



CRYOTECH LC17[®]

Liquid Runway Deicer

Safety Data Sheet

Section 1: IDENTIFICATION

PRODUCT IDENTIFIER

CRYOTECH LC17[®]

Liquid Runway Deicer

Complies with Specification AMS 1435

RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Deicing/anti-icing runways, taxiways, and airside pavements

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Cryotech Deicing Technology
6103 Orthoway
Fort Madison, IA 52627
United States

Contact Information: Telephone: (800) 346-7237
Fax: (319) 372-2662
Email: deicers@cryotech.com
Website: www.cryotech.com

EMERGENCY TELEPHONE NUMBER

CHEMTREC: (800) 424-9300
Outside U.S.A. & Canada: +1 703-741-5970

Section 2: HAZARD(S) IDENTIFICATION

CLASSIFICATION ACCORDING TO OSHA HAZCOM 2012

Hazard Class Not classified as hazardous

LABEL ELEMENTS ACCORDING TO OSHA HAZCOM 2012

There are no OSHA required label elements for this product.

CLASSIFICATION ACCORDING TO WHMIS (Canada)

Hazard Class Not controlled

WHMIS Hazard Symbols Not applicable

WHMIS Signal Word Not applicable

POTENTIAL HEALTH EFFECTS

Eye Contact May cause temporary eye irritation. Corneal injury is unlikely.

Skin Contact Repeated contact may cause slight skin irritation or dry skin.

Inhalation May cause irritation or coughing.

Ingestion Ingestion of large quantities may cause nausea, vomiting, diarrhea and abdominal discomfort.

Effects of repeated exposure In rare cases, repeated excessive exposure may cause central nervous system effects.



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Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURES

| Ingredient | CAS No | Wt. % |
|--|----------|-------|
| Cryotech LC17 Liquid Runway Deicer Aqueous solution containing: | | 100 |
| Propylene Glycol | 57-55-6 | 10-50 |
| Potassium Acetate | 127-08-2 | 10-50 |
| Corrosion inhibitors | | < 1% |

Section 4: FIRST- AID MEASURES

DESCRIPTION OF FIRST AID MEASURE

| | |
|-------------------|--|
| Eye | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. If irritation persists, seek medical attention. |
| Skin | As a precaution, wash skin thoroughly with soap and water. Remove and wash contaminated clothing. |
| Inhalation | If inhaled, remove to fresh air and get medical advice |
| Ingestion | If swallowed, give milk or water to drink and telephone for medical advice. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. |

MOST IMPORTANT SYMPTOMS / EFFECTS

| | |
|-------------------|---|
| Eye | May cause eye irritation. Symptoms may include temporary discomfort or pain, excess blinking and tear production, with possible redness and swelling. |
| Skin | May cause itching or irritation of any cut or abraded skin. Symptoms of prolonged contact may include dry skin. |
| Inhalation | Inhalation of aerosol during spraying may cause respiratory tract irritation and coughing. This product is not otherwise expected to be an inhalation hazard. |
| Ingestion | Ingestion of large quantities may cause nausea, vomiting, diarrhea and abdominal discomfort. |

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT

| | |
|---------------------------|---|
| Note to physicians | This product contains potassium acetate. Though ingestion of large amounts of potassium salts usually results in vomiting, excessive potassium absorption can cause hyperkalemia. |
|---------------------------|---|



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Specific treatments If you feel unwell, seek medical advice immediately. Show the label or safety data sheet to medical personnel if possible.

Section 5: FIRE FIGHTING MEASURES

FLAMMABILITY

Flash Point (close cup) >100°C (212°F)
Auto Ignition No data available

EXTINGUISHING MEDIA

Suitable Extinguishing Media Water, carbon dioxide, or dry chemical. Use extinguishing media appropriate for surrounding materials.
Unsuitable Extinguishing Media Not applicable

SPECIAL HAZARDS

Hazardous Combustion Products Normal combustion forms carbon dioxide and water.
Explosion Limits Data not available. Not considered to be an explosion hazard.
Unusual Fire Hazards This product may become combustible after prolonged heating.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters Wear NIOSH approved self-contained breathing apparatus (SCBA) with positive air pressure.

Section 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

Avoid eye/skin contact with spilled material. Refer to Section 7 for additional handling precautions

Methods for Containment Contain and/or absorb spill with inert material (e.g. sawdust, sand, vermiculite).
Methods for Cleaning-Up Scoop up material and transfer to disposal container. Wash the spillage area with plenty of water. If needed, wash spillage area with plenty of water.

Section 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Handling Avoid eye contact. Avoid breathing mist when spraying.

PRECAUTIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage Store in tightly sealed original containers, away from direct heat and strong oxidizing agents. Do not store or handle product in systems constructed of wetted parts consisting of galvanized steel, zinc, or brass components.



