

SAFETY DATA SHEET

according to the Hazardous Products Regulations



TRIDEM™ B Herbicide

Version 3.0 Revision Date: 05/16/2024 SDS Number: 800080002860 Date of last issue: 05/13/2024
Date of first issue: 05/10/2024

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 : TRIDEM™ B 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 : 800-667-3852

Number

E-mail address : solutions@corveva.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

Flammable liquids : Category 3

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitisation : Category 1

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

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.

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Precautionary statements : **Prevention:**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
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/ protective clothing/ eye protection/ face protection/ hearing protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with 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 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Additional Labelling

The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 5.7283 %

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
florasulam (ISO)	florasulam (ISO)	145701-23-1	0.5
fluroxypyr-meptyl (ISO)	fluroxypyr-meptyl (ISO)	81406-37-3	14.45

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Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified	Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified	64742-95-6	>= 30 - < 40 *
1,2,4-trimethylbenzene	1,2,4-trimethylbenzene	95-63-6	>= 3 - < 10 *
Propylene glycol	Propylene glycol	57-55-6	>= 3 - < 10 *
mesitylene	mesitylene	108-67-8	>= 1 - < 3 *
cumene	cumene	98-82-8	>= 1 - < 3 *
Balance	Balance	Not Assigned	> 10

* 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.
Suitable emergency safety shower facility should be available in work area.
- In case of eye contact : Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.
Suitable emergency eye wash facility should be available in work area.
- If swallowed : No emergency medical treatment necessary.
- 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 : Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help.
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.

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Skin contact may aggravate preexisting dermatitis.
Repeated excessive exposure may aggravate preexisting lung disease.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : Do not use direct water stream.
High volume water jet
- Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
Vapours may form explosive mixtures with air.
Do not allow run-off from fire fighting to enter drains or water courses.
Flash back possible over considerable distance.
- 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 (NO_x)
- Specific extinguishing methods : 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.
- Further information : Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.
Do not use a solid water stream as it may scatter and spread fire.
Use a water spray to cool fully closed 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 : Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Remove all sources of ignition.
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.

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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 absorbent.
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 over-pressurization of the container.
Wipe up with absorbent material (e.g. cloth, fleece).
Non-sparking tools should be used.
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Suppress (knock down) gases/vapours/mists with a water spray jet.
See Section 13, Disposal Considerations, for additional information.

SECTION 7. HANDLING AND STORAGE

Local/Total ventilation : Use with local exhaust ventilation.
Use only in an area equipped with explosion proof exhaust ventilation.

Advice on safe handling : Avoid formation of aerosol.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Non-sparking tools should be used.
Provide sufficient air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
Do not breathe vapours/dust.
Do not smoke.
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.
Avoid contact with skin and eyes.

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- Keep container tightly closed.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
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.
No smoking.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in properly labelled containers.
Keep tightly closed.
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store near acids.
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases
- Packaging material : Unsuitable material: None known.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified	64742-95-6	TWA	100 mg/m3	Dow IHG
		STEL	300 mg/m3	Dow IHG
		TWA	200 mg/m3 (total hydrocarbon vapor)	CA AB OEL
		TWA	200 mg/m3 (total hydrocarbon vapor)	ACGIH
fluroxypyr-meptyl (ISO)	81406-37-3	TWA	10 mg/m3	Dow IHG
1,2,4-trimethylbenzene	95-63-6	TWA	25 ppm	CA AB OEL
			123 mg/m3	
		TWAEV	25 ppm	CA QC OEL
		TWA	25 ppm	CA BC OEL
		TWA	25 ppm	ACGIH
		TWA	10 ppm	ACGIH
Propylene glycol	57-55-6	TWA (Vapour and aerosols)	50 ppm	CA ON OEL
			155 mg/m3	
		TWA (aerosol)	10 mg/m3	CA ON OEL
mesitylene	108-67-8	TWA	25 ppm	CA AB OEL

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			123 mg/m3	
		TWAEV	25 ppm	CA QC OEL
		TWA	25 ppm	CA BC OEL
		TWA	10 ppm	ACGIH
cumene	98-82-8	TWA	50 ppm 246 mg/m3	CA AB OEL
		TWA	25 ppm	CA BC OEL
		STEL	75 ppm	CA BC OEL
		TWAEV	50 ppm 246 mg/m3	CA QC OEL
		TWA	5 ppm	ACGIH

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

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, if discomfort is experienced, use an approved air-purifying respirator.

