



**Intermountain
Specialty Gases**

Hydrogen Chloride (0.0001% - 0.9999%) in Nitrogen

Issue date March 1, 2015
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Safety Data Sheet

SDS ID# 4099

Section 1. IDENTIFICATION

1.1. Product identifier

Product form : Mixture
Product name : Hydrogen Chloride (0.0001% - 0.9999%) in Nitrogen

1.2. Relevant identified uses of the substance or mixture and uses advised against

Product use : Calibration gas/Bumptest gas/Function test gas

1.3. Details of the supplier of the safety data sheet

Intermountain Specialty Gases
520 N. Kings Road
Nampa, ID 83687
Telephone 1-208-466-9425 or Toll free 1-800-552-5003
Fax 1-208-466-9144
www.isgases.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300

Section 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification : GASES UNDER PRESSURE - Compressed gas
Simple asphyxiant - Yes

2.2. Label elements

Hazard pictograms



Signal word : WARNING

Hazard statements : H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
: OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
: OSHA - PG01 - DO NOT REMOVE THIS PRODUCT LABEL

Precautionary statements

[General] : Read and follow all Safety Data Sheets (SDS's) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have a product container or label at hand. Use equipment rated for cylinder pressure.

[Prevention] : P202 - Do not handle until all safety precautions have been read and understood
: P308+P313 - If exposed or concerned: Get medical advice/attention.
: P271+P403- Use only outdoors or in a well-ventilated area

[Response] : P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
: P313 - Get medical advice/attention.

[Storage] : CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

[Disposal] : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity

No data available

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product Identifier | % |
|-------------------|--------------------|-------------------|
| Nitrogen | (CAS No) 7727-37-9 | 99.9999 - 99.0001 |
| Hydrogen Chloride | (CAS No) 7647-01-0 | 0.0001 - 0.9999 |

Section 4. FIRST AID MEASURES

4.1. Description of first aid measures

General : IF exposed or concerned: Get medical advice/attention.
Inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing has stopped, give artificial respiration or oxygen by trained personnel. If victim feels unwell, seek medical advice.
Skin contact : Immediately flush with copious amount of water for at least 15 minutes.
Eye contact : Immediately flush with copious amount of water for at least 15 minutes.
Ingestion : Ingestion is not considered a potential route of exposure, refer to the inhalation section.

4.2. Most important symptoms/effects, acute and delayed

Acute

Inhalation : May displace oxygen and cause rapid suffocation.
Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.
Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.
Ingestion : Ingestion is not considered a potential route of exposure, refer to the inhalation section.
Frostbite : Thaw frosted parts with lukewarm water. Do not rub affected areas. Get immediate medical advice/attention.

| | |
|---|---|
| Symptoms/injuries upon intravenous administration | : Not known |
| Chronic symptoms | : Adverse effects not expected from this product. |
| Delayed | : Adverse effects not expected from this product. |

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

If victim feels unwell, seek medical advice. If breathing is difficult, give artificial respiration or oxygen by trained personnel.

Section 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

| | |
|--------------------------------|---|
| Suitable extinguishing media | : Use extinguishing media appropriate for surrounding fire. |
| Unsuitable extinguishing media | : None known |

5.2. Special hazards arising from the substance or mixture

| | |
|------------------|---|
| Fire hazard | : The product is not flammable |
| Explosion hazard | : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. |
| Reactivity | : None known. |

5.3. Advice for fire-fighters

| | |
|--------------------------------|---|
| Firefighting instructions | : In case of fire: Evacuate all personnel from the danger area. Stop the leak and flow of gas before extinguishing fire, if safe to do so. If this is not possible, withdraw from area and allow fire to burn. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Let the fire burn. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Exercise caution when fighting any chemical fire. |
| Protection during firefighting | : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus, SCBA) for fire fighters. Do not enter fire area without proper protective equipment, including respiratory protection. |

Section 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

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|---|--|
| General measures | : Ensure adequate ventilation. |
| 6.1.1. For non-emergency personnel | |
| Protective equipment | : Wear protective equipment consistent with the site emergency plan. |
| Emergency procedures | : Escape the danger area by the closest safe route. Close doors and windows of adjacent premises. Keep containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind. |
| 6.1.12. For emergency responders | |
| Protective equipment | : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection. |
| Emergency procedures | : Evacuate and limit access. Ventilate area. See information above "For non-emergency personnel". |

6.2. Methods and material for containment and cleaning up

| | |
|-------------------------|---|
| For containment | : Immediately contact emergency personnel. Try to stop gas leak if safe to do so. |
| Methods for cleaning up | : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. |

Section 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

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|---------------------------------|---|
| Precautions for safety handling | : Pressurized container: Do not pierce or burn, even after use. Use equipment rated |
|---------------------------------|---|

for cylinder pressure. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Protect cylinders from physical damage; do not drag, roll, slide, or drop.

Hygiene measures : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : None known.

Storage conditions : Do not expose to temperatures exceeding 52°C (125°F). Store locked up. Keep containers closed when not in use. Protect cylinder from physical damage. Store and use away from heat, sparks, open flame or any other ignition source. Store in well ventilated area.