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Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS

| Exposure Limits | Regulation | Type of Listing | Value |
|------------------|------------|-----------------|----------------------|
| Propylene Glycol | US WEEL | TWA | 10 mg/m ³ |

EXPOSURE CONTROLS

Engineering Controls

No special ventilation is usually necessary; however if operating conditions create high airborne concentrations of this material, special ventilation may be needed to keep exposure to airborne contaminants below the exposure limit.

INDIVIDUAL PROTECTIVE MEASURES/PERSONAL PROTECTIVE EQUIPMENT

Eye Protection

Safety glasses or goggles are recommended if splashing/spraying is possible.

Skin Protection

No special skin protection is usually necessary. Chemical-resistant gloves and clothing should be used if prolonged exposure is possible to prevent drying of skin.

Respiratory Protection

No special respiratory protection is usually necessary. Breathing of mist/aerosol should be avoided. If operating conditions create high airborne concentrations of this material, the use of an approved respirator is recommended.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|---|
| APPEARANCE | Clear, colorless to light straw colored liquid. (May be dyed blue at customer request.) |
| ODOR | Odorless to slight vinegar odor |
| ODOR THRESHOLD | No data available |
| pH (20°C, 68°F) | 10.5 – 11.5 |
| FREEZING POINT | -50°F (-45°C) |
| BOILING POINT | ~ 110°C (220°F) |
| FLASH POINT | >100°C (212°F) |
| EVAPORATION RATE | No data available |
| FLAMMABILITY/EXPLOSION LIMITS | Not applicable |
| VAPOR PRESSURE (20°C) | No data available |
| VAPOR DENSITY (AIR = 1) | No data available |
| RELATIVE DENSITY | 1.15 |
| SOLUBILITY IN WATER | Completely miscible |
| PARTITION COEFFICIENT; n-OCTANOL/WATER | No data available |
| AUTO-IGNITION TEMPERATURE | No data available |
| DECOMPOSITION TEMPERATURE | No data available |
| VISCOSITY (20°C) | 8 cP |
| OXIDIZING PROPERTIES | Not oxidizing |
| EXPLOSIVE PROPERTIES | Not explosive |



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Section 10: STABILITY AND REACTIVITY

REACTIVITY

No dangerous reactions known under conditions of normal use.

CHEMICAL STABILITY

Stable. Polymerization will not occur.

POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reactions known under conditions of normal use.

CONDITIONS TO AVOID

Avoid prolonged contact with reactive metals such as magnesium and zinc, especially in closed systems where hydrogen gas from the oxidation of these materials may accumulate over time.

INCOMPATIBLE MATERIALS

Strong oxidizing agents; strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS

May decompose into oxides of carbon.

Section 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

LD50 rat-oral: > 5 g/kg (estimated from studies of components)

LIKELY ROUTES OF EXPOSURE

Skin contact, eye contact, ingestion.

SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL, AND TOXICOLOGICAL CHARACTERISTICS

| | |
|-------------------|---|
| Eye | May cause eye irritation. Symptoms may include temporary discomfort or pain, excess blinking and tear production, with possible redness and swelling. |
| Skin | May cause itching or irritation of any cut or abraded skin. Symptoms of prolonged contact may include dry skin. |
| Inhalation | Inhalation of aerosol during spraying may cause respiratory tract irritation and coughing. This product is not otherwise expected to be an inhalation hazard. |
| Ingestion | Ingestion of large quantities may cause nausea, vomiting, diarrhea and abdominal discomfort. |

DELAYED AND IMMEDIATE EFFECTS AND CHRONIC EFFECTS FROM SHORT- AND LONG-TERM EXPOSURE/NUMERICAL MEASURES OF TOXICITY

| | |
|--|---|
| Skin Corrosion/Irritation | Based on available data, the classification criteria are not met. |
| Serious Eye Damage/Irritation | Based on available data, the classification criteria are not met. |
| Respiratory or Skin Sensitization | Based on available data, the classification criteria are not met. |
| Germ Cell Mutagenicity | Based on available data, the classification criteria are not met. |



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| | |
|-------------------------------|--|
| Carcinogenicity | This product does not contain any ingredients that are considered to be carcinogens by IARC, NTP, or OSHA. |
| Reproductive Toxicity | Based on available data, the classification criteria are not met. |
| STOT-Single Exposure | Based on available data, the classification criteria are not met. |
| STOT-Repeated Exposure | Based on available data, the classification criteria are not met. |
| Aspiration Hazard | Based on available data, the classification criteria are not met. |

Section 12: ECOLOGICAL INFORMATION

ECOTOXICITY (AQUATIC AND TERRESTRIAL)

Not expected to cause long-term adverse effects in the aquatic or terrestrial environments.

