Ammonia, anhydrous
Safety Data Sheet
Date of issue: 01/01/1981 Revision date: 03/23/2015 Supersedes: 01/06/2015

SECTION 1: Product and company identification

1.1. Product identifier
Product form : Substance
Name : Ammonia, anhydrous
CAS No : 7664-41-7
Formula : NH₃

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture : Industrial use. Use as directed.

1.3. Details of the supplier of the safety data sheet
Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number
Emergency number : Onsite Emergency: 1-800-645-4633
CHEMTREC, 24hr/day 7days/week — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887 (collect calls accepted, Contract 17729)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification (GHS-US)
Liquefied gas H280
Acute Tox. 3 (Inhalation) H331
Skin Corr. 1B H314

2.2. Label elements
GHS-US labeling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : DANGER
Hazard statements (GHS-US) :
H221 - FLAMMABLE GAS
H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
H331 - TOXIC IF INHALED
H314 - CAUSES SEVERE SKIN BURNS AND EYE DAMAGE
H400 - VERY TOXIC TO AQUATIC LIFE
CGA-HG22 - CORROSIVE TO THE RESPIRATORY TRACT

Precautionary statements (GHS-US) :
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from Heat, Open flames, Sparks, Hot surfaces. - No smoking
P260 - Do not breathe gas
P262 - Do not get in eyes, on skin, or on clothing.
P271+P403 - Use and store only outdoors or in a well-ventilated place.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P361 - Eliminate all ignition sources if safe to do so
P501 - Dispose of contents/container in accordance with container supplier/owner instructions
CGA-PG05 - Use a back flow preventive device in the piping.
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CGA-PG20+CGA-PG10 - Use only with equipment of compatible materials of construction and rated for cylinder pressure.
CGA-PG12 - Do not open valve until connected to equipment prepared for use.
CGA-PG06 - Close valve after each use and when empty.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).

2.3. Other hazards

Other hazards not contributing to the classification: Contact with liquid may cause cold burns/frostbite.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia, anhydrous</td>
<td>(CAS No) 7664-41-7</td>
<td>100</td>
</tr>
</tbody>
</table>

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First-aid measures after skin contact: In case of contact, immediately flush affected areas with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash clothing before reuse. Discard contaminated shoes.

First-aid measures after eye contact: Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately. Get immediate medical attention.

First-aid measures after ingestion: Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Treat with corticosteroid spray as soon as possible after inhalation. Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Carbon dioxide, Dry chemical, Water spray or fog.

5.2. Special hazards arising from the substance or mixture

Reactivity: No reactivity hazard other than the effects described in sub-sections below.

5.3. Advice for firefighters

Firefighting instructions: Take care not to extinguish flames. If flames are accidentally extinguished, explosive re-ignition may occur. Allow fire to burn out.

Protection during firefighting: Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.

Special protective equipment for fire fighters: Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
Other information: Heat of fire can build pressure in cylinder and cause it to rupture. No part of a cylinder should be subjected to a temperature higher than 125°F (52°C). Cylinders are equipped with a pressure-relief device. (Exceptions may exist where authorized by DOT, in this case where cylinders contain less than 165 pounds of product.) If leaking or spilled product catches fire, do not extinguish flames. Flammable and toxic vapors may spread from leak and could explode if reinitiated. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with an appropriate device. Reverse flow into cylinder may cause rupture. To protect persons from cylinder fragments and toxic fumes if a rupture occurs, totally evacuate the area if the fire cannot be brought under immediate control.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Evacuate personnel to a safe area. Appropriate self-contained breathing apparatus may be required. Approach suspected leak area with caution. Remove all sources of ignition. If safe to do so. Reverse flow into cylinder may cause rupture. Reduce gas with fog or fine water spray. Stop flow of product if safe to do so. Ventilate area or move container to a well-ventilated area. Flammable gas may spread from leak. Before entering the area, especially a confined area, check the atmosphere with an appropriate device.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Do not breathe gas/vapor. Avoid all contact with skin, eyes, or clothing. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment.

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.
7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods.

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>ACGIH</th>
<th>ACGIH TLV-TWA (ppm)</th>
<th>25 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACGIH</td>
<td>ACGIH TLV-STE (ppm)</td>
<td>35 ppm</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>35 mg/m³</td>
<td></td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
<td>50 ppm</td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls: Use a local exhaust system, if necessary, to prevent oxygen deficiency and to keep hazardous fumes and gases below all applicable limits in the worker's breathing zone. MECHANICAL ENGINEERING CONTROLS: Not recommended as a primary ventilation system to control worker's exposure. USE ONLY IN A CLOSED SYSTEM. An explosion-proof, corrosion-resistant, forced-draft fume hood is preferred.

