1. Material and Supply Company Identification

Product Name: PeCOD® Electrolyte  
Chemical Name: Lithium Nitrate Solution

Synonyms:  
Advanced Blue Range Electrolyte  
Green Range Electrolyte  
Yellow Range Electrolyte  
Red Range Electrolyte

Product Use: For the dilution of water samples prior to analysis on the MANTECH PeCOD® Analyzer.

Manufacturer Information:  
579453 Ontario Inc.  
o/a MANTECH  
5473 Highway 6 North  
Guelph, ON, N1H 6J2  
Phone: 519-763-4245  
Emergency Phone Number: 519-763-4245 or 519-835-5252

2. Hazards Identification

Classification of the Product: Clear colourless liquid. Odourless.

Potential Health Effects:  
Eyes: This product may be irritating to the eyes. Symptoms may include redness and tearing.  
Skin: Prolonged or repeated exposure may cause irritation.  
Ingestion: May cause stomach distress, nausea or vomiting.  
Inhalation: This product may cause respiratory irritation. Inhalation of mists or vapors can cause sneezing, coughing and difficulty breathing

HMIS Ratings:  
Health: 1  Fire: 0  Physical Hazard: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe  * = Chronic
3. Composition Information

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Nitrate</td>
<td>7790-69-4</td>
<td>&lt;20%</td>
</tr>
<tr>
<td>Water and Natural Sugars</td>
<td>-</td>
<td>Balance</td>
</tr>
</tbody>
</table>

4. First Aid Measures

**Eye:** Immediately flush eyes with water for at least 15 minutes while holding eyes open. If irritation persists seek medical attention.

**Skin:** Wash with water for 15 minutes. If irritation persists seek medical attention

**Ingestion:** Rinse mouth with water. If swallowed, DO NOT induce vomiting unless directed to do so by a medical physician. Give a glass of water or milk. Never give anything by mouth to a patient who is unconscious or having convulsions.

**Inhalation:** Remove the patient from exposure.

5. Fire-Fighting Measures

**General Fire Hazards:**
This product is an aqueous solution which will not burn. However, if evaporated to dryness this product is an oxidizer and can sustain combustion.

**Hazardous Combustion Properties:**
Thermal decomposition products may include irritating vapors and toxic gases including oxides of lithium and nitrogen. If heated to evaporation, this product may evolve oxygen and increase fire hazard.

**Extinguishing Media:**
Dry chemical, foam, carbon dioxide, water fog.

**Fire Fighting Equipment/Instructions:**
Firefighters should wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

**NFPA Ratings:**

<table>
<thead>
<tr>
<th>Hazard Scale</th>
<th>Health</th>
<th>Fire</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
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</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
6. Accidental Release Measures

Containment Procedures:
Stop the flow of material if this is without risk. Wear appropriate personal protective equipment during clean-up. Contain the discharged material and dike the spilled material where possible. Prevent entry into sewers, drains, underground or contained spaces, water intakes and waterways. Avoid contact with combustible material.

Clean-Up Procedures:
Absorb spill with inert material such as lime, polypads, or other suitable absorbent material. Shovel the absorbed material into appropriate container for disposal.

Evacuation Procedures:
Isolate area. Keep unnecessary people away.

Special Procedures:
Follow all local, State, Federal, and Provincial regulations for disposal. Wash area down with excess water.

7. Handling and Storage

Handling Procedures:
Avoid eye contact and repeated or prolonged skin contact. Use with adequate ventilation. Wear suitable protective equipment during handling. Wear protective gloves and eye/face protection. Avoid breathing fumes, mists or vapors. Avoid contact with skin, eyes and clothing. Keep container tightly closed when not in use. Wash thoroughly after handling.

Storage Procedures:
Store in cool, dry, well ventilated place and out of direct sunlight. Store away from incompatible materials described in Section 10. Keep containers closed when not in use – check regularly for leaks.
8. Exposure Controls / Personal Protection

Exposure Guidelines
A: General Product Information:
Keep formation of airborne mists to a minimum

B: Component Exposure Limits:
ACGIH, OSHA, NIOSH or the provinces of Canada have not developed exposure limits for this product

Engineering Controls:
Natural ventilation should be adequate under normal conditions. Keep containers closed when not in use.

