Nitrogen (Gas)

Nitrogen Gas; Nitrogen.

Nitrogen/ALIGAL™ 1/ALBee Cool/LASAL 2001

Various/Special atmospheres for food.

Material safety data sheet

Product name: Nitrogen (Gas)
Synonym: Nitrogen Gas; Nitrogen.
Trade name: Nitrogen/ALIGAL™ 1/ALBee Cool/LASAL 2001
Material uses: Various/Special atmospheres for food.
CAS number: 7727-37-9
Supplier/Manufacturer: Air Liquide Canada Inc.
Address: 1250, René-Lévesque West, Suite 1700 Montreal, QC H3B 5E6 www.airliquide.ca 1-800-817-7697
Prepared by: IHS
In case of emergency: (514) 878-1667

1. Product and company identification

2. Hazards identification

Physical state: Gas. [Compressed gas.]
Color: Colorless.
Odor: Odorless.

Signal word: CAUTION!
Hazard statements: HIGH PRESSURE GAS. GAS REDUCES OXYGEN AVAILABLE FOR BREATHING. AT VERY HIGH CONCENTRATIONS, CAN DISPLACE THE NORMAL AIR AND CAUSE SUCCOFICATION FROM LACK OF OXYGEN. MAY CAUSE TARGET ORGAN DAMAGE; BASED ON ANIMAL DATA.

Precautions: Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen. Do not puncture or incinerate container. Do not enter storage areas and confined spaces unless adequately ventilated. Do not breathe gas. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use.

Routes of entry: Dermal contact. Eye contact. Inhalation.

Potential acute health effects:
Inhalation: At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Potential chronic health effects:
Chronic effects: May cause target organ damage, based on animal data.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Nitrogen (Gas)

2. Hazards identification

Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.
Target organs : May cause damage to the following organs: lungs.

Over-exposure signs/symptoms

Inhalation : No specific data.
Ingestion : No specific data.
Skin : No specific data.
Eyes : No specific data.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitrogen</td>
<td>7727-37-9</td>
<td>100</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : As this product is a gas, refer to the inhalation section.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Antidote information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Antidote information</th>
</tr>
</thead>
<tbody>
<tr>
<td>No antidote information known</td>
<td></td>
</tr>
</tbody>
</table>

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
5. Fire-fighting measures

Flammability of the product: Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.

Extinguishing media:
- Suitable: Use an extinguishing agent suitable for the surrounding fire.
- Not suitable: None known.

Special exposure hazards: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous thermal decomposition products: Decomposition products may include the following materials:
- nitrogen oxides

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8). If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. Never fix a leak while the system is under pressure. If leak is on container or container valve, contact the closest Air Liquide Canada location.

Environmental precautions: Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up:
- Small spill: Immediately contact emergency personnel. Stop leak if without risk.
- Large spill: Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling: Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Valve protection caps must remain in place unless cylinder is secured with valve outlet piped to usage point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow to the cylinder. Do not tamper with (valve) safety device. Close valve after each use and when empty.

Canada
www.airliquide.ca
1-800-817-7697
Nitrogen (Gas)

7. Handling and storage

Storage: Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C/125°F. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a “first in - first out” inventory system to prevent full cylinders being stored for excessive periods of time. Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Protect from sunlight. Keep container tightly closed and sealed until ready for use.

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>List name</th>
<th>TWA (8 hours) ppm</th>
<th>mg/m³</th>
<th>STEL (15 mins) ppm</th>
<th>mg/m³</th>
<th>Ceiling ppm</th>
<th>mg/m³</th>
<th>Other</th>
<th>Notations</th>
</tr>
</thead>
<tbody>
<tr>
<td>nitrogen</td>
<td>Simple asphyxiant.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[2]</td>
</tr>
</tbody>
</table>


Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. If operating conditions cause high gas concentrations to be produced or any recommended or statutory exposure limit is exceeded, use an air-fed respirator or self-contained breathing apparatus. The gas can cause asphyxiation without warning by replacing the oxygen in the air. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Nitrogen (Gas)