Personal protective equipment: Wear metatarsal shoes and work gloves for cylinder handling, and protective clothing where needed. Wear appropriate chemical gloves (e.g. neoprene, nitrile, etc.) during cylinder changeout or wherever contact with product is possible. Select per OSHA 29 CFR 1910.132, 1910.136, and 1910.138.

Eye protection: Wear safety glasses when handling cylinders; vapor-proof goggles and a face shield during cylinder changeout or whenever contact with product is possible. Select eye protection in accordance with OSHA 29 CFR 1910.133.

Skin and body protection: Wear metatarsal shoes and work gloves for cylinder handling, and protective clothing where needed. Wear appropriate chemical gloves (e.g. neoprene, nitrile, etc.) during cylinder changeout or wherever contact with product is possible. Select per OSHA 29 CFR 1910.132, 1910.136, and 1910.138.

Respiratory protection: When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 7.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

Thermal hazard protection: Wear cold insulating gloves when transferring or breaking transfer connections.

Environmental exposure controls: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

Other information: Keep suitable chemically resistant protective clothing readily available for emergency use. Wear leather safety gloves and safety shoes when handling cylinders.
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Gas</td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless gas. Liquid under pressure.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>17 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless.</td>
</tr>
<tr>
<td>Odor</td>
<td>Ammoniacal.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (ether=1)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting point</td>
<td>-77.7 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>-33 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>132 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>650 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>≥ 16 vol % 25</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>860 kPa</td>
</tr>
<tr>
<td>Critical pressure</td>
<td>11350 kPa</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.7</td>
</tr>
<tr>
<td>Density</td>
<td>0.682 g/cm³ (at -33 °C)</td>
</tr>
<tr>
<td>Relative gas density</td>
<td>0.6</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: 517000 mg/l</td>
</tr>
<tr>
<td>Log Pow</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Log Kow</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>None.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>9.2. Other information</td>
<td>Liquefied gas</td>
</tr>
<tr>
<td>Additional information</td>
<td>None.</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: "Stability-Reactivity").

10.4. Conditions to avoid

Avoid moisture in installation systems.
10.5. Incompatible materials
Gold, silver, mercury, Oxidizing agents, Halogens, Halogenated compounds, Acids, Copper, Zinc, Copper/Zinc alloys (Brass), Chlorates.

10.6. Hazardous decomposition products
The normal products of combustion are nitrogen and water. Hydrogen may be formed at temperatures above 1,544°F (840°C).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Inhalation: TOXIC IF INHALED.

Ammonia, anhydrous (\(7664-41-7\))

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Exposure time, Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 inhalation rat (ppm)</td>
<td>7338 ppm/1h</td>
</tr>
<tr>
<td>ATE US (gases)</td>
<td>700.000 ppmV/4h</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>3.000 mg/l/4h</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
<td>0.500 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

Serious eye damage/irritation: Not classified
pH: Not applicable.

Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity (single exposure): Not classified
Specific target organ toxicity (repeated exposure): Not classified
Aspiration hazard: Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: VERY TOXIC TO AQUATIC LIFE. No ecological damage caused by this product.

Ammonia, anhydrous (7664-41-7)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Exposure time, Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>0.44 mg/l (96 h - Cyprinus carpio)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>25.4 mg/l (48 h - Daphnia magna)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>0.26 - 4.6 mg/l (96 h - Lepomis macrochirus)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

Ammonia, anhydrous (7664-41-7)
Persistence and degradability: The substance is biodegradable. Unlikely to persist.

12.3. Bioaccumulative potential

Ammonia, anhydrous (7664-41-7)
Log Pow: Not applicable.
Log Kow: Not applicable.
Bioaccumulative potential: Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

12.4. Mobility in soil

Ammonia, anhydrous (7664-41-7)
Mobility in soil: No data available.
Ecology - soil: Because of its high volatility, the product is unlikely to cause ground or water pollution.
12.5. Other adverse effects

Other adverse effects: May cause pH changes in aqueous ecological systems.
Effect on ozone layer: None.
Effect on the global warming: No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations: Do not attempt to dispose of residual or unused quantities. Return container to supplier.

