

MATERIAL SAFETY DATA SHEET

Revision #: 02

Section 1 - Product Identification & Use

Product Name: Reefer Cleaner - 200
WHMIS Classification: B2, D1
TDG Classification: Flammable liquid n.o.s. (methanol)
UN 1993, Class 3.3, III
Manufacturer: Advance Chemicals Ltd.
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Section 2 - Hazardous Ingredients

Hazardous Components	%(w/w)	C.A.S. No.	LD ₅₀ & LC ₅₀
Methanol	30-60	67-56-1	oral(rat) 6200 mg/kg
2-Propanol	1-5	67-63-0	oral(rat) 5800 mg/kg

Section 3 - Physical Data

Physical state: liquid
Boiling point: no data found
Liquid density: 0.943 kg/L @ 20°C
Freezing point: -35°C (approx.)
pH: 10.6 @ 20°C
Solubility in water: 100%
Vapour pressure: not available
Evaporation rate: not available
Odour & Appearance: The product liquid is a clear, blue solution. The product may foam slightly with agitation. There is a slight blended alcohol odour above the open liquid. A defoaming agent may be required when used in vacuum recovery tanks.

Section 4 - Fire or Explosion Hazard

Flash point: 11°C (TCC) (for methanol)
Lower flammable limit: 6% by volume (for methanol)
Upper flammable limit: 36% by volume (for methanol)
Auto ignition temperature: 385°C (for methanol)
Extinguishing media: Use an alcohol-type or all purpose foam by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires. Do not use a direct water stream.
Special Fire Fighting Procedures: Methanol burns with a clean, clear flame which is almost invisible in daylight. Concentrations of greater than 20% methanol in water can be ignited and burn. Water may be ineffective depending upon the depth of methanol burning. Use self-contained breathing apparatus and personal protective clothing. Use water spray to cool nearby containers and structures.
Unusual Fire & Explosion Hazards: This material may produce a floating fire hazard in extreme fire conditions.
Hazardous Combustion Products: This product may produce carbon monoxide and/or carbon dioxide when burned. Carbon monoxide is highly toxic if inhaled, and carbon dioxide in sufficient quantities is considered an asphyxiant. Wear an approved self contained breathing apparatus.

Section 5 - Reactivity Data

Stability: Stable.
Polymerization: Will not occur.
Conditions to Avoid: Heat, sparks and open flames. Avoid contamination with strong oxidizers, acids and alkalis. May be corrosive to lead and aluminum.
Hazardous Combustion Products: Burning can produce carbon monoxide and/or carbon dioxide. Carbon monoxide is highly toxic if inhaled, and carbon dioxide in sufficient quantities can act as an asphyxiant.
Conditions of Reactivity: None currently known.

Section 6 - Toxicological Properties

Carcinogenicity: No data found.
Irritancy: 1000ppm of methanol in air may cause irritation of mucous membranes.
Tetragenicity: Methanol: No
Reproductive effects: Methanol is reported to cause birth defects in rats exposed to 20,000ppm, this product contains methanol as an anti-freeze.
Mutagenicity: Methanol: In vitro, limited evidence of mutagenicity in mouse lymphoma forward mutation assay.
Toxicologically synergistic products: No data found.
Environmental effects: No data found.

Section 7 - Preventative Measures

Respiratory: NIOSH or MSHA approved half-face or full-face respirator with acid/organic vapour cartridges.
Eyes: Chemical protective goggles or face piece.
Clothing: Chemical apron or neoprene rubber protective covering.
Footwear: n/a
Hands: Neoprene rubber gloves, or other protective gloves.

Other protective measures: Eye bath and safety shower should be accessible to all personnel working with this product.

Action to take for spills & leaks: Eliminate all sources of ignition, stop spill and use absorbent materials. Wear chemical protective clothing, rubber gloves and suitable respiratory protection.

Small spills should be wiped up with absorbent material and disposed of in government approved waste containers. The spill area may then be flushed with large quantities of water.

Larger spills should be contained by diking with sand, soil or other absorbent, non-combustible material, then transferred into approved waste containers for proper disposal. Keep product out of sewers, storm drains, surface run-off water and soil. Restrict access to non-protected personnel. Full face positive pressure self contained breathing apparatus must be worn. Comply with all government regulations on spill reporting, and handling and disposal of waste.

Disposal methods: Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate federal, provincial and local regulatory agencies to ascertain proper disposal procedures.

Note: Empty containers can have residues, gasses and mists, and are subject to proper waste disposal as mentioned above.

Storage & Handling Precautions: Warning, harmful if swallowed. Causes eye, skin and respiratory irritation. Avoid contact with eyes and repeated contact with skin and clothing. Do not ingest - contains methanol.

Keep away from sources of heat and open flame. Keep container tightly closed when not in use. Store upright in a cool, dry, well ventilated place away from incompatible materials. Do not use pressure to empty container. Wash thoroughly after handling. Use with adequate ventilation.

Repair and Maintenance Precautions: Do not cut, grind, weld or drill in, or near this container.

Section 8 - First Aid Measures

If inhaled: Remove victim to fresh air. Give artificial respiration if not breathing. Get immediate emergency medical attention.

In case of eye contact: Immediately flush eyes with clean water for at least fifteen (15) minutes, lifting the upper and lower eye lids occasionally. Get immediate emergency medical attention.

In case of skin contact: Immediately flush skin with plenty of clean running water for at least fifteen (15) minutes. Remove contaminated clothing and shoes. Wash and launder clothes before re-use. If irritation persists after washing, get immediate medical attention.

In case of ingestion or swallowing: If victim is conscious and medical attention is not immediately available, dilute stomach contents by giving large amounts of water or milk and induce vomiting. IF VICTIM IS UNCONSCIOUS DO NOT INDUCE VOMITING. Get immediate emergency medical attention.

Section 9 - Preparation Information

Advance Chemicals Limited expressly disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose with respect to the product provided. The information contained herein is offered only as a guide to the handling of this specific product, and has been prepared in good faith by technically knowledgeable personnel. This M.S.D.S. is not intended to be all inclusive, and the manner and conditions of use may involve other and additional considerations.

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