1.57
Halauxifen-methyl	Halauxifen-methyl	943831-98-9	1.64
Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide	Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide	Not Assigned	>= 40 - < 50 *
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8	>= 1 - < 3 *
Hydrocarbons, C10, aromatics, <1% naphthalene	Hydrocarbons, C10, aromatics, <1% naphthalene	1189173-42-9	>= 1 - < 3 *
N-methyl-2-pyrrolidone	N-methyl-2-pyrrolidone	872-50-4	>= 0.1 - < 0.3 *
Balance	Balance	Not Assigned	> 5

* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled	:	Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.
In case of skin contact	:	Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.
In case of eye contact	:	Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.
If swallowed	:	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	None known.
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.
Notes to physician	:	Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment. Skin contact may aggravate preexisting dermatitis.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Exposure to combustion products may be a hazard to health. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Product may be carried across water surface spreading fire or contacting an ignition source.

Hazardous combustion products	:	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon oxides Nitrogen oxides (NOx)
Specific extinguishing methods	:	Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Remove undamaged containers from fire area if it is safe to do so. Evacuate area. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities. Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained. Prevent from entering into soil, ditches, sewers,underwater. See Section 12, Ecological Information.
Methods and materials for containment and cleaning up	:	Clean up remaining materials from spill with suitable absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to overpressurization of the container. Keep in suitable, closed containers for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). See Section 13, Disposal Considerations, for additional information.

SECTION 7. HANDLING AND STORAGE

Local/Total ventilation : Use with local exhaust ventilation.

Advice on safe handling : To avoid spills during handling keep bottle on a metal tray.
Avoid formation of aerosol.
Provide sufficient air exchange and/or exhaust in work rooms.
Handle in accordance with good industrial hygiene and safety practice.
Avoid exposure - obtain special instructions before use.
Smoking, eating and drinking should be prohibited in the application area.
Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Do not get in eyes.
Keep container tightly closed.
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.

Conditions for safe storage : Store in a closed container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in properly labelled containers.
Store in accordance with the particular national regulations.

Materials to avoid : Do not store near acids.
Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
fluroxypyr-meptyl (ISO)	81406-37-3	TWA	10 mg/m3	Dow IHG
N-methyl-2-pyrrolidone	872-50-4	TWA	400 mg/m3	CA ON OEL

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
N-methyl-2-pyrrolidone	872-50-4	5-Hydroxy-N-methyl-2-pyrrolidone	Urine	End of shift (As soon as possible after exposure ceases)	100 mg/l	ACGIH BEI

Engineering measures : RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Personal protective equipment

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, use an approved respirator.

Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.
For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Hand protection

Remarks : Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. 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.

Eye protection : Use chemical goggles.

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid.
Colour	:	Yellow
Odour	:	Mild
Odour Threshold	:	No data available
pH	:	4.95 (23.6 °C) Concentration: 1 % Method: pH Electrode
Melting point/range	:	Not applicable to liquids
Freezing point		No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 100 °C Method: Pensky-Martens Closed Cup ASTM D 93, closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Flammability (liquids)	:	Not expected to be a static-accumulating flammable liquid.
Upper explosion limit / Upper flammability limit	:	No data available

Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1.0252 g/cm3 (20 °C) Method: Digital density meter
Solubility(ies)		
Water solubility	:	No data available
Auto-ignition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	48.15 mPa,s (20 °C) 18.4 mPa,s (40 °C)
Explosive properties	:	No
Oxidizing properties	:	No significant increase (>5C) in temperature.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	No decomposition if stored and applied as directed. Stable under normal conditions.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	Exposure to elevated temperatures can cause product to decompose.
Incompatible materials	:	Strong acids Strong bases
Hazardous decomposition products	:	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon oxides Nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	LD50 (Rat, female): 5,000 mg/kg Method: OECD Test Guideline 425 Remarks: Information source: Internal study report
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.57 mg/l Exposure time: 4 h Test atmosphere: Aerosol Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Information source: Internal study report
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402 Remarks: Information source: Internal study report

Components:

fluroxypyr-meptyl (ISO):

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 1.16 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 Remarks: Maximum attainable concentration.
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

Cloquintocet-mexyl:

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5.42 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg

Halauxifen-methyl:

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

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 3.551 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rat): > 2,000 mg/kg

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Acute oral toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD 401 or equivalent Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute oral toxicity Remarks: For similar material(s):

Acute dermal toxicity : LD50 (Rat, male and female): > 1,000 - < 1,600 mg/kg
Method: OECD 402 or equivalent
Remarks: For similar material(s):

Hydrocarbons, C10, aromatics, <1% naphthalene:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: For similar material(s):

Acute inhalation toxicity : LC50 (Rat): > 4.688 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: For similar material(s):
Maximum attainable concentration.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: For similar material(s):

N-methyl-2-pyrrolidone:

Acute oral toxicity : LD50 (Rat, male and female): 4,150 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: No deaths occurred at this concentration.

