MATERIAL SAFETY DATA SHEET

AMMONIUM NITRATE LIQUOR, 83%

Aqueous Ammonium Nitrate

Dyno Nobel Inc.
8305 Otto Road, Cheyenne, Wyoming 82009

Product Specifications provided by
Coastal Chem, Inc.
A Subsidiary of El Paso Corporation

24 HOUR EMERGENCY TELEPHONE
CHEMTREC 1-800-424-9300
Ammonium Nitrate Liquor, 83%: Product Identification

Trade Name: Ammonium Nitrate Liquor, 83%
Synonyms: Aqueous Ammonium Nitrate; 83% Ammonium Nitrate
Chemical Family: Aqueous inorganic salt solution
Chemical I.D. No.: UN 2426; STCC # 4918774
Chemical Formula: Ammonium Nitrate, NH₄NO₃
DOT Hazard Class: 5.1
Label Required: Oxidizer / Hot

Ammonium Nitrate Liquor, 83%: Composition

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS Number</th>
<th>Wt%</th>
<th>OSHA PEL¹</th>
<th>ACGIH STEL²</th>
<th>NIOSH IDLH³</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Nitrate</td>
<td>6484-52-2</td>
<td>83.0 - 85.0</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>ppm</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&gt;15.0</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>ppm</td>
</tr>
</tbody>
</table>

¹ = Permissible Exposure Limit (8-Hr. Time Weighted Average).
² = Short Term Exposure Limit (15 Minute Exposure).
³ = Immediately Dangerous to Life and Health.
N.A. = Not Available

Ammonium Nitrate Liquor, 83%: NFPA Code

2 Health Hazard (Blue):
   Can cause injury. Requires prompt treatment. (>225°F Liquid)
0 Flammability Hazard (Red):
   Will not burn.
1 Reactivity Hazard (Yellow):
   Normally stable in the presence of 17% water but can become unstable at elevated temperatures and pressures.
OX Special Notice (White):
   Oxidizer
Ammonium Nitrate Liquor, 83%: Physical and Chemical Properties

- Decomposition Temperature: 350-410°F
- Crystallization Temperature: 160-175°F
- Solubility in H₂O: 100%
- Weight: 11.33 lb/gal @ 200°F
- pH: 4.6-5.2
- Odor: Slight Ammonia Odor
- Appearance: Clear to amber liquid

Ammonium Nitrate Liquor, 83%: Fire and Explosion Data

- Flash Point: N.A.
- Flammable Limits in Air %/Vol.: Lower: N.A., Upper: N.A.
- Autoignition Temperature: N.A.
- Extinguishing Media: Water

Special Fire Fighting Procedure: Spray large amounts of water to cool affected containers. 
Apply water from as far a distance as possible. Firefighters should wear self-contained breathing apparatus to protect from poisonous gas, and 
from molten salt splatter.

Unusual Fire or Explosion Data: Aqueous solutions of Ammonium Nitrate will not burn or 
combustion. However, it may become explosive if it is 
combined with a flammable substance and dried to a low percentage of water.

Ammonium Nitrate Liquor, 83%: Reactivity Data

- Stability: Stable inorganic salt solution, will crystalize below 160°F. 
Can be made explosive with additional organic pressure and heat.

Hazardous Polymerization: Will not occur.

Conditions to avoid / Incompatibility: Reducing agents, active metals, strong acids, chlorides, 
phosphorus, sulfur, strong alkalis, and organic solvents.
AMMONIUM NITRATE LIQUOR, 83%  

83% NH₄NO₃

**Products:** Oxides of Nitrogen (Nitrogen Dioxide, Nitric Oxide).
AMMONIUM NITRATE LIQUOR, 83% 83% NH₄NO₃

Dyno Nobel Inc.
8305 Otto Road
Cheyenne, WY 82009
(307) 637-2700

CAS # 6484-52-2
UN2426
STCC # 4918774
DNNA # 1141S

Ammonium Nitrate Liquor, 83%: Health Hazard Data

Carcinogenicity:

NTP: NO
IARC Monographs: NO
OSHA Regulated: NO

Occupational Exposure Limits:

OSHA Permissible Exposure Limit (PEL): None established for Ammonium Nitrate.
ACGIH Short-term Exposure Limit (STEL): None established for Ammonium Nitrate.
NIOSH Immediately Dangerous to Life and Health (IDLH): None established for Ammonium Nitrate.

