**IDENTIFICATION**

**MSDS Record Number:** 5617425  
**Product Name(s):** AMMONIUM NITRATE  
**Product Identification:**  
MSDS NUMBER: A6048  
PRODUCT CODE: 0729, 0731, 3436  
C.A.S. NUMBER: 6484-52-2  
**Date of MSDS:** 2007-05-04  
**Currency Note:** This MSDS was acquired from the supplier on 2007-09-06.

**MANUFACTURER/SUPPLIER INFORMATION**

**Company:** MALLINCKRODT BAKER INC

**MATERIAL SAFETY DATA**

**Effective Date:** 05/04/07  
**Supersedes:** 07/21/04

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**MSDS MATERIAL SAFETY DATA SHEET**  
**From:** Mallinckrodt Baker, Inc.  
222 Red School Lane  
Phillipsburg, NJ 08865  
**Emergency Telephone Number:** 908-859-2151

**NOTE:** Use CHEMTREC and CANUTEC phone numbers only in the event of a chemical emergency.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

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**AMMONIUM NITRATE**

1. **Product Identification**  
**Synonyms:** Nitric acid, ammonium salt  
**CAS No:** 6434-52-2  
**Molecular Weight:** 80.04  
**Chemical Formula:** NH₄NO₃  
**Product Codes:** J.T. Baker:  
0729, 0731  
Mallinckrodt:  
3436

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
<th>Percent</th>
<th>Hazardous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Nitrate</td>
<td>6484-52-2</td>
<td>99 - 100%</td>
<td>Yes</td>
</tr>
</tbody>
</table>

3. Hazards Identification

Emergency Overview

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE OR EXPLOSION. MAY BE HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

SAF-T-DATA(tm) Ratings (Provided here for your convenience)

<table>
<thead>
<tr>
<th>Health Rating:</th>
<th>2 - Moderate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability Rating:</td>
<td>1 - Slight</td>
</tr>
<tr>
<td>Reactivity Rating:</td>
<td>3 - Severe (Oxidizer)</td>
</tr>
<tr>
<td>Contact Rating:</td>
<td>2 - Moderate</td>
</tr>
<tr>
<td>Lab Protective Equip:</td>
<td>GOGGLES &amp; SHIELD; LAB COAT &amp; APRON; VENT HOOD; PROPER GLOVES</td>
</tr>
<tr>
<td>Storage Color Code:</td>
<td>Yellow (Reactive)</td>
</tr>
</tbody>
</table>

Potential Health Effects

Inhalation:
May cause irritation to the respiratory tract; symptoms may include coughing, sore throat, and shortness of breath. At high temperatures, exposure to toxic nitrogen oxides decomposition products can quickly cause acute respiratory problems. Inhalation of large amounts causes systemic acidosis and abnormal hemoglobin.

Ingestion:
Large oral doses of nitrates may cause dizziness, abdominal pain, vomiting, bloody diarrhea, weakness, convulsions, and collapse. Harmful if swallowed. May cause methemoglobinemia resulting in cyanosis.

Skin Contact:
Causes irritation to skin. Symptoms include redness, itching, and pain.

Eye Contact:
Causes irritation, redness, and pain.

Chronic Exposure:
Small repeated oral doses of nitrates may cause weakness, depression, headache, and mental impairment.

Aggravation of Pre-existing Conditions:
No information found.

4. First Aid Measures

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:
Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Eye Contact:
Wash thoroughly with running water. Get medical advice if irritation develops.
5. Fire Fighting Measures
Fire:
Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. May support combustion in an existing fire.
Explosion:
Contact with oxidizable substances may cause extremely violent combustion. Sealed containers may rupture when heated. Sensivel ao impacto mecânico.
Fire Extinguishing Media:
Use flooding amounts of water in early stages of fire involving ammonium nitrate. Use any means suitable for extinguishing surrounding fire.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures
Remove sources of heat and ignition.
Collected waste may be transferred to a closed, preferably metal, container and sent to a RCRA approved waste disposal facility. Alternatively, sweep spill into noncombustible container and dissolve in large amount of water. Add soda ash. Mix and neutralize with 6M-HCL. Neutralized sludge may be sent to an approved waste disposal facility.

