



Section 01 - Identification

Product Identifier	Reefer Cleaner - 100
Other Means of Identification	None
Product Use and Restrictions on Use	Surface cleaning solution.
Initial Supplier Identifier	Advance Chemicals Ltd. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
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Section 02 - Hazard Identification

GHS-Classification

Skin Corrosion/Irritation	Category 1A
Serious Eye Damage/Irritation	Category 1
STOT-Single Exposure	Category 2

Physical Hazards

Flammable Liquid	Category 3
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Danger

Hazards Statements

H314 – Causes severe skin burns and eye damage.
H371 – May cause damage to the optic nerve and central nervous system.
H226 – Flammable liquid and vapour.

Pictograms



Precautionary Statements

P405 – Store locked up.

P403 + P235 – Store in a well-ventilated place. Keep cool.

P233 – Keep container tightly closed.

P308 + P311 – IF exposed or concerned: Call a POISON CENTER or doctor/physician.

P240 – Ground/bond container and receiving equipment.

P241 – Use explosion-proof electrical, ventilating, and lighting and equipment.

P242 – Use only non-sparking tools.

P243 – Take precautionary measures against static discharge.

P370 + P378 – In case of fire: Use carbon dioxide, dry chemical powder, appropriate foam, water spray or fog for extinction.

P271 – Use only outdoors or in a well-ventilated area.

P260 – Do not breathe mist, vapours or spray.

P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P270 – Do not eat, drink or smoke when using this product.

P301 + P330 + P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P280 – Wear protective gloves, protective clothing, eye protection, and face protection.

P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P363 – Wash contaminated clothing before reuse.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 – Immediately call a POISON CENTER or doctor/physician.

P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Potassium Hydroxide	1310-58-3	0-15%	
Glycol Ether EB	111-76-2	0-15%	
Methanol	67-56-1	0-9%	
Water and/or ingredients not classified as hazardous under the Hazardous Products Regulations		Balance	

Section 04 - First Aid Measures

Inhalation	Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention.
Skin Contact / Absorption	Remove contaminated clothing. Rinse skin with lukewarm, gently flowing water and non-abrasive soap for 30 minutes. Seek immediate medical attention. Completely decontaminate clothing, shoes and leather goods before re-use or discard.
Eye Contact	Immediately flush eye(s) with lukewarm, gently flowing water for 30 minutes, while forcibly holding the eyelid(s) open to ensure complete irrigation of the eye tissue. If a contact lens is present, remove only if easy to do so. Seek immediate medical attention.
Ingestion	Never give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth with water. Do NOT induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Have victim rinse mouth again. Seek medical attention.
Additional Information	Not Available

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media	Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Water may be effective for cooling, but may not be able to cool methanol below its flash point.
Unsuitable Extinguishing Media	Not Available

Specific Hazards Arising From the Chemical Carbon monoxide, carbon dioxide and other irritating gases may form in a fire. Fumes can accumulate in confined spaces causing a toxicity hazard. Closed containers may rupture violently in a fire or when exposed to excess heat.

Special Protective Equipment and Precautions for Fire-Fighters Wear NIOSH-approved self-contained breathing apparatus and protective gear.

Further Information Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.

Environmental Precautions Prevent product from entering sewers, waterways or confined spaces.

Methods and Materials for Containment and Cleaning Up SMALL SPILLS: Clean up spill with non-reactive absorbent and place in suitable, labelled containers for proper disposal.
LARGE SPILLS: Contact fire and emergency services and supplier for advice.

Section 07 - Handling and Storage

Precautions for Safe Handling Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.

Conditions for Safe Storage Store product in a cool, dry, well-ventilated area away from incompatible materials. Keep away from open flames, sparks, heat and other sources of ignition.

Incompatibilities Strong oxidizing agents, acids and alkalis.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Methanol	ACGIH	TLV-TWA	200 ppm
	ACGIH	TLV-STEL	250 ppm
Glycol Ether EB	ACGIH	TLV-TWA	20 ppm
	OSHA	PEL-TWA	25 ppm
	OSHA	PEL-T-TWA	50 ppm
Potassium Hydroxide	ACGIH	TLV-C	2 mg/m ³
	OSHA	PEL-C	2 mg/m ³

Engineering Control(s)

Ventilation Requirements Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.

Other Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face Chemical safety goggles and/or a faceshield should be worn while product is being handled. Contact lenses should not be worn as they may contribute to severe eye injury.

