Material Safety Data Sheet
Ammonium Oxalate Solutions

Section 1 - Chemical Product and Company Identification

MSDS Name:
Ammonium Oxalate Solutions

Catalog Numbers:
LC11280, LC11282

Synonyms:
Diammonium oxalate, ethanedioic acid diammonium salt, oxalic acid diammonium salt.

Company Identification:
LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:
(412) 826-5230

Emergency Phone Number:
(800) 424-9300

CHEMTREC Phone Number:
(800) 424-9300 or
011-703-527-3887

Section 2 – Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>&gt;94</td>
</tr>
<tr>
<td>6009-70-7</td>
<td>Ammonium Oxalate Monohydrate</td>
<td>4 - 5.1</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

Emergency Overview

Appearance: clear, colorless solution

Warning! May cause irritation to gastrointestinal tract, eyes and skin. May cause cardiac disturbances. May cause kidney damage. May cause central nervous system effects.

Target Organs: kidneys, central nervous system, cardiovascular system

Potential Health Effects

Eye:
May cause eye irritation.

Skin:
May cause skin irritation.

Ingestion:
Ingestion of large amounts of oxalates may cause have a corrosive effect on the mucous membranes of the oropharynx and perhaps the esophagus. It may also cause tetany, seizures, muscle twitching, drowsiness, stupor, coma, and cardiovascular collapse. May also affect the liver, and cause kidney damage resulting in oliguria, anuria, hematuria, elevated liver enzymes, and liver necrosis.
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**Inhalation:**
May cause irritation of upper respiratory tract with coughing.

**Chronic:**
May cause cracking of the skin, dermatitis, and slow healing ulcers. Fingernails may become brittle and yellowish. Prolonged or repeated inhalation may cause bronchitis to develop with cough, phlegm and/or shortness of breath. Prolonged or repeated ingestion may lead to kidney stones and kidney damage and may affect liver.

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**Section 4 - First Aid Measures**

**Eyes:**
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid at once.

**Skin:**
Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid.

**Ingestion:**
Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:**
Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid at once.

**Notes to Physician:**
Treat symptomatically and supportively.

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**Section 5 - Fire Fighting Measures**

**General Information:**
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

**Extinguishing Media:**
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

**Autoignition Temperature:**
No information found.

**Flash Point:**
No information found.

**NFPA Rating:**
Health- 2, Flammability- 0, Instability- 0.

**Explosion Limits:**
Lower: n/a    Upper: n/a

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**Section 6 - Accidental Release Measures**

**General Information:**
Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:
Absorb spill using inert material such as sand, vermiculite, or diatomaceous earth, and transfer to a suitable container labeled for later disposal.

Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale.

Storage:
Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Facilities using or storing this material should be equipped with an eyewash and safety shower. Provide local exhaust or general dilution ventilation.

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>None of the components are on this list</td>
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<tr>
<td>Ammonium Oxalate Monohydrate</td>
<td>None of the components are on this list</td>
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</tr>
</tbody>
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OSHA Vacated PELs:
None

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133. Do not wear contact lenses when working with chemicals.

Skin:
Wear appropriate protective gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
Follow the OSHA respirator regulations found in 29 CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: Colorless
Odor: Odorless
pH: Not available
Vapor Pressure: Not available
Vapor Density: Not available
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Evaporation Rate: Not available
Viscosity: Not available
Boiling Point: Not available
Freezing/Melting Point: Not available
Decomposition Temperature: 128°C (262°F)
Solubility in water: Soluble
Specific Gravity/Density: 1 – 1.2
Molecular Formula: Not available
Molecular Weight: Not available

Section 10 - Stability and Reactivity

Chemical Stability:
Stable under normal temperatures and pressures.

Conditions to Avoid:
Incompatible materials.

Incompatibilities with Other Materials:
Oxidizing agents, acids, sodium hypochlorite and ammonium acetate.

Hazardous Decomposition Products:
Nitric oxide (NOx) and ammonia (NH3) fumes.

Hazardous Polymerization:
Has not been reported

Section 11 - Toxicological Information

RTECS:
CAS# 7732-18-5: ZC0110000.
CAS# 6009-70-7: RO2750000.

LD50/LC50:
CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg.
CAS# 6009-70-7:
Not available

Carcinogenicity:
CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
CAS# 6009-70-7: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

Epidemiology:
Repeated exposure has been linked to the formation of kidney stones.

Teratogenicity:
No information found

Reproductive:
No information found

Mutagenicity:
No information found

Neurotoxicity:
No information found
Section 12 - Ecological Information

No information found

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: Not regulated.
Hazard Class:  
UN Number:  
Packing Group:  

Section 15 - Regulatory Information

US Federal
TSCA:
CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 6009-70-7 is not on the TSCA Inventory; however, its anhydrous form is on the inventory
and so this hydrate is exempt from TSCA Inventory requirements (40CFR 270.3(u)(2)).
SARA Reportable Quantities (RQ):
CAS# 6009-70-7: final RQ = 5000 pounds (2270 kg) (Listed under "Ammonium oxalate")
CERCLA/SARA Section 313:
None of the components are on this list.
OSHA - Highly Hazardous:
None of the components are on this list.

US State
State Right to Know:
Ammonium Oxalate Monohydrate can be found on the following state Right-to-Know lists:
California, New Jersey, Pennsylvania, Massachusetts.
California Regulations:
None.

European/International Regulations
Canadian DSL/NDSL:
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 6009-70-7 is listed on Canada's DSL List.
Canada Ingredient Disclosure List:
CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 6009-70-7 is not listed on Canada's Ingredient Disclosure List.
Section 16 - Other Information

MSDS Creation Date: February 2, 1999
Revision Date: January 7, 2013

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