SECTION 14: Transport information

In accordance with DOT
Transport document description: UN1005 Ammonia, anhydrous, 2.2
UN-No.(DOT): UN1005
Proper Shipping Name (DOT): Ammonia, anhydrous
Department of Transportation (DOT) Hazard Classes: 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Hazard labels (DOT): 2.2 - Non-flammable gas

DOT Symbols: D - Proper shipping name for domestic use only, or to and from Canada
DOT Special Provisions (49 CFR 172.102): 13 - The words Inhalation Hazard shall be entered on each shipping paper in association with the shipping description, shall be marked on each non-bulk package in association with the proper shipping name and identification number, and shall be marked on two opposing sides of each bulk package. Size of marking on bulk package must conform to 172.302(b) of this subchapter. The requirements of 172.203(m) and 172.505 of this subchapter do not apply.
T50: When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.

Marine pollutant: Yes

Additional information

Emergency Response Guide (ERG) Number: 125 (UN1005);154 (UN2672)
Other information: No supplementary information available.
Special transport precautions: Avoid transport on vehicles where the load space is not separated from the driver’s compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:
- Ensure there is adequate ventilation.
- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG): 1005
Proper Shipping Name (IMDG): AMMONIA, ANHYDROUS
Class (IMDG): 2 - Gases
MFAG-No: 125
## Air transport

| UN-No. (IATA) | : 1005 |
| Proper Shipping Name (IATA) | : Ammonia, anhydrous |
| Class (IATA) | : 2 |
| Civil Aeronautics Law | : Gases under pressure/Gases toxic under pressure |

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| Ammonia, anhydrous (7664-41-7) |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |
| Listed on the United States SARA Section 302 |
| Listed on United States SARA Section 313 |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 500 |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard, Delayed (chronic) health hazard, Sudden release of pressure hazard, Fire hazard |
| SARA Section 313 - Emission Reporting | 1.0 % (includes anhydrous Ammonia and aqueous Ammonia from water dissociable Ammonium salts and other sources, 10% of total aqueous Ammonia is reportable under this listing) |

Ammonia, anhydrous

| CAS No 7664-41-7 | 100% |

### 15.2. International regulations

**CANADA**

| Ammonia, anhydrous (7664-41-7) |
| Listed on the Canadian DSL (Domestic Substances List) |

**EU-Regulations**

| Ammonia, anhydrous (7664-41-7) |
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

### 15.2. National regulations

| Ammonia, anhydrous (7664-41-7) |
| Listed on the AICS (Australian Inventory of Chemical Substances) |
| Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) |
| Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory |
| Listed on the Korean ECL (Existing Chemicals List) |
| Listed on NZIoC (New Zealand Inventory of Chemicals) |
| Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) |
| Japanese Poisonous and Deleterious Substances Control Law |
| Listed on the Canadian IDL (Ingredient Disclosure List) |

### 15.3. US State regulations

| Ammonia, anhydrous(7664-41-7) |
| U.S. - California - Proposition 65 - Carcinogens List | No |
| U.S. - California - Proposition 65 - Developmental Toxicity | No |
| U.S. - California - Proposition 65 - Reproductive Toxicity - Female | No |
**Ammonia, anhydrous**

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**U.S. - California - Proposition 65 - Reproductive Toxicity - Male**

No

**State or local regulations**

- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
- U.S. - Pennsylvania - RTK (Right to Know) List

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity

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**SECTION 16: Other information**

**Revision date**: 3/23/2015 12:00:00 AM

**Other information**:

When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

Praxair SDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.com. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (Phone: 1-800-PRAXAIR/1-800-772-9247; Address: Praxair Call Center, Praxair, Inc., P.O. Box 44, Tonawanda, NY 14151-0044).

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**NFPA health hazard**

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.</td>
</tr>
</tbody>
</table>

**NFPA fire hazard**

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Must be preheated before ignition can occur.</td>
</tr>
</tbody>
</table>

**NFPA reactivity**

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normally stable, even under fire exposure conditions, and are not reactive with water.</td>
</tr>
</tbody>
</table>

---

**HMIS III Rating**

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given</td>
</tr>
<tr>
<td>Flammability</td>
<td>1 Slight Hazard</td>
</tr>
<tr>
<td>Physical</td>
<td>2 Moderate Hazard</td>
</tr>
</tbody>
</table>

---

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.