LC50 48 hr Daphnia magna: 4150 mg/L

LC50 96 hr Pimephales promelas: 4225 mg/L

PERSISTENCE AND DEGRADABILITY

Biodegradable. BOD₅ (20°C): 0.24 kg O₂/kg fluid; COD: 0.68 kg O₂/kg fluid

BIOACCUMULATIVE POTENTIAL

Bioaccumulation is not expected.

MOBILITY IN SOIL

Adverse effects not expected.

OTHER ADVERSE EFFECTS

None expected.

Section 13: DISPOSAL CONSIDERATIONS

WASTE TREATMENT AND METHODS OF DISPOSAL

Based on available information, this product is neither listed as a hazardous waste nor does it exhibit any of the characteristics that would cause it to be classified as a characterized hazardous waste under RCRA. This product may be absorbed onto suitable materials and disposed of in a sanitary landfill unless local, state, or provincial regulations prohibit such disposal.

Section 14: TRANSPORT INFORMATION

TRANSPORT INFORMATION

Not regulated as dangerous goods per US DOT or IATA.

Section 15: REGULATORY INFORMATION

INVENTORY LISTS

The components in this product are on the following inventory lists: USA (TSCA), Canada (DSL/NDL); Europe (EINECS)

TSCA SECTION 12(b)



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None of the chemicals in this product are listed under TSCA Section 12(b).

CERCLA HAZARDOUS SUBSTANCES

There is no CERCLA Reportable Quantity for this material.

SARA 311/312 CATEGORIES

| Physical hazards | |
|--|----|
| Explosive | No |
| Flammable (gases, aerosols, liquids or solids) | No |
| Oxidizer (liquid, solid or gas) | No |
| Self-reactive | No |
| Pyrophoric (liquid or solid) | No |
| Pyrophoric Gas | No |
| Self-heating | No |
| Corrosive to metal | No |
| Gas under pressure (compressed gas) | No |
| In contact with water emits flammable gas | No |
| Combustible Dust | No |
| Hazard Not Otherwise Classified (HNOC) | No |

| Health hazards | |
|--|----|
| Acute toxicity (any route of exposure) | No |
| Skin corrosion or irritation | No |
| Serious eye damage or eye irritation | No |
| Respiratory or skin sensitization | No |
| Germ cell mutagenicity | No |
| Carcinogenicity | No |
| Reproductive toxicity | No |
| Specific target organ toxicity (single or repeated exposure) | No |
| Aspiration hazard | No |
| Simple Asphyxiant | No |
| Hazard Not Otherwise Classified (HNOC) | No |

SARA 313

None of the components in this product are subject to reporting under SARA Section 313.

CLEAN WATER ACT

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

STATE RIGHT-TO-KNOW:

This product does not contain components at levels which are required to be reported under the statutes of the following states: MA

This product contains the following chemicals regulated by New Jersey's Worker and Community Right to Know Act, the Pennsylvania Right to Know Act, and the Minnesota Right to Know Act:

| Ingredient | CAS No | Wt. % |
|------------------|---------|-------|
| Propylene Glycol | 57-55-6 | 10-50 |

This product does not contain materials known to the State of California (Proposition 65) to cause cancer and/or reproductive harm at levels which would require a warning under the statute.

| NFPA 704 | |
|----------|---|
| Health | 1 |



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| | |
|---|---|
| Fire | 1 |
| Physical Hazard | 0 |
| Hazard Rating 0-4 0-least hazardous; 4-most hazardous | |

| | |
|---|---|
| HMIS – Hazardous Materials Identification System | |
| Health | 1 |
| Fire | 1 |
| Physical Hazard | 0 |
| Hazard Rating: 0 = minimal, 1 = slight, 2 = moderate, 3 = serious, 4 = severe | |

Section 16: OTHER INFORMATION

SDS REVISION DATE

Revision date: November 28, 2018

Expiration date: November 28, 2021

Latest version of this SDS can be obtained from Cryotech.

NOTE TO EMPLOYER

This Safety Data Sheet contains environmental, health and toxicology information for your employees. Please ensure this information is provided to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this SDS must be given to the buyer or the information incorporated in your SDS. Discard any previous edition of this SDS.

DISCLAIMER

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use or misuse are beyond our control, GENERAL ATOMICS INTERNATIONAL SERVICES CORPORATION dba Cryotech Deicing Technology makes no warranty, either express or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. GENERAL ATOMICS INTERNATIONAL SERVICES CORPORATION dba Cryotech Deicing Technology assumes no responsibility for any injury or loss resulting from the use of the product described herein. User should satisfy himself that he has all current data relevant to his particular use.

End of Safety Data Sheet