

ECO-SHIELD™

SAFETY DATA SHEET

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	ECO-SHIELD™
General or Generic ID:	De-icing/Anti-icing fluid, SAE Type IV.
Manufacturer's Name (same as Supplier):	Inland Technologies International Ltd. P.O. Box 253, 14 Queen Street Truro, Nova Scotia B2N 5C1 Canada Phone: (877) 633-5263
Recommended Use:	This product meets the specification of AMS 1428, Fluid, Aircraft De-icing/Anti-icing, Non-Newtonian (Pseudoplastic), SAE Types II, III, and IV.
Technical Contact:	amcleod@inlandgroup.ca
Marketing Contact:	bpace@inlandgroup.ca
Restricted Use:	Not known.
Emergency Telephone:	PERS: (800) 633-8253

SECTION 2. HAZARDS IDENTIFICATION

<u>Hazard Classification:</u>	Not hazardous according to 29 CFR 1910.1200.
<u>Label Elements:</u>	Using the Toxicity Data listed in section 11 and 12, the product is labelled as follows.
Hazard Symbol:	None
Signal Word:	None
Hazard Statement:	None
Precautionary Statements:	None
Other Hazards Which Do Not Result in GHS Classification:	None
Hazard Summary:	This material is not considered hazardous according to OSHA, but best hygienic practices should be used to prevent skin and eye contact. Wear personal protective equipment (safety glasses/goggles; nitrile gloves, and chemical apron) to protect your skin and eyes.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Identity:</u>	<u>Common Name and Synonyms:</u>	<u>CAS Number:</u>	<u>Content in Percent (%):</u>
Propylene Glycol	De-icing/Anti-icing fluid, SAE Type IV	57-55-6	~50%
Deionized Water	H ₂ O, Water	7732-18-5	~38%
Proprietary Diol Slurry	Not Applicable.	None	~11.5%
Other Non-Hazardous Materials	Not Applicable.	Proprietary	<1%

SECTION 4. FIRST AID MEASURES

General Information:	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Ingestion:	If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.
Inhalation:	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Skin Contact:	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser. Seek medical advice if irritation develops.
Eye Contact:	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Most Important Symptoms/Effects, Acute and Delayed:

Eye:	May be slightly irritating to eyes.
Skin:	May be slightly irritating to skin (may include redness, drying, and cracking of skin).
Inhalation:	Not expected to be an inhalation hazard under normal conditions.

Indication of Immediate Medical Attention and Special Treatment Needed:

Treatment:	Treat symptomatically. Symptoms may be delayed.
-------------------	---

SECTION 5. FIRE FIGHTING MEASURES

General Fire Hazards:	Non-flammable by OSHA criteria.
Extinguishing Media:	Dry chemical, carbon dioxide, foam, water fog or spray.
Special Hazards Arising from the Substance or Mixture:	Carbon oxides.
Special Protective Equipment and Precautions for Firefighters:	In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit). Additional advice: Cool closed containers exposed to fire with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:	Use personal protective equipment. Provide adequate ventilation. Keep away from heat and sources of ignition. Avoid contact with skin and eyes.
Methods and Material for Containment and Cleaning:	Adsorb with inert material (sand, clay). Shovel and sweep material into a suitable waste container for proper disposal.
Environmental Precautions:	Prevent release into the environment. Notify proper local, state and federal authorities as required.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling:	Avoid contact with skin and eyes. Use material in a well-ventilated area.
Conditions for Safe Storage:	Keep in a tightly closed container and stored in a cool, well-ventilated, dry area away from heat/ignition sources.
Temperature Storage Limits:	Minimum -45 °C (-50 °F) Maximum 60 °C (140 °F)
Incompatible Materials:	Strong oxidizers, strong acids and alkali metals.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:

Exposure:	No established exposure limits for this product.
Carcinogen Data:	No established chemicals at levels which require reporting for this product.

Exposure Controls/Individual Protection Measures, Such as Personal Protective Equipment:

Respiratory Protection:	If mists/aerosols could be generated above the occupational exposure limits, wear an appropriate NIOSH approved respirator. Cartridge respirators should be selected: an R95/99/100 or P95/99/100 rated high-efficiency cartridge. A supplied air respirator should be used if concentrations exceed the use of cartridge respirators.
Eye/Face Protection:	Safety glasses with side shields. If splash is possible, upgrade to goggles with faceshield.
Skin Protection:	Protective gloves (nitrile) should be worn to prevent contact with skin. If splashing is possible, wear chemical protective apron (Tychem SL or equivalent) to prevent contact with skin.
Engineering Controls:	Use in a well-ventilated area if aerosolizing is possible.
Other Work Practices:	Do not eat, smoke or drink where material is handled, processed or stored. Wash hands before eating, drinking, smoking or using toilet. Ensure that eyewash stations are accessible. Promptly remove soiled clothing and wash thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	<i>Physical State:</i> Liquid <i>Form:</i> Liquid <i>Colour:</i> Green
Odour:	No data available.
Odour Threshold:	No data available.
pH:	6.9–7.9
Melting Point/Freezing Point:	<-34 °C (<29 °F)
Initial Boiling Point and Boiling Range:	No data available.
Flash Point:	100 °C (>212 °F)
Evaporation Rate:	No data available.
Flammability (solid/gas):	No data available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Upper/Lower Limit on Flammability or Explosive Limits:	No data available.
Vapor Pressure:	No data available.
Vapor Density (AIR = 1):	No data available.
Specific Gravity (20 °C):	1.04
Solubility:	Readily soluble in water.
Partition Coefficient (n-octanol/water):	No data available.
Auto-ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Viscosity (20 °C):	No data available.
Explosive Properties:	No data available.
Oxidizing Properties:	Not corrosive to metals.

