1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ammonium Acetate
Cat No.: A114-50; A637-3; A637-10; A637-10LC; A637-500; A639-500; BP326-1; BP326-500
Synonyms: Acetic acid, ammonium salt (Optima LCMS/MS Certified ACS/HPLC)
Recommended Use: Laboratory chemicals

Company: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (701) 786-7100

Emergency Telephone Number: CHEMTREC: Inside the USA: 800-424-9300
CHEMTREC: Outside the USA: 703-527-3587

2. HAZARDS IDENTIFICATION

CAUTION

Emergency Overview
May cause skin, eye, and respiratory tract irritation. The toxicological properties have not been fully investigated.

Target Organ: None known.
Potential Health Effects:
Acute Effects:
- Eyes: May cause irritation
- Skin: May cause irritation
- Inhalation: May cause irritation of respiratory tract
- Ingestion: May cause irritation

Chronic Effects: None known.
See Section 11 for additional Toxicological information.
Aggravated Medical Conditions: No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium acetate</td>
<td>631-61-8</td>
<td>&gt;25</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
Inhalation: Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
Ingestion: Do not induce vomiting. Obtain medical attention.

Notes to Physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point: 136°C / 276°F
Method: No information available.
Autoignition Temperature: No information available.
Exposure Limits: No data available.
        Upper: No data available
        Lower: No data available
Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable Extinguishing Media: No information available.
Hazardous Combustion Products: No information available.
        Sensitivity to mechanical impact: No information available
        Sensitivity to static discharge: No information available
Specific Hazards Arising from the Chemical: Keep product and empty container away from heat and sources of ignition.
Protective Equipment and Precautions for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH/MSHA approved or equivalent and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.
7. HANDLING AND STORAGE

Handling
Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures
Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>odor</td>
<td>Ammonia-like</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>110 - 112°C / 230 - 234.6°F</td>
</tr>
<tr>
<td>Effect Temperature</td>
<td>130°C / 266°F</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Methanol</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
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<tr>
<td>pH</td>
<td>7.09</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>C2 H17 N O2</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Hygroscopic

Conditions to Avoid

Incompatible Materials
Strong oxidizing agents, Strong acids, Strong bases, sodium hypochlorite

Hazardous Decomposition Products
Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), Ammonia

Hazardous Polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
See actual entry in RTECS for complete information.

Component Information
No information available.

Irritation
No information available.

Toxicologically Synergistic Products
No information available.

Chronic Toxicity
See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

Carcinogenicity
There are no known carcinogenic chemicals in this product

Sensitization
No information available.

Mutagenic Effects
No information available.

Reproductive Effects
No information available.

Developmental Effects
No information available.

Teratogenicity
No information available.

Other Adverse Effects
See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

Endocrine Disruptor Information
No information available.
12. ECOLOGICAL INFORMATION

Ecotoxicity
Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Marine Fish</th>
<th>Amphibians</th>
<th>Waterfowl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium acetate</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Persistence and Degradability
Readily biodegradable.

Bioaccumulation/Accumulation
No information available

Mobility

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium acetate</td>
<td>2.79</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION

DOT
Not regulated

TDG
Not regulated

IATA
Not regulated

IMO/IMO
Not regulated

15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AKCS</th>
<th>CHINA</th>
<th>KECL</th>
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</thead>
<tbody>
<tr>
<td>Ammonium acetate</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>211-162-9</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE- 01529</td>
<td>X</td>
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</tbody>
</table>

Legend:

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium acetate</td>
<td>X</td>
<td>1000 kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Clean Water Act

Clean Air Act
Not applicable

OSHA
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

California Proposition 65
This product does not contain any Proposition 65 chemicals.

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
</table>

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U.S. Department of Transportation
Reportable Quantity (RQ): Y
DOT Marine Pollutant: N
DOT Severe Marine Pollutant: N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations
Mexico - Grade
Slight Risk, Grade 1

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION

Prepared By: Regulatory Affairs
Thermo Fisher Scientific
Tel: (412) 430-8929

Creation Date: 09-Oct-2009
Print Date: 09-Oct-2009
Revision Summary: ****, and red text indicates revision

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS

REVIEWED

DATE: 30/Nov/09

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