Hand Protection	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Skin and Body Protection	Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.
Respiratory Protection	NIOSH/OSHA RECOMMENDATIONS FOR METHYL ALCOHOL CONCENTRATIONS IN AIR: Up to 2,000 ppm: SAR Up to 5,000 ppm: SAR operated in a continuous-flow mode. Up to 6,000 ppm: SAR with a tight-fitting facepiece operated in a continuous-flow mode; or full-facepiece SCBA or full-facepiece SAR. EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS: Positive pressure, full-facepiece SCBA; or positive pressure, full-facepiece SAR with an auxiliary positive pressure SCBA. NOTE: The IDLH concentration for methanol is 6,000 ppm.
Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Liquid
Colour	Colourless
Odour	Blended
Odour Threshold	Not Available

Property

pH	12.8
Melting Point/Freezing Point	-10°C
Initial Boiling Point and Boiling Range	Not Available
Flash Point	54°C (130°F)
Evaporation Rate	Not Available
Flammability	Flammable liquid
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Vapour Pressure (mm Hg, 20°C)	Not Available
Vapour Density (Air=1)	Not Available
Relative Density	Not Available
Solubility(ies)	Soluble in water

Partition Coefficient: n-octanol/water	Not Available
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	Not Available
Viscosity	Not Available
Explosive Properties	None
Specific Gravity (Water=1)	0.984
% Volatiles by Volume	Not Available
Formula	Mixture
Molecular Weight	Not Available

Section 10 - Stability and Reactivity

Reactivity	Not Available
Stability	Normally stable.
Possibility of Hazardous Reactions	None known.
Conditions to Avoid	Heat, open flames, static discharge, sparks and other ignition sources.
Incompatible Materials	Strong oxidizing agents, acids and alkalis.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide, formaldehyde.

Section 11 - Toxicological Information

Acute Toxicity Estimate

Component	Oral LD₅₀	Dermal LD₅₀	Inhalation LC₅₀
Reefer Cleaner 100	10.7 g/kg	7.9 g/kg	80.4 mg/L

This product has been classified in accordance with the Hazardous Products Regulations using ATE formula documented in the GHS standard.

Chronic Toxicity – Carcinogenicity

Component	IARC
Reefer Cleaner 100	None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

Skin Corrosion/Irritation	Corrosive. Capable of producing severe burns, blisters, ulcers and permanent scarring.
Ingestion	Can cause burns to the lips, tongue, mouth, esophagus and stomach; nausea; vomiting; diarrhea and death.
Inhalation	Inhalation of vapours may cause mild central nervous system depression with symptoms of nausea, headache, vomiting and dizziness.

Serious Eye Damage/Irritation	Corrosive. Capable of producing serious eye burns and permanent damage, including blindness.
Respiratory or Skin Sensitization	Not Available
Germ Cell Mutagenicity	Not Available
Reproductive Toxicity	Methanol is considered a developmental hazard.
STOT-Single Exposure	May cause damage to the optic nerve and central nervous system.
STOT-Repeated Exposure	Not Available
Aspiration Hazard	Not Available
Synergistic Materials	Not Available

Section 12 – Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Glycol Ether EB	EC ₅₀ (Algae, 7d): >1,000 mg/L	LC ₅₀ (Leuciscus idus melanotus, 48hr): 186 mg/L	LC ₅₀ (Daphnia magna, 24hr): 1,720 mg/L
Methanol	EC ₅₀ (Green algae, 48hr): 60.4mg/L	LC ₅₀ (Lepomis macrochirus, 96 hrs): 15,400mg/L	EC ₅₀ (Daphnia magna, 24 hrs): >10,000mg/L
Potassium Hydroxide	EC ₅₀ (Algae, 120hr): 1337mg/L	LC ₅₀ (Gambusia affinis, 96hr): 80mg/L	LC ₅₀ (Ceriodaphnia dubia, 48hr): 40mg/L

Biodegradability	Glycol ether EB and methanol are expected to biodegrade rapidly.
Bioaccumulation	Potassium hydroxide will not bioaccumulate.
Mobility	Glycol ether EB and methanol have high mobility in the soil.
Other Adverse Effects	Potassium hydroxide may be toxic to aquatic organisms but shifting the water pH.

Section 13 – Disposal Considerations

Waste From Residues/Unused Products	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
Contaminated Packaging	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 – Transport Information

UN Number	UN2920	
UN Proper Shipping Name	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Potassium hydroxide, Methanol)	
Transport Hazard Class(es)	8 (3)	
Packaging Group	II	
Environmental Hazards	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.	
Special Precautions	Not Available	
Transport in Bulk	Not Available	
Additional Information	<u>Packing Group</u>	<u>Limited Quantity Index</u>
	I	0
	II	1 L

TDG

Other

Secure containers (full and/or empty) with suitable hold down devices during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 – Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 – Other Information

Preparation Date

January 4, 2016

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

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If you have any questions or concerns please call our customer service center.

References:

- 1) CHEMINFO
- 2) eChemPortal
- 3) TOXNET
- 4) Transportation of Dangerous Goods Canada
- 5) HSDB
- 6) ECHA
- 7) PAN

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