Hand protection
Remarks

: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Styrene/butadiene rubber. Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Chlorinated polyethylene. Neoprene. 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** : White
- Odour** : Gasoline-like
- Odour Threshold** : No data available

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pH	:	4.5 (23.1 °C) Concentration: 1 % Method: pH Electrode
Melting point/range	:	Not applicable
Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	57.8 °C Method: Closed Cup, closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable to liquids
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
Relative density	:	No data available
Density	:	0.9861 g/cm ³ (20 °C) Method: OECD 109
Solubility(ies)	:	
Water solubility	:	Emulsion
Auto-ignition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	180 - 2000 mm ² /s (20 °C)
Explosive properties	:	No
Oxidizing properties	:	No significant increase (>5C) in temperature.
Surface tension	:	No data available

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. No hazards to be specially mentioned. Vapours may form explosive mixture with air.

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Conditions to avoid : May form explosive dust-air mixture.
: Heat, flames and sparks.
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): > 5.52 mg/l
Exposure time: 4 h
Test atmosphere: Mist
Method: OECD Test Guideline 403
Symptoms: No deaths occurred at this concentration.
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:

florasulam (ISO):

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

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.

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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

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Acute oral toxicity : LD50 (Rat): 3,500 mg/kg

Acute inhalation toxicity : Remarks: Vapor concentrations are attainable which could be hazardous on single exposure.
May cause respiratory irritation and central nervous system depression.
Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness.

LC50 (Rat): > 10.2 mg/l

Exposure time: 4 h

Test atmosphere: vapour

Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

1,2,4-trimethylbenzene:

Acute oral toxicity : LD50 (Rat): > 3,400 mg/kg

Acute inhalation toxicity : Remarks: Prolonged excessive exposure may cause serious adverse effects, even death.
Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs.
May cause central nervous system effects.
Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

LC50 (Rat): 18 mg/l

Exposure time: 4 h

Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Propylene glycol:

Acute oral toxicity : LD50 (Rat): > 20,000 mg/kg

Acute inhalation toxicity : LC50 (Rabbit): 317.042 mg/l
Exposure time: 2 h
Test atmosphere: dust/mist
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Mist may cause irritation of upper respiratory tract (nose and throat).

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

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Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity

mesitylene:

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

Acute inhalation toxicity : LC50 (Rat, male and female): > 10.2 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Symptoms: No deaths occurred following exposure to a saturated atmosphere.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 3,440 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity

cumene:

Acute oral toxicity : LD50 (Rat): 2,260 mg/kg
Remarks: Contact with the tongue may produce a burning sensation and excess salivation.

Acute inhalation toxicity : LC50 (Rat): > 17.6 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg

Skin corrosion/irritation

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
Remarks : Information source: Internal study report

Components:

fluroxypyr-meptyl (ISO):

Species : Rabbit
Result : No skin irritation

1,2,4-trimethylbenzene:

Result : Skin irritation

Propylene glycol:

Species : Rabbit
Result : No skin irritation

mesitylene:

Result : Skin irritation

cumene:

Result : No skin irritation

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Serious eye damage/eye irritation

Product:

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

Components:

1,2,4-trimethylbenzene:

Result : Eye irritation

Propylene glycol:

Species : Rabbit
Result : No eye irritation

mesitylene:

Result : Eye irritation

cumene:

Result : No eye irritation

Respiratory or skin sensitisation

Product:

Test Type : Local lymph node assay
Species : Mouse
Assessment : May cause sensitisation by skin contact.
Method : OECD Test Guideline 429
Remarks : Information source: Internal study report