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Product:

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

Components:

fluroxypyr-meptyl (ISO):

Species : Rabbit
Result : No skin irritation

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:

Species : Rabbit
Result : Skin irritation

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Species : Rabbit
Result : Skin irritation

N-methyl-2-pyrrolidone:

Species : Rabbit
Result : Skin irritation

Serious eye damage/eye irritation

Product:

Species	:	Rabbit
Result	:	Corrosive
Method	:	OECD Test Guideline 405
Remarks	:	Information source: Internal study report

Components:

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:

Species	:	Rabbit
Result	:	Corrosive

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Species	:	Rabbit
Result	:	Corrosive

N-methyl-2-pyrrolidone:

Species	:	Rabbit
Result	:	Eye irritation

Respiratory or skin sensitisation

Product:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Assessment	:	The product is a skin sensitiser, sub-category 1B.
Method	:	OECD Test Guideline 429
Remarks	:	Information source: Internal study report

Components:

fluroxypyr-meptyl (ISO):

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

Cloquintocet-mexyl:

Species	:	Guinea pig
Assessment	:	May cause sensitisation by skin contact.

Halauxifen-methyl:

Remarks	:	Did not demonstrate the potential for contact allergy in mice.
Remarks	:	For respiratory sensitization: No relevant data found.

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:

Species	:	Guinea pig
Assessment	:	Does not cause skin sensitisation.
Remarks	:	For similar material(s):

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Remarks	:	For skin sensitization: For similar material(s): Did not cause allergic skin reactions when tested in guinea pigs.
Remarks	:	For respiratory sensitization: No relevant data found.

Hydrocarbons, C10, aromatics, <1% naphthalene:

Remarks	:	For similar material(s): Did not cause allergic skin reactions when tested in guinea pigs.
Remarks	:	For respiratory sensitization: No relevant data found.

N-methyl-2-pyrrolidone:

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

Germ cell mutagenicity

Components:

fluroxypyr-meptyl (ISO):

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

Cloquintocet-mexyl:

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.

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Germ cell mutagenicity - Assessment	:	For similar material(s):, In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

Hydrocarbons, C10, aromatics, <1% naphthalene:

Germ cell mutagenicity - Assessment	:	For similar material(s):, In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

N-methyl-2-pyrrolidone:

Germ cell mutagenicity - Assessment	:	In vitro genetic toxicity studies were negative in some cases and positive in other cases., Animal genetic toxicity studies were negative.

Carcinogenicity

Components:

fluroxypyr-meptyl (ISO):

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

Cloquintocet-mexyl:

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

Halauxifen-methyl:

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

Hydrocarbons, C10, aromatics, <1% naphthalene:

Carcinogenicity - Assessment	:	Contains naphthalene which has caused cancer in some laboratory animals., However, the relevance of this to humans is unknown.

N-methyl-2-pyrrolidone:
Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.

Reproductive toxicity
Product:
Reproductive toxicity - Assessment : No toxicity to reproduction

Components:
fluroxypyr-meptyl (ISO):
Reproductive toxicity - Assessment : 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.

Cloquintocet-mexyl:
Reproductive toxicity - Assessment : 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.

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:
Reproductive toxicity - Assessment : For similar material(s):, Did not cause birth defects or any other fetal effects in laboratory animals.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:
Reproductive toxicity - Assessment : For similar material(s):, In animal studies, did not interfere with reproduction.
For similar material(s):, Did not cause birth defects or any other fetal effects in laboratory animals.

Hydrocarbons, C10, aromatics, <1% naphthalene:
Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.
For similar material(s):, Did not cause birth defects or any other fetal effects in laboratory animals.

N-methyl-2-pyrrolidone:
Reproductive toxicity - Assessment : Clear evidence of adverse effects on development, based on animal experiments.
N-methyl pyrrolidone has caused toxic effects to the fetus in laboratory animals at high dose levels with either mild or undetectable maternal toxicity.

STOT - single exposure
Product:
Assessment : May cause respiratory irritation.

Components:
Cloquintocet-mexyl:
Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

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

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:
Exposure routes : Inhalation
Assessment : May cause respiratory irritation.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:
Assessment : Available data are inadequate to determine single exposure specific target organ toxicity.