Effects of Overexposure:

Acute:

Eyes: Hot temperature of liquid product will cause thermal tissue damage. Dried salt may cause redness, pain and irritation to eye.

Skin: Hot temperature of liquid product will cause thermal tissue damage. Dried salt may irritate skin resulting in reddening of the skin and possible dermatitis.

Inhalation: Dried salt may be irritating to mucous membranes, respiratory tract, causing congestion. Delayed chemical pneumonia.

Ingestion: Hot temperature of liquid product will cause thermal tissue damage. Dried salt and faintness. Large doses may cause systemic acidosis and methemoglobinemia.

Chronic:

None known for Ammonium Nitrate.

Additional Medical and Toxicological Information:

Dried salt may aggravate preexisting dermatitis and lung conditions.
Ammonium Nitrate Liquor, 83%: Emergency First Aid Procedures

**Eye contact:**
Immediately flush with large amounts of water, including under the eyelids. Cool burned area with ice. Contact a physician Ophthalmologist. Speed and thoroughness in rinsing eyes are important to avoid permanent injury.

**Skin Contact:**
Stop thermal damage with water rinse. Remove contaminated clothing and shoes. Flush chemical from affected areas with large burned tissue with ice. Get medical attention.

**Inhalation:**
Remove to fresh air. If breathing has stopped, apply artificial respiration. Keep warm and at rest. Get immediate medical attention.

**Ingestion:**
Do not induce vomiting. If vomiting occurs, keep head below hips to help prevent aspiration. Get immediate medical attention.

Ammonium Nitrate Liquor, 83%: Special Protection Information

**Eye Protection:**
Hot aqueous salt solution (> 225°F) will severely damage mucosal membrane (eyes). Wear chemical goggles or face shield where contact with liquid may occur.

**Skin Protection:**
Hot aqueous salt solution (> 225°F) will cause severe tissue damage. Wearing of nonporous clothing: pants, sleeves, footwear and insulated gloves, is the minimum recommended protection against thermal hazard.

**Inhalation:**
Dried Ammonium Nitrate residue is a water soluble salt and will dissolve mucosal membrane contact (lungs). Use approved respiratory equipment for cleaning large spills or upon entry into other designated confined space areas concentrations of dried salt may exceed occupational exposure limits (15 mg/m³, dust).

**Ventilation:**
Provide adequate general and local exhaust ventilation to attain occupational exposure limits, particularly in a confined space area.
Ammonium Nitrate Liquor, 83%: Spill or Leak

**Spill Procedures:** Contain spills and allow to solidify. Shovel spilled material into containers for disposal. Do not flush to surface water. Spilled chemical can be used as fertilizer (35% N).


Ammonium Nitrate Liquor, 83%: Waste Disposal

**Procedure:** Dispose through a licensed waste disposal company. Follow federal, state and local regulations.

Ammonium Nitrate Liquor, 83%: Special Precautions

**Storage Precautions:** Store away from incompatible materials or sources of heat and ignition. Empty containers may contain Ammonium Nitrate residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose flames, sparks or other sources of ignition; they may evolve poisonous gas and cause injury or death.

Ammonium Nitrate Liquor, 83%: EPA SARA Title III

**EPCRA Section 311/312 Hazard Categorization:**

<table>
<thead>
<tr>
<th>Acute</th>
<th>Chronic</th>
<th>Fire</th>
<th>Pressure</th>
<th>Reactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EPCRA & CAA Hazardous Substances:**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>% / wt.</th>
<th>CAA 112(r)</th>
<th>302 TPQ lb.</th>
<th>304 RQ lb.</th>
<th>313 TRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>none listed</td>
<td></td>
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</tr>
</tbody>
</table>

Key:
- CAA 112(r) = Toxic Substance with potential for airborne release
- Sec. 302 TPQ = Extremely Hazardous Substances (EHS) Threshold Planning Quantity
- Sec. 304 RQ = EHS and CERCLA Reportable Quantity if spilled
- Sec. 313 TRI = Toxic Chemicals to be reported on Toxic Release Inventory if spilled
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Ammonium Nitrate Liquor, 83%: Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of this company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to the accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use.

Dyno Nobel Inc.  
Chief Chemist & Laboratory Manager  

DATE REVIEWED:  
Charles R. Barnhart, M.S.  
October 1, 2002