Incompatible products : None known.

Incompatible materials : None known.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Nitrogen (7727-37-9)

| OSHA PEL | | Cal/OSHA PEL | NIOSH REL | ACGIH 2015 TLV |
|------------------------|------------------------|--|---|--|
| ppm | mg/m ³ | (as of 4/26/13) | (as of 4/26/13) | 8-hour TWA (ST) STEL (C) Ceiling |
| | | 8-hour TWA (ST) STEL (C) Ceiling | up to 10-hour TWA (ST) STEL (C) Ceiling | |
| <i>Not established</i> | <i>Not established</i> | <i>Not established</i> | <i>Not established</i> | Simple asphyxiant |

Hydrogen Chloride (7647-01-0)

| OSHA PEL | | Cal/OSHA PEL | NIOSH REL | ACGIH 2017 TLV |
|-------------|---------------------------|--|---|--|
| ppm | mg/m ³ | (as of 4/26/13) | (as of 10/2016) | 8-hour TWA (ST) STEL (C) Ceiling |
| | | 8-hour TWA (ST) STEL (C) Ceiling | up to 10-hour TWA (ST) STEL (C) Ceiling | |
| (C) 5 ppm | (C) 7 mg/m ³ | 0.3 ppm (ST) 2 ppm | (C) 5 ppm | 2 ppm |

8.2. Appropriate engineering controls

Engineering measures/controls : Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly check for leakages. Ensure exposure is below occupational exposure limits. Oxygen detectors should be used when asphyxiating gases may be released. Consider work permit system e.g. for maintenance activities.

8.3. Individual protection measures

Hand protection : Wear working gloves when handling gas containers. 29CFR 1910.138: Hand Protection.

Eye protection : Wear safety glasses with side shields. 29 CFR 1910.133: Eye and Face Protection.

Skin and body protection : Wear suitable protective clothing, e.g.-Lab coats, coveralls or flame resistant clothing.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Thermal hazard protection : None necessary during normal and routine operations.
 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 : Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Exposure controls

Appearance : Clear, colorless gas.
 Physical state : Gas
 Color : Slightly green
 Odor : Pungent
 Odor threshold : 1-5 ppm
 pH : No data available
 Freezing point : No data available
 Flash point : No data available
 Evaporation rate : No data available
 Flammability (solid, gas) : Not Flammable - not combustible
 Upper flammability : Not Flammable - not combustible
 Lower flammability : Not Flammable - not combustible
 Relative density : No data available
 Solubility : No data available
 Partition coefficient : No data available
 Auto-ignition temperature : No data available
 Decomposition temperature : No data available
 Viscosity : Not applicable

| | Hydrogen Chloride | Nitrogen | | |
|--------------------------|---------------------------------|----------------------------|--|--|
| Molecular weight (grams) | 36.46 | 28.013 | | |
| Boiling point | -85.0 °C | -196 °C | | |
| Vapor pressure | 4227kPa@21.1 °C | Above critical temperature | | |
| Vapor density at 20°C | 1.266 | 0.97 | | |
| Relative gas density | 1.524 @ 20 °C | 1.153 | | |
| Critical Temperature | 51.4 °C | -146.9 °C | | |

Section 10. STABILITY AND REACTIVITY

10.1. Reactivity

No reactivity hazard other than the effects described below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Highly soluble in water-will react to yield dense, acrid HCL fumes. Reacts vigorously with alkalis and many organic materials with liberation of heat. Strong oxidizers cause release of chlorine. Hydrochloric acid solutions react with metals to release flammable hydrogen gas.

10.4. Conditions to avoid

Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Fluoring. Calcium carbide. Cesium Carbide. Rubidium carbide. Lithium silicide.

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

Section 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Nitrogen (7727-37-9)

LC50 inhalation rat (ppm) 410,000 ppm/ 4 hours

Hydrogen Chloride (7647-01-0)

LC50 inhalation rat (ppm) 3124 ppm / 1 hour
1562 ppm / 4 hours

11.1. Information on routes of exposure

Inhalation : May displace oxygen and cause rapid suffocation.
Skin contact : Adverse effects not expected from this product
Eye contact : May cause irritation.
Ingestion : Ingestion is not considered a potential route of exposure

11.2. Symptoms related to physical, chemical and toxicological characteristics

Symptoms : No information available

11.3. Delayed and immediate effects

Skin corrosion/irritation : Contact with rapidly expanding gas may cause burns or frostbite.

Serious eye damage/irritation : Contact with rapidly expanding gas may cause burns or frostbite.