Components:

florasulam (ISO):

Remarks : Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

fluroxypyr-meptyl (ISO):

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

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Remarks : For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

1,2,4-trimethylbenzene:

Remarks : For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

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Propylene glycol:

Species : human
Assessment : Does not cause skin sensitisation.

mesitylene:

Assessment : Does not cause skin sensitisation.
Remarks : Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

cumene:

Remarks : For skin sensitization:
Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

Germ cell mutagenicity

Components:

florasulam (ISO):

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

fluroxypyr-meptyl (ISO):

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

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

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

1,2,4-trimethylbenzene:

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

Propylene glycol:

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

mesitylene:

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

cumene:

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

Carcinogenicity

Components:

florasulam (ISO):

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

fluroxypyr-meptyl (ISO):

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

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Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:
Carcinogenicity - Assessment : Xylene was not found to be carcinogenic in a National Toxicology Program bioassay in rats and mice.

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

cumene:
Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.
Has caused cancer in laboratory animals., However, the relevance of this to humans is unknown.

Reproductive toxicity

Components:

florasulam (ISO):

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.

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.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Reproductive toxicity - Assessment : In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Has caused birth defects in laboratory animals only at doses producing severe toxicity in the mother., Exaggerated doses of xylene given orally to pregnant mice resulted in an increase in cleft palate, a common developmental abnormality in mice.
In animal inhalation studies, xylene caused toxicity to the fetus but did not cause birth defects.

1,2,4-trimethylbenzene:

Reproductive toxicity - Assessment : For similar material(s);, 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.

Propylene glycol:

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

mesitylene:

Reproductive toxicity - Assessment : In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Has been toxic to the fetus in laboratory animals at doses toxic to the mother., Did not cause birth defects in laboratory animals.

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cumene:

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.

STOT - single exposure

Product:

Assessment : May cause respiratory irritation., May cause drowsiness or dizziness.

Components:

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Assessment : May cause respiratory irritation.

Assessment : May cause drowsiness or dizziness.

1,2,4-trimethylbenzene:

Exposure routes : Inhalation
Target Organs : Respiratory Tract
Assessment : May cause respiratory irritation.

Propylene glycol:

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

mesitylene:

Exposure routes : Inhalation
Target Organs : Respiratory Tract
Assessment : May cause respiratory irritation.

cumene:

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:

florasulam (ISO):

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

fluroxypyr-meptyl (ISO):

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

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Remarks : In animals, effects have been reported on the following organs:
Blood.
Kidney.
Liver.
Xylene is reported to have caused hearing loss in laboratory animals upon exposure to high concentrations; such effects have not been reported in humans.
For the minor component(s):

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- 1,2,4-trimethylbenzene:**
Remarks : Cumene.
Eye.
: In animals, effects have been reported on the following organs:
Respiratory tract.
- Propylene glycol:**
Remarks : In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.
- mesitylene:**
Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
- cumene:**
Remarks : Cataracts were observed in rats exposed to cumene vapors.

Aspiration toxicity

Product:

No aspiration toxicity classification

Components:

florasulam (ISO):

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

fluroxypyr-meptyl (ISO):

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

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

May be fatal if swallowed and enters airways.

1,2,4-trimethylbenzene:

May be harmful if swallowed and enters airways.

Propylene glycol:

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

mesitylene:

May be fatal if swallowed and enters airways.

cumene:

May be fatal if swallowed and enters airways.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 18.6 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: OECD Test Guideline 203
Remarks: Information source: Internal study report
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 27 - 35 mg/l
Exposure time: 48 h
Test Type: semi-static test
Method: OECD Test Guideline 202
Remarks: Information source: Internal study report

