Material Safety Data Sheet
Ammonium Molybdate Solution, 10%

Section 1 - Chemical Product and Company Identification

MSDS Name:
Ammonium Molybdate Solution, 10%

Catalog Numbers:
LC11250

Synonyms:
None

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;87</td>
</tr>
<tr>
<td>12054-85-2</td>
<td>Ammonium molybdate, tetrahydrate</td>
<td>10</td>
</tr>
<tr>
<td>1310-73-2</td>
<td>Sodium hydroxide</td>
<td>&lt;2.5</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

Emergency Overview

Appearance: clear, colorless solution
Caution! May cause irritation to eyes and skin. May be harmful if swallowed.

Target Organs: eyes, skin, respiratory and gastrointestinal systems

Potential Health Effects

Eye:
May cause eye irritation.

Skin:
May cause skin irritation.

Ingestion:
May cause gastrointestinal tract irritation with nausea, vomiting, and diarrhea.

Inhalation:
May cause respiratory tract irritation.
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Chronic:
No information found.

Section 4 - First Aid Measures

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper
and lower lids until no evidence of chemical remains. Get medical aid at once.

Skin:
Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and
shoes. Get medical aid if irritation develops or persists.

Ingestion:
Do not induce vomiting. Give conscious victim 2-4 cupfuls of milk or water. Never give anything
by mouth to an unconscious person. Get medical aid at once.

Inhalation:
Move victim to fresh air immediately. Get medical aid if irritation or other symptoms appear.

Notes to Physician:
Treat symptomatically and supportively.

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:
Not available

Flash Point:
Not available

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

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

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Absorb spill with inert material such as sand, vermiculite, or diatomaceous earth, and transfer to a
suitable container labeled for later disposal.

Section 7 - Handling and Storage
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Handling:
Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Use with adequate ventilation.

Storage:
Store tightly capped in a cool, dry, well-ventilated area away from incompatible materials.

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 to keep airborne levels below the permissible exposure limits.

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 listed</td>
<td>None listed</td>
<td>None listed</td>
</tr>
<tr>
<td>Ammonium molybdate</td>
<td>0.5 mg/m³ TWA (as Mo, listed under Molybdenum, soluble compounds)</td>
<td>1000 mg/m³ IDLH (as Mo, listed under Molybdenum, soluble compounds)</td>
<td>5 mg/m³ TWA (as Mo, listed under Molybdenum, soluble compounds)</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>2 mg/m³ Ceiling</td>
<td>2 mg/m³ Ceiling</td>
<td>2 mg/m³ TWA</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs:
Sodium hydroxide: 2 mg/m³ Ceiling

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>pH</td>
<td>7-8</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information found</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information found</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information found</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information found</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No information found</td>
</tr>
<tr>
<td>Freezing/Melting Point</td>
<td>No information found</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information found</td>
</tr>
</tbody>
</table>
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Solubility in water: Soluble
Specific Gravity/Density: 1.0-1.1
Molecular Formula: No information found.
Molecular Weight: No information found.

Section 10 - Stability and Reactivity

Chemical Stability:
Stable under normal temperatures and pressures.

Conditions to Avoid:
Incompatible materials, excess heat.

Incompatibilities with Other Materials:
Strong oxidizers, strong acids.

Hazardous Decomposition Products:
Oxides of nitrogen, sodium, ammonia.

Hazardous Polymerization:
Has not been reported.

Section 11 - Toxicological Information

RTECS:
CAS# 7732-18-5: ZC0110000
CAS# 12054-85-2: QA4900000
CAS# 1310-73-2: WB4900000

LD50/LC50:
CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg.
CAS# 12054-85-2:
Inhalation, rat: LC50 = >1930 mg/m3/4H
Oral, rat: LD50 = 3883 mg/kg.
CAS# 1310-73-2:
Dermal, rabbit: 1350 mg/kg

Carcinogenicity:
CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
CAS# 12054-85-2: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
CAS# 1310-73-2: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

Epidemiology:
No information found.

Teratogenicity:
No information found.

Reproductive:
No information found.

Mutagenicity:
Mutagenic effects have occurred in laboratory animals.

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# 12054-85-2 is not listed on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory (40CFR 720.3(u)(2)).
CAS# 1310-73-2 is listed on the TSCA Inventory.

SARA Reportable Quantities (RQ):
CAS# 1310-73-2: final RQ = 1000 lb. (454 kg)

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 molybdate can be found on the following state Right-to-Know lists: California (listed as Molybdenum compounds, n.o.s), Minnesota (listed as Molybdenum soluble compounds).
Sodium hydroxide can be found on the following state Right-to-Know lists: California, Pennsylvania, New Jersey, Massachusetts, Minnesota.

California Regulations:
None

European/International Regulations
Canadian DSL/NDSL:
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 12054-85-2 is listed on Canada's DSL or NDSL Lists.
CAS# 1310-73-2 is listed on Canada's DSL List.
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Canada Ingredient Disclosure List:
CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 12054-85-2 is listed on Canada's Ingredient Disclosure List as Molybdenum compounds, n.o.s.
CAS# 1310-73-2 is listed on Canada's Ingredient Disclosure List.

Section 16 - Other Information

MSDS Creation Date: February 19, 1998
Revision Date: April 19, 2011

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