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Developmental Toxicity : Not classified
Specific target organ toxicity (single exposure) : Respiratory system, eyes, skin
Specific target organ toxicity (repeated exposure) : Respiratory system, eyes, skin
Aspiration hazard : Not classified
Not applicable for gases and gas-mixtures

11.4. Carcinogenic effects

The components of this material are not found on the following lists: FEDERAL OSHA Z LIST, NTP AND IARC; therefore, they are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

Section 12. ECOLOGICAL INFORMATION

12.1. Aquatic Toxicity

Hydrogen Chloride (7647-01-0)

Fish
282: 96 hGambusia affinis mg/L LC50
static

Crustacean
-

12.2. Persistence and degradability

No information available for the product

12.3. Bioaccumulative potential

| Product/ingredient name | LogPow | BCF | Potential |
|-------------------------|--------|-----|-----------|
| Nitrogen | 0.67 | - | Low |
| Hydrogen Chloride | 0.25 | - | Low |

12.4. Mobility in soil

No information available for the product





12.5. Other

No information available for the product

Section 13. DISPOSAL CONSIDERATIONS**13.1. Disposal methods**

Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14. TRANSPORTATION INFORMATION

| | US DOT | TDG | IMDG | IATA |
|-----------------------------------|--|--|---|--|
| UN # | UN 1956 | UN 1956 | UN 1956 | UN 1956 |
| Proper shipping name | Compressed gas, n.o.s. (Nitrogen, Hydrogen Chloride) | Compressed gas, n.o.s. (Nitrogen, Hydrogen Chloride) | Compressed gas, n.o.s. (Nitrogen, Hydrogen Chloride) | Compressed gas, n.o.s. (Nitrogen, Hydrogen Chloride) |
| Transport hazard class(es) | 2.2  | 2.2  | 2.2  | 2.2  |
| Packing group | - | - | - | - |
| Environment | No. | No. | No. | No. |

Section 15. REGULATORY INFORMATION**15.1. US Federal regulations****SARA 311/312 hazard categories**

Acute Health : No
Chronic Health : Yes
Fire : No
Pressure : Yes
Reactive : No

SARA Title III Notifications and Information**Hydrogen Chloride (7647-01-0)**

SARA 313 Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986

(SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part

| | |
|--------------|-----------------------------------|
| SARA 311/312 | Sudden Release of Pressure Hazard |
|--------------|-----------------------------------|

CERCLA

Hydrogen Chloride (7647-01-0)

| | |
|--------------------------|----------|
| Hazardous Substances RQs | 5000 lbs |
|--------------------------|----------|

| | |
|----------------|----------|
| CERCLA/SARA RQ | 5000 lbs |
|----------------|----------|

| | |
|--------------------------|----------|
| Reportable Quantity (RQ) | 5000 lbs |
|--------------------------|----------|

This material, as supplied, contains one or more substances regulated as hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs)

Hydrogen Chloride (7647-01-0)

Hazardous air pollutants (HAPs)

VOC Chemicals

Class 1

Class 2

This product contains the above substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Clean Water Act (CWA)

Hydrogen Chloride (7647-01-0)

| | |
|-----------------------------|----------|
| CWA - Reportable Quantities | 5000 lbs |
|-----------------------------|----------|

CWA - Toxic Pollutants

CWA - Priority Pollutants

CWA - Hazardous Substances

This product contains the above substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 AND 40 cfr 122.42)

Risk and Process Safety Management Programs

Hydrogen Chloride (7647-01-0)

| | |
|---|----------|
| US - CAA (Clean Air Act) - Accidental Release Prevention - Toxic Substances | 5000 lbs |
|---|----------|

US - CAA (Clean Air Act) - Accidental Release Prevention - Flammable Substances

| | |
|--|----------|
| US - OSHA - Process Safety Management - Highly Hazardous Chemicals | 5000 lbs |
|--|----------|

This material, as supplied, contains one or more regulated substances with specified thresholds under 40 CFR Part 68 or regulated as a highly hazardous chemical pursuant to the 29 CFR Part 1910.110 with specified thresholds.

15.2. US State regulations

Nitrogen (007727-37-9)

U.S. - Massachusetts - Right To Know List

U.S. - Minnesota - Right To Know Hazardous Substance List

U.S. - New Jersey - Right To Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right To Know) List

Hydrogen Chloride (7647-01-0)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right To Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right To Know) List

Section 16. OTHER INFORMATION

Date of issue/Date of revision : New SDS 3/1/2015

Revision Note : 11-1-2019

Hazardous Material Information System (USA)

Hazard Scale : 0 = Minimal/ 1 = Slight/ 2 = Moderate/ 3 = Serious/ 4 = Severe

Health : 3

Fire : 0

Physical hazards : 3

Key/Legend

| | |
|---------|---|
| SARA | Superfund Amendments and Reauthorization Act |
| OSHA | Occupational Safety and Health Administration |
| DOT | Department of Transportation |
| TSCA | Toxic Substance Control Act |
| NTP | National Toxicology Program |
| ACGIH | American Conference of Governmental Industrial Hygienists |
| PEL | Permissible Exposure Limit |
| STEL | Short Term Exposure Limit |
| TLV | Threshold Limit Value |
| TDG | Transportation of Dangerous Goods |
| CAS | Chemical Abstracts Service |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| TWA | Time Weighted Average |
| Prop | Proposition |
| ATE | Acute Toxicity Estimate |
| Repr. 2 | Reproductive toxicity Category 2 |

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