

SECTION I -- IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

TRADE NAME: LIQUID ICE-MLT™
CHEMICAL NAME: DIETHYLENE GLYCOL AND CHLORIDE BASED DE-ICER
SYNONYMS: WINTER OPERATING AGENT
CHEMICAL FAMILY: BLEND
MOLECULAR WEIGHT: N/A
FORMULA: DEG AND CHLORIDE SOLUTION WITH PROPRIETARY INGREDIENTS
CAS REGISTRY NO: PRODUCT A BLEND - NO NUMBER ASSIGNED.

SECTION II -- COMPOSITION/INFORMATION ON INGREDIENTS

<u>NAME</u>	<u>CAS REG. NO.</u>	<u>WT.%</u>
DIETHYLENE GLYCOL	111-46-6	>20%
CALCIUM CHLORIDE	10043-52-4	0-36%
MAGNESIUM CHLORIDE	7786-30-3	0-34%
SODIUM CHLORIDE	7647-14-5	0-1%

SECTION III -- HAZARDS IDENTIFICATION

DIETHYLENE GLYCOL	Toxic
CALCIUM CHLORIDE	Irritant
MAGNESIUM CHLORIDE	Irritant
SODIUM CHLORIDE	Irritant

SECTION IV -- FIRST AID MEASURES

EYES: Flush eyes with flowing water at least 15 minutes, get medical attention.
INHALATION: Move to fresh air if effects occur, and get medical attention.
SKIN: Flush with large amount of water or wash with soap and water.
Seek medical attention if irritation persists.
INGESTION: Do not induce vomiting if large amounts are ingested. Give large amounts of milk or water. Consult medical personnel.
NEVER GIVE FLUIDS OR INDUCE VOMITING IF PATIENT IS UNCONSCIOUS OR HAVING CONVULSIONS.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on the judgement of the physician in response to reactions of the patient. Repeated, excessive exposure may aggravate pre-existing liver and kidney disease.

SECTION V -- FIRE FIGHTING MEASURES

FLASH POINT (TEST METHOD): N/A
EXTINGUISHING MEDIUM: Water fog, dry foam, CO₂, dry chemical. DO NOT use direct water stream.
SPECIAL FIREFIGHTING PROCEDURES: Avoid breathing vapors or fumes. Wear self-contained breathing apparatus and turn out gear.
UNUSUAL FIRE & EXPLOSION HAZARDS: None

SECTION VI -- ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES:

Dike and control spill. Transfer liquid to containers for recovery or disposal.
Keep spills out of municipal sewers and open bodies of water.

SECTION VII -- HANDLING AND STORAGE

STORAGE: Keep in a cool, dry, ventilated storage area and in closed containers.
HANDLING: Practice reasonable caution to avoid skin and eye contact. Avoid breathing vapors from hot material. Trace quantities of ethylene oxide (EO) may be present in this product. While these trace quantities could accumulate in headspace areas of storage transport vessels, they are not expected to create a condition which will result in EO concentrations greater than 0.5ppm (8 hour TWA) in the breathing zone of the workplace for appropriate applications. OSHA has established a permissible exposure limit of 1.0ppm (8 hour TWA) for EO. (Code of Federal Regulations Part 1910.1047 of Title 29.)

SECTION VIII -- EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION: If respiratory irritation is experienced, use an approved air-purifying respirator.

VENTILATION: Good general ventilation should be sufficient. Local exhaust ventilation may be necessary for some operations.

EYE PROTECTION: Chemical splash, goggles recommended.

PROTECTIVE CLOTHING: Impervious gloves recommended.

SECTION IX -- PHYSICAL AND CHEMICAL PROPERTIES

BOILING/MELTING POINT @ 760 mm Hg:	>260°F
VAPOR PRESSURE mm Hg @ 20°C:	N/D
SPECIFIC GRAVITY OR BULK DENSITY:	1.20-1.30
SOLUBILITY IN WATER:	Complete
APPEARANCE:	Clear to tinted liquid
ODOR:	Slight odor
pH:	7

SECTION X -- STABILITY AND REACTIVITY

STABILITY:	Stable
MATERIALS TO AVOID:	Oxidizing materials and sulfuric acids.
HAZARDOUS DECOMPOSITION PRODUCTS:	Burning produces normal products of combustion: carbon dioxide, carbon monoxide and water.
HAZARDOUS POLYMERIZATION:	Does not occur
CONDITIONS TO AVOID:	Heat, sparks, open flame.
CORROSIVE TO METAL:	Yes
OXIDIZER:	No

SECTION XI -- TOXICOLOGICAL INFORMATION

HMIS: Health	1	NFPA: Health	1
Flammability	1	Flammability	1
Reactivity	0	Reactivity	0
Special	-	Special	-

WARNING STATEMENT:

DANGER: HARMFUL OR FATAL IF SWALLOWED, CONTAINS DIETHYLENE GLYCOL.
MAY CAUSE KIDNEY AND NERVOUS SYSTEM DAMAGE.
MAY CAUSE EYE IRRITATION.

