FERVESTER™ 700

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifiers

Product name: Fervester™ 700

PMRA Registration No.: 36149

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

Crop protection product, herbicide

Details of the supplier of the safety data sheet

Company: Avesta CropScience Inc.
Address: Suite 2900, Bentall 5
550 Burrard Street
Vancouver, BC, V6C 0A3

Telephone: 1-720-625-2797

Website: https://avestacrop.com

Emergency telephone number: 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

Acute toxicity - oral	Category 4
Skin sensitization	Category 1
Carcinogenicity	Category 2

Signal word: Warning
Hazard statements:
Harmful if swallowed
May cause an allergic skin reaction
Suspected of causing cancer

Precautionary statements - prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves, protective clothing, eye protection and face protection.
Wash face, hands and any exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing vapors or mists.
Contaminated work clothing should not be taken from the workplace.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautionary statements - response
If exposed or concerned: Get medical advice/attention.
Specific treatment (see supplemental first aid instructions on the label).
If on skin: Wash with plenty of soap and water.
If skin irritation or rash occurs, get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If swallowed: Call a poison control centre or doctor if you feel unwell.
Rinse mouth.
In case of fire: Use dry chemical, CO2, water spray or standard foam to extinguish.

Precautionary statements - storage
Store locked-up.
Store in a well-ventilated place.

Precautionary statements - disposal
Dispose of contents and container in accordance with local, regional, national and international regulations as applicable.

Other information
May be harmful in contact with skin. Very toxic to aquatic life with long-lasting effects.

Unknown acute toxicity
8.7% of the mixture consists of ingredient(s) of unknown acute oral toxicity.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name: 2,4-D 2-Ethylhexyl ester
CAS No.: 1928-43-4
Weight-%: 90-99%

Chemical name: Naphthalene
CAS No.: 91-20-3
Weight-%: 0.1-0.5%

SECTION 4: FIRST-AID MEASURES

General advice: Show this safety data sheet to the doctor in attendance. If exposed or concerned, get medical advice/attention.
If inhaled: Remove to fresh air.
If on skin: Wash off immediately with soap and plenty of water while removing all contaminated clothing and shoes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions, see a physician.
If in eyes: Rinse immediately with plenty of water for at least 15 minutes, including under the eyelids. Keep eyes wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing.
If swallowed: Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider: Remove all sources of ignition. Ensure that medical personnel are aware of the materials involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).
Symptoms: Itching, rashes, hives.
Effects of exposure: Suspected of causing cancer.
Note to physicians: May cause sensitization in susceptible persons. Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Suitable extinguishing media: Dry chemical, CO2, water spray or standard foam.

Unsuitable extinguishing media for safety reasons: None known based on information supplied.

Special hazards arising from the substance or mixture: Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Product is or contains a sensitizer. May cause sensitization by skin contact.

Explosion data
Sensitivity to mechanical impact: None.
Sensitivity to static discharge: Yes.

Special protective equipment and precautions for firefighters: Firefighters should wear self-contained breathing apparatus and full protective firefighting equipment. Use personal protection equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid breathing vapors or mists.

Methods for containment: Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up: Take precautionary measures against static discharges. Dike the area. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: Use personal protective equipment. Do not breathe vapour or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

General hygiene considerations: Do not eat, drink or smoke when using this product. Contaminated work clothing should not be taken from the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls:
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection: Tight sealing safety goggles.

Hand protection: Wear suitable gloves.

Skin and body protection: Wear suitable protective clothing. Antistatic boots. Chemical resistant apron. Wear fire/flame resistant/retardant clothing.

Respiratory protection: Use appropriate respiratory protection. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Form: Transparent liquid

Odour: Ester

Odour threshold: No data available

Colour: Light brown

pH value (as aqueous solution): 3.56

Liquid density: 1.15 g/mL @20°C

Melting point: Approx. -8°C (information applies to the solvent.)

Boiling point: No data available

Flash point: 80.4°C

Flammability: No data available

Dynamic viscosity: 18.4 - 18.8 mPa·s @40°C

SECTION 10: STABILITY AND REACTIVITY

Reactivity: None under normal use conditions.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: None under normal processing.
Conditions to avoid: Heat, flames and sparks.
Incompatible materials: Acids, oxidizing agents.
Hazardous decomposition products: Hydrogen chloride, nitrogen oxides (NOx), carbon monoxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Inhalation: Specific test data for the substance or mixture is not available.
Eye contact: Specific test data for the substance or mixture is not available. Contact with eyes may cause irritation.
Skin contact: Specific test data for the substance or mixture is not available. May cause sensitization by skin contact (based on components). Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May be harmful in contact with skin.
Ingestion: Specific test data for the substance or mixture is not available. Harmful if swallowed (based on components).
Symptoms: Itching, rashes, hives.
Acute toxicity: Harmful if swallowed.
Numerical measures of toxicity
The following ATE values have been calculated for the mixture:
ATEmix (oral) 552.90 mg/kg
ATEmix (dermal) > 2,000 mg/kg
Unknown acute toxicity
8.7% of the mixture consists of ingredient(s) of unknown acute oral toxicity

Chemical name: 2,4-D 2-Ethylhexyl ester
1928-43-4
Oral LD50: = 300 mg/kg (rat)
Dermal LD50: > 2000 mg/kg (rabbit)
Inhalation LC50: > 5.4 mg/L (rat) 4h

Chemical name: Naphthalene
91-20-3
Oral LD50: = 1110 mg/kg (rat)
Dermal LD50: = 1120 mg/kg (rabbit)
Inhalation LC50: > 0.4 mg/L (rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation: No information available.