Hydrocarbons, C10, aromatics, <1% naphthalene:
Exposure routes : Inhalation
Assessment : May cause drowsiness or dizziness.

N-methyl-2-pyrrolidone:
Exposure routes : Inhalation
Target Organs : Respiratory Tract
Assessment : May cause respiratory irritation.

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

Repeated dose toxicity
Components:
fluroxypyr-meptyl (ISO):
Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Cloquintocet-mexyl:
Remarks : In animals, effects have been reported on the following organs:
Liver.
Kidney.
Thymus.
Thyroid.
Bladder.
Bone marrow.

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

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:
Remarks : For similar material(s):
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:
Remarks : For similar material(s):
In animals, effects have been reported on the following organs:
Kidney.

Hydrocarbons, C10, aromatics, <1% naphthalene:
Remarks : Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

N-methyl-2-pyrrolidone:
Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Aspiration toxicity
Product:
Based on physical properties, not likely to be an aspiration hazard.

Components:
fluroxypyr-meptyl (ISO):
Based on physical properties, not likely to be an aspiration hazard.

Cloquintocet-mexyl:
Based on physical properties, not likely to be an aspiration hazard.

Halauxifen-methyl:
Based on physical properties, not likely to be an aspiration hazard.

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:
May be harmful if swallowed and enters airways.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:
Based on physical properties, not likely to be an aspiration hazard.

Hydrocarbons, C10, aromatics, <1% naphthalene:
May be fatal if swallowed and enters airways.

N-methyl-2-pyrrolidone:
Based on physical properties, not likely to be an aspiration hazard.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 20 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Information source: Internal study report
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 11 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Information source: Internal study report
Toxicity to algae/aquatic plants	:	Remarks: Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species). ErC50 (Myriophyllum spicatum): 0.0445 mg/l Exposure time: 14 d Remarks: Information source: Internal study report NOEC (Myriophyllum spicatum): 0.00791 mg/l Exposure time: 14 d Remarks: Information source: Internal study report NOEC (Lemna minor (duckweed)): 1.5 mg/l Exposure time: 14 d Remarks: Information source: Internal study report
Toxicity to terrestrial organ-isms	:	Remarks: Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

oral LD50 (Colinus virginianus (Bobwhite quail)): 784 mg/kg bodyweight.
End point: mortality

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

Components:
fluroxypyr-meptyl (ISO):

Toxicity to fish : Remarks: Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.225 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.183 mg/l
Exposure time: 48 h
Test Type: semi-static test
Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic plants : ErC50 (diatom Navicula sp.): 0.24 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201 or Equivalent

EbC50 (alga Scenedesmus sp.): > 0.47 mg/l
Exposure time: 72 h

ErC50 (Selenastrum capricornutum (green algae)): > 1.410 mg/l
Exposure time: 96 h

ErC50 (Myriophyllum spicatum): 0.075 mg/l
Exposure time: 14 d

NOEC (Myriophyllum spicatum): 0.031 mg/l
Exposure time: 14 d

Toxicity to fish (Chronic toxicity) : NOEC (Rainbow trout (Oncorhynchus mykiss)): 0.32 mg/l

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg

Toxicity to terrestrial organisms : Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg)., Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

oral LD50 (Colinus virginianus (Bobwhite quail)): > 2000 mg/kg bodyweight.
Exposure time: 5 d

dietary LC50 (Colinus virginianus (Bobwhite quail)): > 5000 mg/kg diet.

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

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

Cloquintocet-mexyl:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.97 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: Method Not Specified.
Remarks: As the ester active substance.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.82 mg/l
Exposure time: 48 h
Test Type: flow-through test
Method: Method Not Specified.

Toxicity to algae/aquatic plants : EbC50 (alga Scenedesmus sp.): 0.63 mg/l
End point: Biomass
Exposure time: 96 h
Method: Method Not Specified.

EbC50 (Lemna minor (duckweed)): > 0.42 mg/l
End point: Biomass
Exposure time: 14 d
Method: Method Not Specified.

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg

Toxicity to terrestrial organisms : oral LD50 (Anas platyrhynchos (Mallard duck)): > 2000 mg/kg bodyweight.

dietary LC50 (Anas platyrhynchos (Mallard duck)): > 5200 mg/kg diet.
Exposure time: 8 d

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

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

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

Halauxifen-methyl:

Toxicity to fish : Remarks: Material is very highly toxic to aquatic organisms on an acute basis (LC50/EC50 <0.1 mg/L in the most sensitive species).