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- Toxicity to algae/aquatic plants :
Remarks: Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
- ErC50 (*Pseudokirchneriella subcapitata* (green algae)): 1.730 mg/l
End point: Growth rate inhibition
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Information source: Internal study report
- ErC50 (*Myriophyllum spicatum*): 0.235 mg/l
End point: Growth rate inhibition
Exposure time: 14 d
Test Type: static test
Remarks: Information source: Internal study report
- ErC50 (*Lemna gibba*): 0.156 mg/l
Exposure time: 7 d
Remarks: Information source: Internal study report
- NOEC (*Lemna gibba*): 0.0274 mg/l
Exposure time: 7 d
Method: OECD Test Guideline 221
Remarks: Information source: Internal study report
- NOEC (*Myriophyllum spicatum*): 0.0476 mg/l
End point: Growth rate inhibition
Exposure time: 14 d
Test Type: static test
Remarks: Information source: Internal study report
- Toxicity to soil dwelling organisms :
LC50 (*Eisenia fetida* (earthworms)): 320 mg/kg
Exposure time: 14 d
End point: survival
GLP: yes
- Toxicity to terrestrial organisms :
Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).
- contact LD50 (*Apis mellifera* (bees)): > 200 micrograms/bee
Exposure time: 48 h
GLP: yes
- oral LD50 (*Apis mellifera* (bees)): > 215.8 micrograms/bee
Exposure time: 48 h
GLP: yes
- oral LD50 (*Colinus virginianus* (Bobwhite quail)): 2,000 mg/kg
- Ecotoxicology Assessment**
- Acute aquatic toxicity : Very toxic to aquatic life.
- Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Components:
florasulam (ISO):

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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)): > 100 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)): > 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 (Oncorhynchus mykiss (rainbow trout)): 119 mg/l End point: mortality Exposure time: 28 d Test Type: flow-through test NOEC (Pimephales promelas (fathead minnow)): > 2.9 mg/l End point: Other Exposure time: 33 d Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 38.90 mg/l End point: growth Exposure time: 21 d Test Type: semi-static test MATC (Maximum Acceptable Toxicant Level) (Daphnia magna (Water flea)): 50.2 mg/l End point: growth Exposure time: 21 d Test Type: semi-static test
M-Factor (Chronic aquatic toxicity)	:	100
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): > 1,320 mg/kg Exposure time: 14 d
Toxicity to terrestrial organisms	:	Remarks: Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg)., Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

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fluroxypyr-meptyl (ISO):
Toxicity to fish : oral LD50 (*Coturnix japonica* (Japanese quail)): 1047 mg/kg bodyweight.
dietary LC50 (*Anas platyrhynchos* (Mallard duck)): > 5,000 ppm
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
: 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

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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

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Toxicity to fish : Remarks: Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50 (*Oncorhynchus mykiss* (rainbow trout)): 9.22 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203 or Equivalent

Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): 2.9 mg/l
Exposure time: 72 h
Remarks: For similar material(s):

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)): > 6500 mg/kg diet.
Exposure time: 8 d

oral LD50 (*Colinus virginianus* (Bobwhite quail)): > 2150 mg/kg bodyweight.
Exposure time: 21 d

Ecotoxicology Assessment

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

1,2,4-trimethylbenzene:

Toxicity to fish : Remarks: Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50 (*Pimephales promelas* (fathead minnow)): 7.7 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 3.6 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (*Desmodesmus subspicatus* (green algae)): 2.356 mg/l
Exposure time: 96 h

Ecotoxicology Assessment

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

Propylene glycol:

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- Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 40,613 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : LC50 (*Ceriodaphnia dubia* (water flea)): 18,340 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)): 19,000 mg/l
End point: Growth rate inhibition
Exposure time: 96 h
Method: OECD Test Guideline 201
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Ceriodaphnia dubia* (water flea)): 13,020 mg/l
End point: number of offspring
Exposure time: 7 d
Test Type: semi-static test
- Toxicity to microorganisms : NOEC (*Pseudomonas putida*): > 20,000 mg/l
Exposure time: 18 h
- mesitylene:**
Toxicity to fish : Remarks: Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50 (*Carassius auratus* (goldfish)): 12.5 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: Method Not Specified.
- Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 6 mg/l
Exposure time: 48 h
Test Type: Static
Method: OECD Test Guideline 202 or Equivalent
- Toxicity to algae/aquatic plants : EbC50 (*Desmodesmus subspicatus* (green algae)): 25 mg/l
End point: Biomass
Exposure time: 48 h
Method: OECD Test Guideline 201 or Equivalent
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Daphnia magna* (Water flea)): 0.4 mg/l
End point: number of offspring
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211 or Equivalent

