SAFETY DATA SHEET
according to the Hazardous Products Regulations

Fontelis

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	01/24/2025	800080006243	Date of first issue: 01/24/2025

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 : Fontelis
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 : Fungicide

Restrictions on use : Do not use product for anything outside of the above specified uses.

SECTION 2. HAZARDS IDENTIFICATION

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Penthiopyrad	Penthiopyrad	183675-82-3	20.41
White mineral oil (petroleum)	White mineral oil (petroleum)	8042-47-5	>= 30 - < 60 *
Propanediol	Propanediol	57-55-6	>= 3 - < 7 *
Ammonium Salt of Polyarylphenyl Ether Sulphate	Ammonium Salt of Polyarylphenyl Ether Sulphate	119432-41-6	>= 3 - < 7 *
Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt	Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt	68425-94-5	>= 0.5 - < 1.5 *
Balance	Balance	Not Assigned	> 1

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

SECTION 4. FIRST AID MEASURES

General advice	:	Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, call toll free 1-888-226-8832. See Label for Additional Precautions and Directions for Use.
If inhaled	:	Move to fresh air. Artificial respiration and/or oxygen may be necessary. Call a poison control center or doctor for treatment advice.
In case of skin contact	:	Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
In case of eye contact	:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No information available.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Exposure to combustion products may be a hazard to health. Do not allow run-off from fire fighting to enter drains or water courses.
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. Nitrogen oxides (NOx) Carbon oxides
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.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	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

Advice on safe handling	:	Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice. Smoking, eating and drinking should be prohibited in the application area. Take care to prevent spills, waste and minimize release to the environment. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
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	:	Strong oxidizing agents
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
White mineral oil (petroleum)	8042-47-5	TWA (Mist)	5 mg/m3	CA AB OEL
		STEL (Mist)	10 mg/m3	CA AB OEL
		TWA (Mist)	1 mg/m3	CA BC OEL
		TWAEV (Mist - Inhalable dust)	5 mg/m3	CA QC OEL
		TWA (Inhalable particulate matter)	5 mg/m3	ACGIH
Propanediol	57-55-6	TWA (Vapour and aerosols)	50 ppm 155 mg/m3	CA ON OEL
		TWA (aerosol)	10 mg/m3	CA ON OEL

Engineering measures : Ensure adequate ventilation, especially in confined areas.

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. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). 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 safety glasses (with side shields).

Skin and body protection : Mixers, loaders, applicators and other handlers must wear:
Long sleeved shirt and long pants
Shoes plus socks

Protective measures : Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.
Do not apply this product in a way that will contact workers or other persons, either directly or through drift.

Hygiene measures	:	Only protected handlers may be in the area during application. Use this product in accordance with its label. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	off-white
Odour	:	slight, ester-like
Odour Threshold	:	not determined
pH	:	6.66 Concentration: 10 g/L
Melting point/ range	:	Not applicable
Freezing point		Not determined
Boiling point/boiling range	:	No data available
Flash point	:	> 105 °C Method: closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Does not sustain combustion.
Self-ignition	:	ca. 385 °C
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	:	0.9789
Density	:	0.98 g/cm3

Solubility(ies)
Water solubility : dispersible

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : 385 °C

Viscosity
Viscosity, dynamic : 770.7 mPa,s
30 rpm

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Particle characteristics
Particle size : Not applicable

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.

Conditions to avoid : None known.

Incompatible materials : Strong acids
Strong bases

Hazardous decomposition products : Decomposition products depend upon temperature, air supply and the presence of other materials.
Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): > 5,000 mg/kg
Method: OECD Test Guideline 425
Symptoms: No deaths occurred at this concentration.
Remarks: Information source: Internal study report

Acute inhalation toxicity : LC50 (Rat, male and female): > 3.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Information source: Internal study report

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

Components:

Penthiopyrad:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 423
Symptoms: No deaths occurred at this concentration.

Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.69 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

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

White mineral oil (petroleum):

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

Acute inhalation toxicity : LC50 (Rat, male and female): > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
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

Propanediol:

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

Ammonium Salt of Polyarylphenyl Ether Sulphate:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Acute oral toxicity : LD50 (Rat): > 4,500 mg/kg

Skin corrosion/irritation

Product:

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

Components:
Penthiopyrad:

Species	:	Rabbit
Exposure time	:	72 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Propanediol:

Species	:	Rabbit
Result	:	No skin irritation

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Species	:	Rabbit
Result	:	No skin irritation

Serious eye damage/eye irritation
Product:

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

Components:
Penthiopyrad:

Species	:	Rabbit
Result	:	No eye irritation
Exposure time	:	72 h
Method	:	OECD Test Guideline 405

Propanediol:

Species	:	Rabbit
Result	:	No eye irritation

Ammonium Salt of Polyarylphenyl Ether Sulphate:

Result	:	Corrosive

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Species	:	Rabbit
Result	:	Eye irritation

Respiratory or skin sensitisation
Product:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
Remarks	:	Information source: Internal study report

Components:
Penthiopyrad:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.