Personal Protective Equipment (PPE)
Eyes/Face: Wear safety glasses
Skin: Wear impervious (neoprene) gloves and cotton/polyester lab coat or overalls
Respiratory: Use in a ventilated area.
General: Wash hands after handling material and before eating or drinking. Eyewash station required.
Other Protective Equipment: An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colourless</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odour Threshold</td>
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</tr>
<tr>
<td>pH</td>
<td>3-6</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not Available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt;100°C (220°F)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Similar to Water</td>
</tr>
<tr>
<td>Lower Flammable Limit (LFL)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Upper Flammable Limit (UFL)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>Not Available</td>
</tr>
<tr>
<td>Vapour Density</td>
<td>Not Available</td>
</tr>
<tr>
<td>Solubility (H₂O)</td>
<td>Miscible with Water</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.19 - 1.21 @ 15°C (59°F)</td>
</tr>
<tr>
<td>Auto Ignition Temperature</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
10. Stability and Reactivity

Chemical Stability:
This is a stable material.

Conditions of Avoid:
Avoid contact with extreme heat and incompatible materials.

Incompatibility:
Strong acids; Fuel; Combustible materials.

Hazardous Decomposition Products:
Lithium oxide; Nitrogen oxides (NOx); Oxygen.

11. Toxicological Information

ACUTE DOSE EFFECTS

A: General Product Information:
This product may be moderately irritating to contaminated tissues.

B: Component Analysis – LD50 / LC50:
No LD50 or LC50 available for this product.

Epidemiology:
No Epidemiology data is available for this product

Carcinogenicity:

A: General Product Information:
No carcinogenicity data available for this product

B: Component Carcinogenicity:
None of the products components are listed by ACGIH, IARC, OSHA, NIOSH or NTP.

Mutagenicity:
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Teratogenicity:
No Teratogenicity data available for this product. This product is not expected to cause reproductive or developmental effects.

Neurological Effects:
No Neurological data available for this product

Other Toxicological Information:
No additional information available

12. Ecological Information

Ecotoxicity:
No Ecotoxicity data available for this product

Environmental Fate:
No information available for this product

13. Disposal Considerations

Disposal Instructions:
Dispose of waste according to Local, State, Federal and Provincial Environmental Regulations.

14. Transport Information

UN Number: None allocated
UN Proper Shipping Name: None allocated
DG Class & Subsidiary Risk: None allocated
Packing Group: None allocated

DOT:
This product is not regulated as a hazardous material for transportation

IATA:
This product is not regulated as a hazardous material for transportation

IMDG:
This product is not regulated as a hazardous material for transportation
15. Regulatory Information

**US Federal Regulations**
This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

**Lithium nitrate (7790-69-4)** SARA 313: 1.0 % de minimis concentration (reportable only when in aqueous solution, Chemical Category N511) (related to Nitrate Compounds, water dissociable)

**Canadian Regulations**
Not listed on the Canadian DSL (Domestic Substances List) inventory

**WHMIS Classification:** Class D2B: Material Causing Other Toxic Effects

**EU Regulations**
No additional information available

**Additional Regulatory Information**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>AUST</th>
<th>MITI</th>
<th>PHIL</th>
<th>KOREA</th>
<th>ELINCS</th>
<th>CHINA</th>
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<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
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<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Lithium Nitrate</td>
<td>7790-69-4</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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</tbody>
</table>

16. Other Information

Workers should be trained to handle hazardous chemicals. It is recommended that they are familiar with the contents of this safety data sheet (SDS). This SDS is not a risk assessment; recipients are advised to make their own risk assessment as required by other Health and Safety legislations.

**Created:** June 20, 2012

**Revised:** September 29, 2017

**Reference:** Not Available
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