SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonium Nitrate

Flinn Scientific, Inc.  P.O. Box 219,  Batavia, IL  60510  (800) 452-1261
CHEMTREC Emergency Phone Number: (800) 424-9300

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Oxidizing solids (Category 3). May intensify fire; oxidizer (H272). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Hazard class: Skin corrosion or irritation (Category 2). Causes skin irritation (H315).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS Number</th>
<th>Formula</th>
<th>Formula Weight</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium nitrate</td>
<td>6484-52-2</td>
<td>NH₄NO₃</td>
<td>80.04</td>
<td></td>
</tr>
</tbody>
</table>

Synonym: Nitric acid, ammonium salt

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

**If inhaled**: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). **If in eyes**: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338).

**If on skin**: Wash with plenty of water (P302+P352). **If skin irritation occurs**: Get medical advice or attention (P332+P313).

**If swallowed**: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

May explode under confinement and high temperatures or if exposed to reducing agents.

When heated to decomposition, may emit toxic fumes.

**In case of fire**: Use a tri-class dry chemical fire extinguisher. Take any precautions to avoid mixing with combustibles (P221+P370+P378).

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and water. Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.
Ammonium Nitrate

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #8. Store with borates, chromates, manganates, and permanganates. Store away from all combustibles. Keep and store away from clothing and combustible materials (P220). Take any precautions to avoid mixing with combustibles (P221). Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES


SECTION 10 — STABILITY AND REACTIVITY

Store away from any source of combustion or ignition. Avoid contact with reducing agents, strong acids, finely powdered metals, and organic materials. Do not grind in a mortar and pestle - potentially shock sensitive. Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant, gastrointestinal disturbances. ORL-RAT LD₅₀: 2217 mg/kg Chronic effects: N.A. IHL-RAT LC₅₀: N.A. Target organs: Blood, central nervous system. SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding. Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Ammonium Nitrate. Hazard class: 5.1, Oxidizer. UN number: UN1942.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (229-347-8), RCRA code D001, D003.

SECTION 16 — OTHER INFORMATION

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Revision Date: July 6, 2015

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Safety Data Sheet (SDS)

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Sodium Carbonate

Flinn Scientific, Inc.  P.O. Box 219,  Batavia, IL  60510  (800) 452-1261
CHEMTREC Emergency Phone Number: (800) 424-9300

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Hazard class: Skin corrosion or irritation (Category 3). Causes mild skin irritation (H316).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS Number</th>
<th>Formula</th>
<th>Formula Weight</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium carbonate, anhydrous</td>
<td>497-19-8</td>
<td>Na₂CO₃</td>
<td>105.99</td>
<td></td>
</tr>
</tbody>
</table>

Synonym: Soda ash

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). If eye irritation persists: Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code

None established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Do not allow solid to become airborne. Ventilate area. Wipe up, place in sealed bag or container and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.
SECTION 7 — HANDLING AND STORAGE


SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White crystals or powder. Odorless. Melting point: 856 °C
Soluble: Water and glycerol. Insoluble in alcohol. Specific gravity: 2.54

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acids, aluminum. Reacts vigorously with fluorine. Shelf life: Fair, hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant ORL-RAT LD₅₀: 4090 mg/kg
Chronic effects: N.A. IHL-RAT LC₅₀: 2300 mg/m³ 2 Hour
Target organs: Investigated as a mutagen. SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

LC₅₀ 96 Hr Lepomis macrochirus: 300 mg/L

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding. Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (207-838-8).

SECTION 16 — OTHER INFORMATION

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Revision Date: March 21, 2014

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SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Lithium Chloride

Flinn Scientific, Inc.  P.O. Box 219,  Batavia, IL  60510  (800) 452-1261
CHEMTREC Emergency Phone Number: (800) 424-9300

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

Hazard class: Specific target organ toxicity, single exposure; Respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name  CAS Number  Formula  Formula Weight  Concentration
Lithium chloride  7447-41-8  LiCl  42.40

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).
If inhaled: Remove victim to fresh air in a position comfortable for breathing (P304+P340).
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). If eye irritation persists: Get medical advice or attention (P337+P313).
If on skin: Wash with plenty of water.
If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P301+P330+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.
When heated to decomposition, may emit toxic fumes.
In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.
SECTION 7 — HANDLING AND STORAGE


SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

- White crystals. Odorless.
- Soluble: Water and alcohol

- Boiling point: 1383 °C
- Melting point: 610 °C
- Specific gravity: 2.07

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers and strong acids.
Shelf life: Fair to poor, deliquescent. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

- Acute effects: Irritant.
- Chronic effects: Possible teratogen.
- Target organs: Central nervous system.

- ORL-RAT LD₅₀: 526 mg/kg
- IHL-RAT LC₅₀: N.A.
- SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-212-3).

SECTION 16 — OTHER INFORMATION

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Revision Date: March 21, 2014

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SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Calcium Chloride

Flinn Scientific, Inc.  P.O. Box 219, Batavia, IL 60510  (800) 452-1261
CHEMTREC Emergency Phone Number: (800) 424-9300

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS Number</th>
<th>Formula</th>
<th>Formula Weight</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium chloride, anhydrous</td>
<td>10043-52-4</td>
<td>CaCl₂</td>
<td>110.98</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). If eye irritation persists: Get medical advice or attention (P337+P313).
If on skin: Rinse cautiously with water for several minutes (P351).
If swallowed: Rinse mouth. Contact a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.
When heated to decomposition, may emit toxic fumes.
In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code: None

Established:

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.
SECTION 7 — HANDLING AND STORAGE

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION
Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES
White powder, crystals, or flakes. Odorless.
Soluble: Water and alcohol. Liberates heat in water.
Boiling point: 1670 °C
Melting point: 772 °C
Specific gravity: 2.15

SECTION 10 — STABILITY AND REACTIVITY
Avoid contact with strong acids.
Shelf life: Fair to poor, hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION
Acute effects: Irritant.
Chronic effects: N.A.
Target organs: N.A.
ORL-RAT LD₅₀: 1000 mg/kg
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION
Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS
Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION
Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION
TSCA-listed, EINECS-listed (233-140-8).

SECTION 16 — OTHER INFORMATION
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Revision Date: March 21, 2014
SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Sodium Chloride

Flinn Scientific, Inc.  P.O. Box 219,  Batavia, IL  60510  (800) 452-1261
CHEMTREC Emergency Phone Number: (800) 424-9300

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Product should be treated as a chemical and is not for consumption as it has been stored with other nonfood-grade chemicals.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name   CAS Number   Formula   Formula Weight   Concentration
Sodium chloride   7647-14-5   NaCl      58.45

Synonym: Table salt

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
If skin irritation occurs: Get medical advice or attention (P332+P313).
If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Noncombustible solid.
When heated to decomposition, may emit toxic fumes.
In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code
None

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

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SECTION 10 — STABILITY AND REACTIVITY
Reacts violently with bromine trifluoride and lithium. Avoid contact with strong oxidizers, acids, bromine.
Shelf life: Fair, somewhat hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION
Acute effects: Irritant, dehydration.
Chronic effects: N.A.
Target organs: Investigated as a mutagen, reproductive effector.

ORL-RAT LD₅₀: 3000 mg/kg
IHL-RAT LC₅₀: >42 g/m³ 1Hr
SKN-RBT LD₅₀: >10 mg/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION
Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS
Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION
Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION
TSCA-listed, EINECS-listed (231-598-3).

SECTION 16 — OTHER INFORMATION
This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

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