White mineral oil (petroleum):

Species	:	Guinea pig

Result : Does not cause skin sensitisation.

Propanediol:
Species : human
Result : Does not cause skin sensitisation.

Germ cell mutagenicity
Components:
Penthiopyrad:
Germ cell mutagenicity - Assessment : In vivo tests did not show mutagenic effects, In vitro genetic toxicity studies were negative.

White mineral oil (petroleum):
Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative.
Propanediol:
Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

Ammonium Salt of Polyarylphenyl Ether Sulphate:
Germ cell mutagenicity - Assessment : In vitro genetic toxicity studies were negative.
Carcinogenicity
Components:
Penthiopyrad:
Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.
White mineral oil (petroleum):
Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.
Propanediol:
Carcinogenicity - Assessment : Did not cause cancer in laboratory animals.
Reproductive toxicity
Components:
Penthiopyrad:
Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.
Did not cause birth defects or any other fetal effects in laboratory animals.
White mineral oil (petroleum):
Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.
Did not cause birth defects in laboratory animals.

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

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

White mineral oil (petroleum):

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

Propanediol:

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

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

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

STOT - repeated exposure

Product:

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

Repeated dose toxicity

Components:

Penthiopyrad:

Species	:	multiple species
Application Route	:	Oral
Method	:	OECD Test Guideline 407
Remarks	:	In animals, effects have been reported on the following organs: Reduced body weight gain Liver effects Thyroid effects Spleen effects Gallbladder effects Liver enlargement immune system effects altered blood chemistry altered hematology Organ weight changes Decreased spleen weight Increased liver weight

White mineral oil (petroleum):

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

Propanediol:

Remarks	:	In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Ammonium Salt of Polyarylphenyl Ether Sulphate:

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:

Penthiopyrad:

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

White mineral oil (petroleum):

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

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

Ammonium Salt of Polyarylphenyl Ether Sulphate:
Based on physical properties, not likely to be an aspiration hazard.

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:
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)): 2.2 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: yes Remarks: Information source: Internal study report
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.29 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes Remarks: Information source: Internal study report
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 10 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 GLP: yes Remarks: Information source: Internal study report
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.075 mg/l Exposure time: 21 d Test Type: Semi-Static-Life-Cycle Method: OECD Test Guideline 211 GLP: yes
Toxicity to terrestrial organisms	:	oral LD50 (Apis mellifera (bees)): 517.42 µg/bee Exposure time: 2 d Method: OECD Test Guideline 213 GLP: yes contact LD50 (Apis mellifera (bees)): 482.63 µg/bee Exposure time: 2 d Method: OECD Test Guideline 214 GLP: yes

Components:

Penthiopyrad:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): 0.572 mg/l Exposure time: 96 h Test Type: flow-through Method: OECD Test Guideline 203 LC50 (Pimephales promelas (fathead minnow)): 0.290 mg/l

Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203

LC50 (Oncorhynchus mykiss (rainbow trout)): 0.386 mg/l
Exposure time: 96 h

NOEC (Oncorhynchus mykiss (rainbow trout)): 0.146 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1.375 mg/l
Exposure time: 48 h
Test Type: Static
Method: OECD Test Guideline 202

LC50 (Americamysis bahia (mysid shrimp)): > 1.7 mg/l
Exposure time: 96 h
Test Type: Static
Method: US EPA Test Guideline OPPTS 850.1035

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 4.0 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.45 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201

NOEC (Lemna gibba (gibbous duckweed)): 1.205 mg/l
Exposure time: 7 d
Test Type: Static
Method: OECD Test Guideline 201

EbC50 (Pseudokirchneriella subcapitata (green algae)): 2.21 mg/l
Exposure time: 72 h
Test Type: Static
Method: OECD Test Guideline 201

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.5 mg/l
Exposure time: 96 h
Test Type: Static
Method: OECD Test Guideline 201

ErC50 (Lemna gibba (duckweed)): > 1.2 mg/l
Exposure time: 7 d
Test Type: Static
Method: OECD Test Guideline 221