7. Handling and Storage
Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Protect against physical damage. Store in a dry location separate from combustible, organic or other readily oxidizable materials. Avoid storage on wood floors. Remove and dispose of any spilled dichromates; do not return to original containers. Do not store above 54C (130F) preferably below 30C (86F). Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection
Airborne Exposure Limits:
None established.
Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.
Personal Respirators (NIOSH Approved):
For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.
Skin Protection:
Wear protective gloves and clean body-covering clothing.
Eye Protection:
Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties
Appearance: Colorless crystals.
Boiling Point: 210C (410F) Decomposes.
Odor: Melting Point:
Odorless. 170C (338F)
Solubility: Vapor Density (Air=1):
118g/100g water @ 0C (32F).
No information found.
Specific Gravity: Vapor Pressure (mm Hg):
1.73 @ 23C (77F)
No information found.
pH: 5.4
Evaporation Rate (BuAc=1):
% Volatiles by volume @ 21C (70F):
0

10. Stability and Reactivity
Stability:
Stable under ordinary conditions of use and storage. Hygroscopic.
Hazardous Decomposition Products:
Emits nitrous oxides when heated to decomposition. Liberates ammonia in reaction with strong alkalis.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Aluminum, antimony, chromium, copper, iron, lead, magnesiamanganese,
nickel, zinc, brass, oil, charcoal, organic material, acetic acid,
ammonium chloride, bismuth, cadmium, chlorides, cobalt, phosphorus,
potassium and ammonium sulfate, sodium, sodium hypochlorite, sodium perchlorate, sodium-potassium alloy, and sulfure.
Conditions to Avoid:

11. Toxicological Information
Oral rat LD50: 2217 mg/kg.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>NTP Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Nitrate (6484-52-2)</td>
<td>No</td>
</tr>
</tbody>
</table>

12. Ecological Information
Environmental Fate:
When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is not expected to evaporate significantly. When released into water, this material is expected to readily biodegrade.
Environmental Toxicity:
No information found.

13. Disposal Considerations
Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal
disposal regulations.
Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information
Domestic (Land, D.O.T.)

Proper Shipping Name: AMMONIUM NITRATE
Hazard Class: 5.1
UN/NA: UN1942 Packing Group: III
Information reported for product/size: 50KG
International (Water, I.M.O.)

Proper Shipping Name: AMMONIUM NITRATE
Hazard Class: 5.1
UN/NA: UN1942 Packing Group: III
Information reported for product/size: 50KG

15. Regulatory Information

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>TSCA</th>
<th>EC</th>
<th>Japan</th>
<th>Australia</th>
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</thead>
<tbody>
<tr>
<td>Ammonium Nitrate (6484-52-2)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>--Canada--</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ammonium Nitrate (6484-52-2)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Federal, State &amp; International Regulations - SARA 302-</td>
<td>Part 1------ ----SARA 313-----</td>
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<tr>
<td>Ingredient</td>
<td>TPQ</td>
<td>RQ</td>
<td>List</td>
<td>Chemical Ctg.</td>
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<tr>
<td>Ammonium Nitrate (6484-52-2)</td>
<td>No</td>
<td>No</td>
<td>No Nitrate cmpd</td>
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</tr>
<tr>
<td>Federal, State &amp; International Regulations - Part 2\-----------------------</td>
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<tr>
<td>Ingredient</td>
<td>CERCLA 261.33</td>
<td>8(d)</td>
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<tr>
<td>Ammonium Nitrate (6484-52-2)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Chemical Weapons Convention: No</td>
<td>TSCA</td>
<td>No</td>
<td>CDTA: No</td>
<td></td>
</tr>
<tr>
<td>SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No Reactivity: Yes [Pure / Solid]</td>
<td></td>
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</tr>
</tbody>
</table>

Australian Hazchem Code: 1[S]
Australian Poison Schedule: None allocated.

WHMIS: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information
NFFA Ratings:
Health: 0 Flammability: 0 Reactivity: 3 Other: Oxidizer
Label Hazard Warning:
DANGER: STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE OR EXPLOSION. MAY BE HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.
Label Precautions:
Keep from contact with clothing and other combustible materials. Do not store near combustible materials. Store in a tightly closed container.
Avoid breathing dust.
Avoid contact with eyes, skin and clothing.
Remove and wash contaminated clothing promptly.
Use only with adequate ventilation.
Wash thoroughly after handling.
Store preferably below 30C
Label First Aid:
If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases, get medical attention.
Product Use:
Laboratory Reagent.
Revision Information:
No Changes.
Disclaimer:
*****************************************************************************
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A6048

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