8. Exposure controls/personal protection

**Eyes**
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin**
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Environmental exposure controls**
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Gas. [Compressed gas.]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flash point</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flammable limits</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Colorless.</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Odorless.</td>
</tr>
<tr>
<td><strong>Molecular weight</strong></td>
<td>28.02 g/mole</td>
</tr>
<tr>
<td><strong>Molecular formula</strong></td>
<td>N2</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Boiling/condensation point</strong></td>
<td>-195.79°C (-320.4°F)</td>
</tr>
<tr>
<td><strong>Melting/freezing point</strong></td>
<td>-209.99°C (-346°F)</td>
</tr>
<tr>
<td><strong>Critical temperature</strong></td>
<td>-146.9°C (-232.4°F)</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>0.97</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>0.808 g/cm³</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>&gt;101.3 kPa (&gt;760 mm Hg) [room temperature]</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>0.97 [Air = 1]</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Insoluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td><strong>Water solubility (g/l)</strong></td>
<td>&lt;0.017 g/l</td>
</tr>
<tr>
<td><strong>LogKow</strong></td>
<td>0.67</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

**Chemical stability**
The product is stable.

**Conditions to avoid**
No specific data.

**Incompatible materials**
No specific data.

**Hazardous decomposition products**
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Possibility of hazardous reactions**
Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerization will not occur.
Nitrogen (Gas)

10. Stability and reactivity

11. Toxicological information

**Acute toxicity**
Not available.

**Chronic toxicity**
Not available.

**Irritation/Corrosion**
Not available.

**Sensitizer**
Not available.

**Carcinogenicity**
**Classification**
Not available.

**Mutagenicity**
Not available.

**Teratogenicity**
Not available.

**Reproductive toxicity**
Not available.

12. Ecological information

**Ecotoxicity**
This product shows a low bioaccumulation potential.

**Aquatic ecotoxicity**
Not available.

**Persistence/degradability**
Not available.

**Partition coefficient: n-octanol/water**
0.67

**Bioconcentration factor**
Not available.

**Mobility**
Not available.

**Toxicity of the products of biodegradation**
Not available.

**Other adverse effects**
No known significant effects or critical hazards.
13. Disposal considerations

**Waste disposal**: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Classes</th>
<th>PG*</th>
<th>Label</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDG Classification</td>
<td>UN1066</td>
<td>NITROGEN, COMPRESSED</td>
<td>2.2</td>
<td>-</td>
<td></td>
<td>Explosive Limit and Limited Quantity Index 0.12 Passenger Carrying Road or Rail Index 75</td>
</tr>
<tr>
<td>IMDG Class</td>
<td>UN1066</td>
<td>NITROGEN, COMPRESSED</td>
<td>2.2</td>
<td>-</td>
<td></td>
<td>Emergency schedules (EmS) F-C, S-V</td>
</tr>
<tr>
<td>IATA-DGR Class</td>
<td>UN1066</td>
<td>Nitrogen, compressed</td>
<td>2.2</td>
<td>-</td>
<td></td>
<td>Passenger and Cargo Aircraft Quantity limitation: 75 kg Packaging instructions: 200 Cargo Aircraft Only Quantity limitation: 150 kg Packaging instructions: 200 Limited Quantities: Passenger Aircraft Quantity limitation: Forbidden Packaging instructions: Forbidden Special provisions A69</td>
</tr>
</tbody>
</table>

PG*: Packing group

15. Regulatory information

- **United States inventory (TSCA 8b)**: This material is listed or exempted.
- **WHMIS (Canada)**: Class A: Compressed gas.
- **Canadian NPRI**: This material is not listed.
- **CEPA Toxic substances**: This material is not listed.
- **Canada inventory**: This material is listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.
15. Regulatory information

International regulations

International lists:
- **Australia inventory (AICS)**: This material is listed or exempted.
- **China inventory (IECSC)**: This material is listed or exempted.
- **Japan inventory**: Not determined.
- **Korea inventory**: This material is listed or exempted.
- **Malaysia Inventory (EHS Register)**: Not determined.
- **New Zealand Inventory of Chemicals (NZIoC)**: This material is listed or exempted.
- **Philippines inventory (PICCS)**: This material is listed or exempted.
- **Taiwan inventory (CSNN)**: This material is listed or exempted.