Serious eye damage/eye irritation: No information available.

Respiratory or skin sensitization: May cause an allergic skin reaction.

Germ cell mutagenicity: No information available.

Carcinogenicity: Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

Chemical name: 2,4-D 2-Ethylhexyl ester
1928-43-4
ACGIH: Not listed
IARC: Group 2B - Possibly carcinogenic to humans
NTP: Not listed
OSHA: Present

Chemical name: Naphthalene
91-20-3
ACGIH: A3 - Confirmed animal carcinogen (with unknown relevance to humans)
IARC: Group 2B - Possibly carcinogenic to humans
NTP: Reasonably anticipated to be a human carcinogen
OSHA: Present

Reproductive toxicity: No information available.
STOT - single exposure: No information available.
STOT - repeated exposure: No information available.
Aspiration hazard: No information available.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Very toxic to aquatic life with long lasting effects.

Aquatic ecotoxicity

Chemical name: 2,4-D 2-Ethylhexyl ester
Fish: LC50: 6 - 8.7mg/L (96h, Oncorhynchus mykiss)
LC50: =7.8mg/L (96h, Oncorhynchus mykiss)
LC50: <11.5mg/L (96h, Lepomis macrochirus)
Crustacea: Not applicable
Algae/aquatic plants: Not applicable
Toxicity to microorganisms: Not applicable

Chemical name: Naphthalene
Fish: LC50: 5.74 - 6.44mg/L (96h, Pimephales promelas)
LC50: =1.6mg/L (96h, Oncorhynchus mykiss)
LC50: 0.91 - 2.82mg/L (96h, Oncorhynchus mykiss)
LC50: =1.99mg/L (96h, Pimephales promelas)
LC50: =31.0265mg/L (96h, Lepomis macrochirus)
Crustacea: LC50: =2.16mg/L (48h, Daphnia magna)
EC50: =1.96mg/L (48h, Daphnia magna)
EC50: 1.09 - 3.4mg/L (48h, Daphnia magna)
Algae/aquatic plants: Not applicable
Toxicity to microorganisms: Not applicable

Bioaccumulative potential
Chemical name: 2,4-D 2-Ethylhexyl ester
Partition coefficient: 5.78
Bioconcentration factor (BCF): Not applicable
Trophic magnification factor (TMF): Not applicable

Chemical name: Naphthalene
Partition coefficient: 3.4
Bioconcentration factor (BCF): 168
Trophic magnification factor (TMF): Not applicable

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal considerations

Waste disposal of substance: Dispose of according to local regulations. Dispose of waste in accordance with environmental legislation.

Container disposal: Do not reuse empty containers.

SECTION 14: TRANSPORTATION INFORMATION

TDG (Canada – Ground Transport): Not regulated / Non-hazardous Shipment by ground (highway or rail) is not regulated as a dangerous good under the Canadian Transportation of Dangerous Goods Regulations (TDG), provided the packaging meets applicable TDG requirements. No marks, labels, placards, or shipping documents are required in accordance with TDG subsection 1.45.1. TDG dangerous goods documentation or placarding may be used voluntarily to facilitate multi-modal transport involving ICAO (IATA) or IMO (IMDG). When transported in quantities or modes not exempt under TDG, the product is classified as UN3082.

IATA (Air Transport): Regulated
Not regulated in quantities less than 5 L per individual container. See IATA Special Provision A197.
UN number: UN3082
UN proper shipping name: Environmentally hazardous substance, liquid, n.o.s.
Technical name: 2,4-D 2-Ethylhexyl ester
Transport hazard class: 9
Packing group: III
Environmental hazards: Yes
Special Provisions: A97, A158, A197
ERG Code: 9L
Description: UN3082, Environmentally hazardous substance, liquid, n.o.s. (2,4-D 2-Ethylhexyl ester), 9, PG III

IMDG (Marine Transport): Regulated
Not regulated in quantities less than 5 L per individual container. See IMDG 2.10.2.7.
UN number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name: 2,4-D 2-Ethylhexyl ester
Transport hazard class: 9
Packing group: III
Marine pollutant: Yes
Special Provisions: 274, 335, 969
EmS-No.: F-A, S-F
Description: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D 2-Ethylhexyl ester), 9, PG III, marine pollutant

SECTION 15: REGULATORY INFORMATION

International Regulations
The Montreal Protocol on Substances that Deplete the Ozone Layer: Not applicable
The Stockholm Convention on Persistent Organic Pollutants: Not applicable
The Rotterdam Convention: Not applicable

International Inventories
Contact the supplier for inventory compliance status.

Canadian Regulations
This SDS complies with the Hazardous Products Regulations (HPR) and WHMIS 2015 requirements under the Hazardous Products Act.

SECTION 16: OTHER INFORMATION

This SDS summarizes our current understanding of the health and safety hazards associated with the product and provides guidance on safe handling and use in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace, including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact the company. This Safety Data Sheet has been prepared in accordance with the Canadian Hazardous Products Act (HPA) and the Hazardous Products Regulations (HPR) and follows the requirements of WHMIS 2015.