LC50 (Rainbow trout (Oncorhynchus mykiss)): 2.01 mg/l
Exposure time: 96 h
Test Type: static test

LC50 (Pimephales promelas (fathead minnow)): > 3.22 mg/l
Exposure time: 96 h

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): 0.000393 mg/l
End point: Growth rate inhibition
Exposure time: 14 d

M-Factor (Acute aquatic toxicity) : 1,000

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.259 mg/l
End point: Other
Test Type: flow-through test

NOEC (Cyprinodon variegatus (sheepshead minnow)): 0.00272 mg/l
Exposure time: 36 d
Test Type: flow-through test

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

M-Factor (Chronic aquatic toxicity) : 1,000

Toxicity to microorganisms : EC50 (activated sludge): > 981 mg/l
Exposure time: 1 d

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

Toxicity to terrestrial organisms : Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg)., Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

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

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

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

End point: mortality

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

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

Ecotoxicology Assessment

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

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 14.8 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 7.7 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 16.06 mg/l Exposure time: 72 h

Ecotoxicology Assessment

Acute aquatic toxicity	:	Toxic to aquatic life.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Toxicity to fish	:	Remarks: Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested). LC50 (zebra fish (Brachydanio rerio)): 31.6 mg/l Exposure time: 96 h Remarks: For similar material(s):
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 62 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Selenastrum capricornutum (green algae)): 29 mg/l End point: Growth rate inhibition Exposure time: 96 h Remarks: For similar material(s):
Toxicity to fish (Chronic toxicity)	:	NOEC (Rainbow trout (Salmo gairdneri)): 0.23 mg/l End point: survival Exposure time: 72 d Remarks: For similar material(s):
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 1.18 mg/l End point: number of offspring Exposure time: 21 d Remarks: For similar material(s):
Toxicity to microorganisms	:	EC50 (activated sludge): 550 mg/l End point: Respiration rates. Exposure time: 3 h

Remarks: For similar material(s):

Hydrocarbons, C10, aromatics, <1% naphthalene:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l Exposure time: 96 h Remarks: For similar material(s):
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna): 3 - 10 mg/l Exposure time: 48 h Remarks: For similar material(s):
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 11 mg/l Exposure time: 72 h Remarks: For similar material(s):

Ecotoxicology Assessment

Chronic aquatic toxicity	:	Toxic to aquatic life with long lasting effects.

N-methyl-2-pyrrolidone:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 5,000 mg/l Exposure time: 96 h Test Type: static test LC50 (Pimephales promelas (fathead minnow)): 1,072 mg/l Exposure time: 96 h Test Type: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 24 h Test Type: static test Method: OECD Test Guideline 202 or Equivalent
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 500 mg/l End point: Growth rate inhibition Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 or Equivalent
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 12.5 mg/l Exposure time: 21 d Test Type: semi-static test Method: OECD Test Guideline 211 or Equivalent

Persistence and degradability

Components:

fluroxypyr-meptyl (ISO):

Biodegradability	:	Result: Not biodegradable Remarks: Material is not readily biodegradable according to OECD/EEC guidelines. Biodegradation: 32 % Exposure time: 28 d Method: OECD Test Guideline 301D or Equivalent Remarks: 10-day Window: Fail
ThOD	:	2.2 kg/kg
Stability in water	:	Test Type: Hydrolysis Degradation half life: 454 d

Halauxifen-methyl:

Biodegradability : Result: Not biodegradable
Remarks: For similar active ingredient(s).
Halauxifen.
Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Biodegradation: 7.7 %
Exposure time: 28 d
Method: OECD Test Guideline 310 or Equivalent
Remarks: 10-day Window: Not applicable

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:

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

Result: Readily biodegradable.
Biodegradation: > 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
Remarks: 10-day Window: Pass

Chemical Oxygen Demand (COD) : 2.890 mg/g

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Biodegradability : Biodegradation: 2.9 %
Exposure time: 28 d
Method: OECD Test Guideline 301E or Equivalent
Remarks: 10-day Window: Fail

Hydrocarbons, C10, aromatics, <1% naphthalene:

Biodegradability : Remarks: Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

N-methyl-2-pyrrolidone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 91 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent
Remarks: 10-day Window: Pass

Concentration: 30 mg/l
Biodegradation: 73 %
Exposure time: 28 d
Method: OECD Test Guideline 301C or Equivalent
Remarks: 10-day Window: Not applicable

Biodegradation: > 90 %
Exposure time: 8 d
Method: OECD Test Guideline 302B or Equivalent
Remarks: 10-day Window: Not applicable

ThOD : 2.58 kg/kg

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals

Rate constant: 2.199E-11 cm3/s
Method: Estimated.