Chemical Weapons Convention List Schedule:
- **Chemical Weapons Convention List Schedule I Chemicals**: Not listed
- **Chemical Weapons Convention List Schedule II Chemicals**: Not listed
- **Chemical Weapons Convention List Schedule III Chemicals**: Not listed

16. Other information

Label requirements:
- **HIGH PRESSURE GAS. GAS REDUCES OXYGEN AVAILABLE FOR BREATHING. AT VERY HIGH CONCENTRATIONS, CAN DISPLACE THE NORMAL AIR AND CAUSE SUCCOFATION FROM LACK OF OXYGEN. MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.**

Hazardous Material Information System (U.S.A.)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protective equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**Date of issue**: 5/8/2014.
**Date of previous issue**: 6/15/2011.
**Version**: 6

*Indicates information that has changed from previously issued version.*

Notice to reader
THE INFORMATION, RECOMMENDATIONS AND DATA CONTAINED IN THIS DOCUMENT ARE INTENDED TO BE USED BY PROPERLY TRAINED AND QUALIFIED PERSONNEL ONLY AND AT THEIR SOLE RISKS AND DISCRETION. THE INFORMATION, RECOMMENDATIONS AND DATA HEREIN CONTAINED ARE DERIVED FROM SOURCES WHICH WE BELIEVE TO BE RELIABLE. HOWEVER, AIR LIQUIDE CANADA INC. MAKES NO REPRESENTATION AND GIVES NO WARRANTY OF ANY KIND WHATSOEVER WITH RESPECT TO THEIR ACCURACY OR COMPLETENESS AND ASSUMES NO LIABILITY FOR DAMAGES OR LOSS ARISING DIRECTLY OR INDIRECTLY FROM THEIR USE, WHETHER PROPER OR IMPROPER.

Notes

ALIGAL™ : Trademark of L’Air Liquide S.A.
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name

ABC SUPER 90 DRY CHEMICAL

Other means of identification

Synonyms

MULTI-PURPOSE DRY CHEMICAL

Recommended use of the chemical and restrictions on use

Recommended Use

Fire Suppression

Uses advised against

Not for human or animal drug use

Details of the supplier of the safety data sheet

Supplier Name

STEEL FIRE EQUIPMENT LTD.

Supplier Address

150 SUPERIOR BLVD
MISSISSAUGA
Ontario
L5T 2L2
CA

Supplier Phone Number

Phone: 9055641500
Fax: 9055640008

Supplier Email

salesl@steelfire.com

Emergency telephone number

Company Emergency Phone Number

CANUTEC – 613 – 996 – 6666 OR *666 ON A CELL PHONE
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

**GHS Label elements, including precautionary statements**

**Emergency Overview**

The product contains no substances which at their given concentration, are considered to be hazardous to health.

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Light yellow</th>
<th>Physical state</th>
<th>Powder(s) Solid</th>
<th>Odor</th>
<th>Odorless</th>
</tr>
</thead>
</table>

**Precautionary Statements - Prevention**
None

**Precautionary Statements - Response**
None

**Precautionary Statements - Storage**
None

**Precautionary Statements - Disposal**
None

**Hazards not otherwise classified (HNOC)**
Not applicable

**Unknown Toxicity**
1.2% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**
May be harmful if swallowed
Harmful to aquatic life with long lasting effects
May cause slight eye irritation

**Interactions with Other Chemicals**
No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms**
MULTI-PURPOSE DRY CHEMICAL.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium sulfate</td>
<td>7783-20-2</td>
<td>1 - 5</td>
<td>*</td>
</tr>
<tr>
<td>Fullers earth</td>
<td>8031-18-3</td>
<td>1 - 5</td>
<td>*</td>
</tr>
<tr>
<td>Mica</td>
<td>12001-26-2</td>
<td>1 - 5</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret*
4. FIRST AID MEASURES

First aid measures

Eye contact  Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin contact  Wash with soap and water.

Inhalation  Remove to fresh air. If symptoms persist, call a physician.

Ingestion  Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects  No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician  Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Uniform Fire Code  COMBUSTIBLE DUST/POWDER

Hazardous Combustion Products
Carbon oxides.

Explosion Data
Sensitivity to Mechanical Impact  No.

Sensitivity to Static Discharge  No.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Avoid contact with skin, eyes or clothing.

Environmental precautions

Environmental precautions
Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Avoid generation of dust. Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage
Keep container tightly closed. Keep/store only in original container.

Incompatible Products

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mica 12001-26-2</td>
<td>TWA: 3 mg/m³</td>
<td>TWA: 20 mppcf (&lt;1% crystalline silica) 3 mg/m³ (vacated)</td>
<td>IDLH: 1500 mg/m³ containing &lt;1% quartz TWA: 3 mg/m³ respirable dust</td>
</tr>
</tbody>
</table>

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Measures
Showers
Eyewash stations
Ventilation systems
Individual protection measures, such as personal protective equipment

Eye/face protection  
Wear safety glasses with side shields (or goggles).