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

cumene:

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 2.7 mg/l
Exposure time: 96 h
Test Type: semi-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)): 4.0 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202 or Equivalent
- Toxicity to algae/aquatic plants : EbC50 (Pseudokirchneriella subcapitata (green algae)): 2.6 mg/l
End point: Biomass
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)): 0.35 mg/l
End point: number of offspring
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211 or Equivalent
- Toxicity to terrestrial organisms : oral LD50 (redwing blackbird (Agelaius phoeniceus)): > 98 mg/kg

Persistence and degradability

Components:

florasulam (ISO):

- Biodegradability : Result: Not biodegradable
Remarks: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
- 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 cm³/s
Method: Estimated.

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

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Stability in water : Test Type: Hydrolysis
Degradation half life: 454 d

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Biodegradability : Result: Not biodegradable
Remarks: For the major component(s):
Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).
For some component(s):
Biodegradation under aerobic static laboratory conditions is low (BOD20 or BOD28/ThOD between 2.5 and 10%).

1,2,4-trimethylbenzene:

Biodegradability : Result: Readily biodegradable.
Remarks: Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

Biodegradation: 100 %
Exposure time: 1 d

ThOD : 3.19 kg/kg

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals
Rate constant: 1.670E-11 cm³/s
Method: Estimated.

Propylene glycol:

Biodegradability : aerobic
Result: Readily biodegradable.
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent
Remarks: 10-day Window: Pass

Biodegradation: 96 %
Exposure time: 64 d
Method: OECD Test Guideline 306 or Equivalent
Remarks: 10-day Window: Not applicable

Biochemical Oxygen Demand (BOD) : 69.000 %
Incubation time: 5 d

70.000 %
Incubation time: 10 d

86.000 %
Incubation time: 20 d

Chemical Oxygen Demand (COD) : 1.53 kg/kg

ThOD : 1.68 kg/kg

Photodegradation : Rate constant: 1.28E-11 cm³/s
Method: Estimated.

mesitylene:

Biodegradability : Result: Not biodegradable
Remarks: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable;

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however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301C or Equivalent
Remarks: 10-day Window: Not applicable

Biodegradation: 50 %
Exposure time: 4.4 d
Method: Calculated.
Remarks: 10-day Window: Not applicable

Biochemical Oxygen Demand (BOD) : 3.1 %
Incubation time: 5 d

ThOD : 3.19 kg/kg

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals
Concentration: 1,500,000 1/cm³
Rate constant: 3.51E-11 cm³/s
Method: Estimated.

cumene:

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

Biodegradation: 70 %
Exposure time: 20 d
Method: OECD Test Guideline 301D or Equivalent
Remarks: 10-day Window: Pass

Biochemical Oxygen Demand (BOD) : 40%
Incubation time: 5 d

62%
Incubation time: 10 d

70%
Incubation time: 20 d

ThOD : 3.20 kg/kg
Method: Estimated.

Photodegradation : Test Type: Half-life (indirect photolysis)
Sensitiser: OH radicals
Concentration: 1,500,000 1/cm³
Rate constant: 6.90E-12 cm³/s
Method: Estimated.

Bioaccumulative potential

Components:

florasulam (ISO):

Bioaccumulation : Species: Fish

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Partition coefficient: n-octanol/water : Bioconcentration factor (BCF): 0.8
Exposure time: 28 d
Temperature: 13 °C
Method: Measured
log Pow: -1.22
pH: 7.0
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

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).