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 0.051 mg/l Exposure time: 33 d Test Type: Early Life-Stage Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.47 mg/l Exposure time: 21 d Test Type: flow-through test Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	:	1
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207
Toxicity to terrestrial organisms	:	LD50 (Colinus virginianus (Bobwhite quail)): > 2,250 mg/kg Method: US EPA Test Guideline OPPTS 850.2100 dietary LC50 (Colinus virginianus (Bobwhite quail)): > 1,913 mg/kg Exposure time: 5 d Method: OECD Test Guideline 205 oral LD50 (Apis mellifera (bees)): > 500 µg/b Exposure time: 48 d Method: OECD Test Guideline 213 contact LD50 (Apis mellifera (bees)): > 500 µg/b Exposure time: 48 d Method: OECD Test Guideline 214

White mineral oil (petroleum):

Toxicity to fish	:	Remarks: Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested). LC50 (Lepomis macrochirus (Bluegill sunfish)): > 10,000 mg/l Exposure time: 96 h Test Type: static test LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 LL50 (Leuciscus idus (Golden orfe)): > 10,000 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	LL50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202

Ecotoxicology Assessment

Acute aquatic toxicity	:	This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Propanediol:

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

Ammonium Salt of Polyarylphenyl Ether Sulphate:

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 (Oncorhynchus mykiss (rainbow trout)): 33 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 24 mg/l
Exposure time: 48 h

Persistence and degradability
Components:
Penthiopyrad:

Biodegradability : Result: Not biodegradable
Method: OECD Test Guideline 301F or Equivalent

White mineral oil (petroleum):

Biodegradability : aerobic
Concentration: 20 mg/l
Result: Not biodegradable
Biodegradation: 0 - 24 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent
Remarks: 10-day Window: Fail

ThOD : 3.50 kg/kg

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

Rate constant: 8.28E-12 cm3/s
Method: Estimated.

Propanediol:

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

Result: Readily biodegradable.
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.

Ammonium Salt of Polyarylphenyl Ether Sulphate:

Biodegradability : Remarks: Based on analogy.
Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.
Material is ultimately biodegradable under anaerobic conditions, according to the relevant OECD test(s).

Bioaccumulative potential

Components:

Penthiopyrad:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): 155 - 186
Exposure time: 14 d
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 3.2 (24 °C)

White mineral oil (petroleum):

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 1,900

Partition coefficient: n-octanol/water : log Pow: 5.18
Method: Measured

Remarks: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Propanediol:

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).

Ammonium Salt of Polyarylphenyl Ether Sulphate:

Partition coefficient: n-octanol/water : Remarks: No data available for this product.

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

Partition coefficient: n-octanol/water : Remarks: No data available for this product.

Balance:

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

Mobility in soil

Product:

Distribution among environmental compartments : Remarks: Under actual use conditions the product has a low potential of mobility in soil.

Components:

Penthiopyrad:

Distribution among environmental compartments : Remarks: Under actual use conditions the product has a low potential of mobility in soil.

White mineral oil (petroleum):

Distribution among environmental compartments : Koc: 510
Method: Estimated.
Remarks: Potential for mobility in soil is low (Koc between 500 and 2000).

Propanediol:

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).

Ammonium Salt of Polyarylphenyl Ether Sulphate:

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

Balance:

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

Other adverse effects

Components:

Penthiopyrad:

Results of PBT and vPvB assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).
Substance is not very persistent and very bioaccumulative (vPvB).

White mineral oil (petroleum):

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.

Propanediol:

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.

Ammonium Salt of Polyarylphenyl Ether Sulphate:

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.

Alkylnaphthalenesulfonic acid, polymer with formaldehyde, sodium salt:

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.

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. (Penthiopyrad)
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. (Penthiopyrad)
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. (Penthiopyrad)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes(Penthiopyrad)
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. (Penthiopyrad)
Class	:	9
Packing group	:	III
Labels	:	9
ERG Code	:	171
Marine pollutant	:	yes(Penthiopyrad)

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 : 30331

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.

POTENTIAL SKIN SENSITIZER

Toxic to 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
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
ACGIH / TWA	:	8-hour, time-weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit
CA AB OEL / STEL	:	15-minute occupational exposure limit
CA BC OEL / TWA	:	8-hour time weighted average
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV	:	Time-weighted average exposure value

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.

Revision Date	:	01/24/2025
Date format	:	mm/dd/yyyy

Product code: GF-4207

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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