TOXICOLOGICAL DATA:

Oral LD50 (rat) 20,760 mg/kg
Primary skin irritant (rabbit); skin absorption LD50 13,300 mg/kg
Primary eye irritant, practically non-irritating

EFFECTS OF OVEREXPOSURE:

EYES: May be irritating to the eyes.
SKIN: Prolonged or repeated exposure may cause irritation, especially if skin is scratched or abraded.

- INHALATION:** At room temperature, exposures are likely due to generation of mists; higher temperatures may generate vapor levels sufficient to cause adverse effects.
- INGESTION:** Single dose oral toxicity is moderate. The oral LD50 for rats is 20,760 mg/kg. Oral toxicity is expected to be moderate in humans even though tests with animals show a lower degree of toxicity. Amounts ingested incidental to industrial handling are not likely to cause injury; however, ingestion of larger amounts may cause injury, even death.
- SKIN ABSORPTION:** The LD50 for skin absorption in rabbits is 13,300 mg/kg. A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts. Repeated skin exposures may result in absorption of harmful amounts.

CHRONIC:**SYSTEMIC & OTHER EFFECTS:**

Repeated ingestion may cause severe kidney and also liver and gastrointestinal effects. Signs and symptoms of excessive exposure may be central nervous system effects, nausea and/or vomiting, anesthetic or narcotic effects. Reports of kidney failure and death in burn patients suggest that diethylene glycol may have been a factor. The use of topical applications containing diethylene glycol may not be appropriate in severely burned patients or individuals with impaired renal function. Observations in animals include formation of bladder stones after repeated oral doses. Based on data from long term animal studies diethylene glycol is not believed to pose carcinogenic risk to man. Birth defects are unlikely from exposure to diethylene glycol. Exposures having no effect on the mother should have no effect on the fetus. Diethylene glycol has not interfered with reproduction in animal studies. Results of in vitro (test tube) mutagenicity tests have been negative.

SECTION XII -- ECOLOGICAL INFORMATION

- AQUATIC TOXICITY RATING:** LC50 (96 hour) greater than 1000ppm.
Considered relatively harmless.

SECTION XIII -- DISPOSAL CONSIDERATIONS

- WASTE DISPOSAL METHOD:** Dispose of solids and the contaminated diking material according to local, state and federal regulations.
- CONTAINER DISPOSAL:** Do not re-use containers.
Do not weld on metal containers.

SECTION XIV -- TRANSPORTATION INFORMATION

D.O.T. PROPER SHIPPING NAME (49CFR172.101):	None
HAZARDOUS SUBSTANCE (40CFR116):	N/A
REPORTABLE QUANTITY (RQ):	N/A
D.O.T. HAZARD CLASSIFICATION (49CFR172.101):	Non-regulated
D.O.T. LABELS REQUIRED: (49CFR172.101):	None
D.O.T. PLACARDS REQUIRED:	None
POISON CONSTITUENT (49CFR173.343):	N/A
BILL OF LADING DESCRIPTION:	Winter operating agent

SECTION XV -- REGULATORY INFORMATION

LIQUID ICE-MLT™ belt de-icer is not a restricted article according to the Department of Transportation.

EPA SARA TITLE III hazard class:	None
OSHA HCS hazard class:	Irritant (29CFR1910.1200)
EPA SARA TITLE III Section 313 (40CFR372)	
Toxic Chemicals present in quantities greater than the "de minimus" level are:	None
CERCLA Section 102(a) Hazardous Substance:	None
RCRA Hazardous Substance:	None
WHMIS Classification:	D2, chronic toxicity hazard

SECTION XVI -- OTHER INFORMATION

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown below. However, no warranty, express or implied, is given. Regulator requirements are subject of change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws.

ABBREVIATIONS AND SYMBOLS:

N.D. - Not Determined
< - LESS THAN

N.A. - Not Applicable
> - MORE THAN

N.T. - Not Tested