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Partition coefficient: n-octanol/water : Remarks: For the major component(s):
Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
For the minor component(s):
Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

1,2,4-trimethylbenzene:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 33 - 275
Exposure time: 56 d
Concentration: 0.2 mg/l
Method: Measured
Partition coefficient: n-octanol/water : log Pow: 3.63
Method: Measured
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Propylene glycol:

Bioaccumulation : Bioconcentration factor (BCF): 0.09
Method: Estimated.
Partition coefficient: n-octanol/water : log Pow: -1.07
Method: Measured
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

mesitylene:

Bioaccumulation : Species: Pimephales promelas (fathead minnow)
Bioconcentration factor (BCF): 161
Method: Measured
Partition coefficient: n-octanol/water : log Pow: 3.42
Method: Measured
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

cumene:

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Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 35.5 Method: Measured
Partition coefficient: n-octanol/water	:	log Pow: 3.4 - 3.7 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: florasulam (ISO): Distribution among environmental compartments	:	Koc: 4 - 54 Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).
Stability in soil fluroxypyr-meptyl (ISO): Distribution among environmental compartments	:	Dissipation time: 0.7 - 4.5 d Koc: 6200 - 43000 Remarks: Expected to be relatively immobile in soil (Koc > 5000).
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified: Distribution among environmental compartments	:	Remarks: For the major component(s): Potential for mobility in soil is low (Koc between 500 and 2000).
1,2,4-trimethylbenzene: Distribution among environmental compartments	:	Koc: 720 Method: Estimated. Remarks: Potential for mobility in soil is low (Koc between 500 and 2000).
Propylene glycol: Distribution among environmental compartments	:	Koc: < 1 Method: Estimated. Remarks: 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. Potential for mobility in soil is very high (Koc between 0 and 50).
mesitylene: Distribution among environmental compartments	:	Koc: 741.65 Method: Estimated. Remarks: Potential for mobility in soil is low (Koc between 500 and 2000).
cumene: Distribution among environmental compartments	:	Koc: 800 - 2800 Method: Estimated. Remarks: Potential for mobility in soil is low (Koc between 500 and 2000).
Balance: Distribution among environmental compartments	:	Remarks: No relevant data found.

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Other adverse effects

Components:

florasulam (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.

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.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

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.

1,2,4-trimethylbenzene:

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.

Propylene glycol:

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.

mesitylene:

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.

cumene:

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.

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.

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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 1993
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(Solvent naphtha (petroleum), light aromatic, 1,2,4-Trime-thylbenzene)
Class : 3
Packing group : III
Labels : 3
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 1993
Proper shipping name : Flammable liquid, n.o.s.
(Solvent naphtha (petroleum), light aromatic, 1,2,4-Trime-thylbenzene)
Class : 3
Packing group : III
Labels : Flammable Liquids
Packing instruction (cargo aircraft) : 366
Packing instruction (passen-ger aircraft) : 355

IMDG-Code

UN number : UN 1993
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(Solvent naphtha (petroleum), light aromatic, 1,2,4-Trime-thylbenzene, Florasulam, Fluroxypyr 1-methylheptyl ester)
Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : yes(Florasulam, 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

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TDG

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Solvent naphtha (petroleum), light aromatic, 1,2,4-Trime- thylbenzene)
Class	:	3
Packing group	:	III
Labels	:	3
ERG Code	:	128
Marine pollutant	:	yes(Florasulam, Fluroxypyr 1-methylheptyl ester)

Further information

EXEMPTED PER TDG 1.33 FOR ROAD OR RAIL SHIPMENTS 450L OR LESS., 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 : 33440

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

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	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL

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CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
Dow IHG	:	Dow Industrial Hygiene Guideline
ACGIH / TWA	:	8-hour, time-weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA BC OEL / STEL	:	short-term exposure limit
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV	:	Time-weighted average exposure value
Dow IHG / TWA	:	Time Weighted Average (TWA):
Dow IHG / STEL	:	Short term exposure limit
Dow IHG / TWA	:	Time weighted average

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	:	05/16/2024
Date format	:	mm/dd/yyyy

Product code: GF-2257

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.

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