Skin and body protection  
Wear protective gloves and protective clothing.

Respiratory protection  
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Effective dust mask.

Hygiene Measures  
Handle in accordance with good industrial hygiene and safety practice.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Powder(s), Solid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Light yellow</td>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Color</td>
<td>Light yellow</td>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>4-5</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>190 °C</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>Not flammable</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>Not flammable</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.85</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>&gt;33g/100ml</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td></td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>100-120 C</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>0</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
<td>None known</td>
<td></td>
</tr>
<tr>
<td>Softening Point</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOC Content (%)</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Particle Size</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Particle Size Distribution</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Other Information

- Softening Point: No data available
- VOC Content (%): No data available
- Particle Size: No data available
- Particle Size Distribution: No data available
10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Incompatible materials.

Incompatible materials


Hazardous Decomposition Products


11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation May cause irritation of respiratory tract.

Eye contact Contact with eyes may cause irritation.

Skin contact May cause irritation.

Ingestion Specific test data for the substance or mixture is not available.

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium sulfate</td>
<td>= 2640 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7753-20-2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity Contains no ingredient listed as a carcinogen.
Reproductive toxicity  No information available.

STOT - single exposure  No information available.

STOT - repeated exposure  No information available.

Chronic Toxicity  No known effect based on information supplied. Carcinogenic potential is unknown.

Target Organ Effects  None known.

Aspiration Hazard  No information available.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
4,350.00 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity
Harmful to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Microorganisms</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium sulfate 7783-20-2</td>
<td>96h LC50: = 250 mg/L (Brachydano rerio) 96h LC50: = 480 mg/L (Brachydano rerio) 96h LC50: = 18 mg/L (Cyprinus carpio) 96h LC50: = 32.2 - 41.9 mg/L (Oncorhynchus mykiss) 96h LC50: = 18 mg/L (Cyprinus carpio) 96h LC50: = 5.2 - 8.2 mg/L (Oncorhynchus mykiss) 96h LC50: &gt; 100 mg/L (Pimephales promelas) 96h LC50: 123 - 128 mg/L (Poecilia reticulata) 96h LC50: = 126 mg/L (Poecilia reticulata) 96h LC50: = 460 - 1000 mg/L (Leuciscus idus)</td>
<td>48h LC50: = 14 mg/L 24h EC50: = 423 mg/L</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and Degradability
Degradates rapidly in humid/wet environment.

Bioaccumulation

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium sulfate 7783-20-2</td>
<td>-5.1</td>
</tr>
</tbody>
</table>

Other adverse effects
No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated Packaging
Dispose of contents/containers in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT
Proper Shipping Name: NOT REGULATED
Hazard Class: NON REGULATED
N/A

TDG
Not regulated

MEX
Not regulated

ICAO
Not regulated

IATA
Proper Shipping Name: Not regulated
Hazard Class: NON REGULATED
N/A

IMDG/IMO
Hazard Class: Not regulated
N/A

RID
Not regulated

ADR
Not regulated

ADN
Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA
Complies

DSL
All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium sulfate - 7783-20-2</td>
<td>7783-20-2</td>
<td>1 - 5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**

- Acute Health Hazard: No
- Chronic Health Hazard: No
- Fire Hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butanamide, 2,2'-(3,3'-dichloro[1,1'-biphenyl]-4,4'-diyl - 5468-75-7</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

**U.S. State Right-to-Know Regulations**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
<th>Rhode Island</th>
<th>Illinois</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monoammonium phosphate 7722-76-1</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonium sulfate 7783-20-2</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Mica 12001-26-2</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silica, amorphous, precipitated and gel 112926-00-8</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**International Regulations**

**Mexico**

National occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mica 12001-26-2 (1 - 5)</td>
<td></td>
<td>Mexico: TWA= 3 mg/m³</td>
</tr>
</tbody>
</table>

Mexico - Occupational Exposure Limits - Carcinogens

**Canada**

WHMIS Hazard Class

Not determined

**16. OTHER INFORMATION**
NFPA
Health Hazards  1
Flammability  0
Instability  0
Physical and
Chemical Hazards  
HMIS
Health Hazards  1
Flammability  0
Physical Hazard  0
Physical Hazard  0
Personal Protection
X

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Revision Date
05-Nov-2015
Revision Note
No information available

Disclaimer
The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet