



SAFETY DATA SHEET

ESFC – DEFENDER – Plant Protector

I. IDENTIFICATION

GHS Product Identifier:	ESFC – Defender – Plant Protector
Other means of identification:	Not Available
Product Type:	Liquid
Application:	Plant Protector
IHC:	3824.90.91.50
Manufacturer Details:	Earth Smart Solutions 10, 5081 Hwy 549 W DE Winton, AB TOL OXO
Toll Free:	1-866-444-7174
Fax:	403-264-9606
Email:	info@earth-smart-solutions.com

II. HAZARD IDENTIFICATION

Classification of the substance or mixture: Not classified.

GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms: Not applicable

Signal word: No signal word

Hazard statements: No known significant effects or critical

Precautionary statements

Prevention: Not applicable

Response: Not applicable

Storage: Not applicable

Disposal: Not applicable

III. COMPOSITION

Chemical characterization: Mixtures

Other means of identification: Not available

Additional information: There are not ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in section 8.

IV. FIRST AID MEASURES

Eye Contact: May cause irritation. Contact lenses should not be worn when working with chemicals.

First Aid: Immediately flush eyes with water, continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Recommended Precautions: Wear appropriate safety goggles and limit exposure.

Skin Contact: Exposure may cause irritation if a person has a history of dermal allergic reaction.

First Aid: Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse.

Recommended Precautions: Limit exposure.

Ingestion: Considered non-toxic but may lead to nausea or diarrhea.

First Aid: Wash out mouth with water. If material has been swallowed, give two glasses of water to dilute the product, DO NOT induce vomiting. Contact physician immediately.

Recommended Precautions: Store in safe place. Wear a protective mask.

Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat, and lungs.

First Aid: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie, belt, or waistband.

Recommended Precautions: Avoid creating dust in non-ventilated areas.

General Precautions: Wash hands after handling free product.



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V. FIRE – FIGHTING MEASURES

Extinguishing Media: Water, foam, CO₂, or dry chemicals may be used. Fight larger fires with water spray or alcohol resistant foam.

Unsuitable Extinguishing Media: None known.

Special hazard arising from the substance or mixture: In a fire or if heated, a pressure increase will occur, and the container may burst.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

VI. ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up

Small spills: Dilute with water and mop up or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to authority requirements.

Large spills: Dilute with water and mop up or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to authority requirements. Check disposal regulations when disposing of large quantities.

Reference to other sections:

- See section 7 for information on safe handling.
- See section 8 for information on personal protection equipment.
- See section 13 for disposal information.

VII. STORAGE & HANDLING

Storage: Store in dry, cool, and well-ventilated area, and out of direct sunlight. Storage temperature should be between 41°F and 104°F (5°C and 40°C). Do not freeze.

Handling: No special handling required.

Advice on General occupational hygiene: Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed.

VIII. EXPOSURE CONTROL

Occupational exposure limits: None

Appropriate engineering controls: Good general ventilation should be enough to control worker exposure to airborne contaminants.

Individual protection measures

Hand protection: Chemical-resistant, Impervious gloves should be worn always when handling chemical products.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risk involved.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Respiratory protection: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification.

IX. PHYSICAL / CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Brown
Odor:	Neutral
Odor threshold:	Not determined
PH:	3.68 Concentrated State
Melting point:	Not determined
Boiling point:	85°C
Flash Point:	None
Evaporation rate:	10
Flammability (solid, gas):	Not applicable
Lower and upper explosive:	Not applicable
Vapor pressure:	Not applicable
Vapor density:	Not applicable
Relative density:	Not applicable



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Solubility in water:	99.9%
Partition coefficient: n-octanol/water:	Not determined
Auto-ignition temperature:	Not applicable
Decomposition temperature:	Not determined
Viscosity:	Not determined
Flow time (ISO 2431):	Not determined

X. STABILITY & REACTIVITY INFORMATION

Chemical stability: Stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

Incompatible materials: None.

Hazardous decompositions products: Under normal conditions of storage and use, hazardous decompositions products should not be produced.

XI. TOXICOLOGICAL INFORMATION

Acute toxicity: Not available

Primary irritant effect

on the skin: No irritating effect.

on the eye: No irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information

Carcinogenicity: Not available

Reproductive toxicity: Not available

Teratogenicity: Not available

Specific target organ toxicity (single exposure): Not available

Specific target organ toxicity (repeated exposure): Not available

Aspiration hazard: Not available

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal
Routes of entry not anticipated: Inhalation.

Symptoms related to the physical, chemical and toxicological characteristics.

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effect and chronic effects from short- and long-term exposure

Short term exposure: Not available

Long term exposure: Not available

Potential chronic health effects: Not available

XII. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity: No further relevant information available

Persistence and degradability: No further relevant information available

Behavior in environmental systems

Bio accumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.



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Other adverse effects: No further relevant information available

XIII. DISPOSAL INFORMATION

Disposal Methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should always comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirement of all authorities with jurisdiction. Waste packaging should be recycled.

XIV. TRANSPORT CONSIDERATIONS

	TDG Classification	DOT Classification	ADR/RID	IMDG	IATA
UN Number	Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
Un proper shipping name	-	-	-	-	-
Transport Hazard Class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental Hazards	No	No	No	No	No

Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

XV. REGULATORY INFORMATION

Canadian lists

Canadian NPRI: None of the components are listed.

CEPA Toxic substance: None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II, & III Chemicals: Not listed.

Montreal Protocol (Annexes A, B, C, E): Not listed.

Stockholm Convention on Persistent Organic Pollutants: Not listed.

Rotterdam Convention on Prior Informed Consent (PIC): Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals: Not listed.

Fully complies with EPA Toxic Substance Control Act (TSCA) and the rules, orders and regulations promulgated there under including:

- Sections 4, 5, 6 & 7; Title 40 Chapter 1, 707.20 thru 707.75.
- 40 CFR Sections 704.3, 710.2(e) and 720.3(c); and
- Sections 5 and 13, reference 42FR64583
- Does not contain marine pollutants as defined in 49 CFR 171.8.

XVI. OTHER INFORMATION

Information sources: Suppliers SDSs, DSL, TSCA, EPA, IARC, NTP, OSHA.

Prepared By: SDS Coordinator

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Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bio accumulative and Toxic

vPvB: very Persistent and very Bio accumulative