SECTION 10. STABILITY AND REACTIVITY

Reactivity:	None under normal conditions of use.
Chemical Stability:	Stable at normal temperature and pressure (NTP). Hazardous polymerization is not expected to occur.
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	No data available.
Incompatible Materials:	Incompatible with strong acids, acid chlorides/anhydrides, oxidizing agents, chloroformates and reducing agents.
Hazardous Decomposition Products:	Carbon oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects:

Acute Toxicity:

Ingredient	Oral LD₅₀ mg/kg	Skin LD₅₀ mg/kg	Inhalation Vapor LD₅₀ mg/L/4hr	Inhalation Dust/Mist LD₅₀ mg/L/4hr	Inhalation Gas LD₅₀ ppm
Propylene Glycol (57-55-6)	20,000.00, Rat - Category: NA	20,800.00, Rabbit - Category: NA	No data available.	No data available.	No data available.
Enzyme Complex (Proprietary)	No data available.	No data available.	No data available.	No data available.	No data available.

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

SECTION 11. TOXICOLOGICAL INFORMATION

Classification:

Acute Toxicity:

Hazard Description:

Oral: Not Applicable.
Dermal: Not Applicable.
Inhalation: Not Applicable.

Repeated Dose Toxicity:

Not Applicable.

Skin Corrosion/Irritation:

Not classified as corrosive/irritating to the skin based on Appendix A, 29 CFR 1910.1200.

Serious Eye Damage/Eye Irritation:

Not classified as damaging or irritating to the eye based on Appendix A, 29 CFR 1910.1200.

Respiratory or Skin Sensitization:

Not Applicable.

Carcinogenicity:

Not classified as carcinogenic based on Appendix A, 29 CFR 1910.1200.

IARC: No component of this product present at levels $\geq 0.1\%$ is identified as probable, possible or confirmed human carcinogen by IARC.

- **NTP:** No component of this product present at levels $\geq 0.1\%$ is identified as a known or anticipated carcinogen by NTP.
- **OSHA:** No component of this product present at levels $\geq 0.1\%$ is identified as a carcinogen or potential carcinogen by OSHA.
- **Other(s):** ACGIH: No component of this product present at levels $\geq 0.1\%$ is identified as a carcinogen or potential carcinogen by ACGIH.

Germ Cell Mutagenicity:

Not Applicable.

Reproductive Toxicity:

Not Applicable.

Specific Target Organ Toxicity (single exposure):

Not Applicable.

Specific Target Organ Toxicity (repeated exposure):

Not Applicable.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish:

LC₅₀, Pimephales promelas (Fathead Minnow), 96 h: 2,250 mg/L

Aquatic Invertebrates:

EC₅₀, Daphnia magna (Water Flea), 48 h, immobilization: 1,425 mg/L

Persistence and Degradability:

Biodegradation:

This product is biodegradable.

BOD and COD Ratio:

BOD:
<0.01 kg O₂/kg fluid (5 days @ 5 °C)
<0.01 kg O₂/kg fluid (28 day @ 5 °C)
0.41 kg O₂/kg fluid (5 days @ 20 °C)
0.71 kg O₂/kg fluid (28 day @ 20 °C)
COD:
0.79 kg O₂/kg fluid

Bioaccumulative Potential:

No data available.

Mobility in Soil:

No data available.

SECTION 12. ECOLOGICAL INFORMATION

Results of PBT and vPvB Assessment: No data available.
Other Adverse Effects: No data available.

SECTION 13. DISPOSAL CONSIDERATION

Waste Treatment Methods: The user should evaluate all waste and comply with applicable federal, state and local waste disposal regulations.

SECTION 14. TRANSPORT INFORMATION

Canadian Transportation of Dangerous Goods Act: Not regulated.
US DOT: Not regulated.
IMDG: Not regulated.
IATA: Not regulated.

SECTION 15. REGULATORY INFORMATION

Regulatory Overview: The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. 29 CFR 1910.1000 (OSHA Exposure Limits).

Toxic Substance Control Act (TSCA): All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification: Not Regulated.

US EPA Tier II Hazards:
Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): No
Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQS: To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous: To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals: To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 – Carcinogens (>0.0%): To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 – Developmental Toxins (>0.0%): To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 – Female Repro Toxins (>0.0%): To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 – Male Repro Toxins (>0.0%): To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

SECTION 15. REGULATORY INFORMATION

New Jersey RTK Substances (>1%): Propylene Glycol
Pennsylvania RTK Substances (>1%): Propylene Glycol

SECTION 16. OTHER INFORMATION

There has not been a specific occupational exposure limit established for this material. See Section 8 for published exposure limits of chemical components. Engineering controls, administrative procedures and personal protective equipment should be implemented to minimize employee exposure.

Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists
IARC	International Agency for Research on Cancer
LEL	Lower Explosive Limit
mg/m ³	Milligrams per Cubic Meter
N/A	Not Applicable
NTP	National Toxicology Program
°C	Degree Celsius
°F	Degree Fahrenheit
OSHA	Occupational Safety and Health Administration
PEL	OSHA Permissible Exposure Limit
ppm	Parts Per Million
STEL	Short Term Exposure Limit
TLV	ACGIH Threshold Limit Value
TWA	Time Weighted Average
UEL	Upper Explosive Limit
UN	United Nations

Issue Date: 01-28-2015
Revision Date: 07-20-2021
Version #: 1.3

END OF DOCUMENT