Bioaccumulative potential
Components:

fluroxypyr-meptyl (ISO):

Bioaccumulation	:	Species: Oncorhynchus mykiss (rainbow trout) Bioconcentration factor (BCF): 26 Method: Measured
Partition coefficient: n-octanol/water	:	log Pow: 5.04 Method: Measured Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Cloquintocet-mexyl:

Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 122 - 621
Partition coefficient: n-octanol/water	:	log Pow: 5.2 (25 °C) pH: 7

Halauxifen-methyl:

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

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:

Partition coefficient: n-octanol/water	:	log Pow: < 3.44 (20 °C) Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

Partition coefficient: n-octanol/water	:	log Pow: 4.6 Method: OECD Test Guideline 107 or Equivalent Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Hydrocarbons, C10, aromatics, <1% naphthalene:

Partition coefficient: n-octanol/water	:	Remarks: No data available for this product. For similar material(s): Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

N-methyl-2-pyrrolidone:

Partition coefficient: n-octanol/water	:	log Pow: -0.38 Method: Measured Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Balance:

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

Mobility in soil
Components:
fluroxypyr-meptyl (ISO):
Distribution among environmental compartments : Koc: 6200 - 43000
Remarks: Expected to be relatively immobile in soil (Koc > 5000).

Cloquintocet-mexyl:
Distribution among environmental compartments : Koc: 38070
Method: Estimated.
Remarks: Expected to be relatively immobile in soil (Koc > 5000).

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

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:
Distribution among environmental compartments : Koc: 527.3
Remarks: Potential for mobility in soil is low (Koc between 500 and 2000).

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:
Distribution among environmental compartments : Remarks: No relevant data found.

Hydrocarbons, C10, aromatics, <1% naphthalene:
Distribution among environmental compartments : Remarks: No relevant data found.

N-methyl-2-pyrrolidone:
Distribution among environmental compartments : Koc: 21
Method: Estimated.
Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

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

Other adverse effects
Components:
fluroxypyr-meptyl (ISO):
Results of PBT and vPvB 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).

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

Cloquintocet-mexyl:
Results of PBT and vPvB 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).

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

Halauxifen-methyl:

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

Reaction mass of N,N-dimethyldecan-1-amide and N,N-dimethyloctanamide:

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts:

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

Hydrocarbons, C10, aromatics, <1% naphthalene:

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

N-methyl-2-pyrrolidone:

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

Balance:

Results of PBT and vPvB assessment	:	This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).
Ozone-Depletion Potential	:	Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Halauxifen-methyl, Fluroxypyr 1-methylheptyl ester)
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Halauxifen-methyl, Fluroxypyr 1-methylheptyl ester)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Halauxifen-methyl, Fluroxypyr 1-methylheptyl ester)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes(Halauxifen-methyl, Fluroxypyr 1-methylheptyl ester)
Remarks	:	Stowage category A

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

TDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Halauxifen-methyl, Fluroxypyr 1-methylheptyl ester)
Class	:	9
Packing group	:	III
Labels	:	9
ERG Code	:	171
Marine pollutant	:	yes(Halauxifen-methyl, Fluroxypyr 1-methylheptyl ester)

Further information
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.

For Canadian Ground transportation TDG Exemption: 1.45.1 Marine Pollutants (Part 3, Documentation, and Part 4, Dangerous Goods Safety Marks, do not apply if they are in transport solely on land by road vehicle or railway vehicle).

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.

SECTION 15. REGULATORY INFORMATION

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

DSL : This product contains components that are not listed on the Canadian DSL nor NDSL.

Pest Control Products Act (PCPA) Registration Number : 31303

Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product.
This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act (PCPA). There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Following is the hazard information required on the pest control products label:
PCPA Label Hazard Communications:
Read the label and booklet before using. Keep out of reach of children.

WARNING EYE AND SKIN IRRITANT

POTENTIAL SKIN SENSITIZER

This product is toxic to:
Non-target terrestrial plants
Aquatic organisms

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 other abbreviations

ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
Dow IHG	:	Dow Industrial Hygiene Guideline
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
Dow IHG / TWA	:	Time Weighted Average (TWA):

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.
DSL - Domestic substances List. WHMIS - Workplace Hazardous Materials Information System.

Revision Date	:	04/29/2024
Date format	:	mm/dd/yyyy

Product code: GF-2688

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

CA / 6N