

# Hydrogen Chloride (0.0001% - 0.9999%) in Nitrogen

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 09/04/2014

Version: 1.0

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : Hydrogen Chloride (0.0001% - 0.9999%) in Nitrogen  
Product code : SG-2002-01603

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

Use of the substance/mixture : Test gas/Calibration gas.

#### 1.3. Details of the supplier of the safety data sheet

Air Liquide America Specialty Gases  
6141 Easton Rd  
Plumsteadville, PA 18949 - USA  
T 1.800.217.2688  
[www.airliquide.com](http://www.airliquide.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 (GHS-US)

Compressed gas H280

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS04

Signal word (GHS-US) : Warning  
Hazard statements (GHS-US) : H280 - Contains gas under pressure; may explode if heated  
OSHA-H01 - May displace oxygen and cause rapid suffocation  
Precautionary statements (GHS-US) : P202 - Do not handle until all safety precautions have been read and understood  
P271 - Use only outdoors or in a well-ventilated area  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P313 - Get medical advice/attention  
CGA-PG20 - Use only with equipment of compatible materials of construction and rated for cylinder pressure  
CGA-PG10 - Use only with equipment rated for cylinder pressure  
CGA-PG05 - Use a back flow preventive device in the piping  
CGA-PG06 - Close valve after each use and when empty  
CGA-PG14 - Approach suspected leak area with caution  
CGA-PG21 - Open valve slowly  
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)  
P403 - Store in a well-ventilated place

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

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### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Nitrogen	(CAS No)7727-37-9	99.0001 - 99.9999	Compressed gas, H280
Hydrogen chloride	(CAS No)7647-01-0	0.0001 - 0.9999	Liquefied gas, H280 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1A, H314

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Adverse effects not expected from this product. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : Adverse effects not expected from this product. If eye irritation develops, seek 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

- Symptoms/injuries : Adverse effects not expected from this product.
- Symptoms/injuries after inhalation : May displace oxygen and cause rapid suffocation. If you feel unwell, seek medical advice.
- Symptoms/injuries after skin contact : Adverse effects not expected from this product.
- Symptoms/injuries after eye contact : Adverse effects not expected from this product.
- Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.
- Symptoms/injuries upon intravenous administration : Not known.
- Chronic symptoms : Adverse effects not expected from this product.

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

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use water jet.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : The product is not flammable.
- Explosion hazard : Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
- Reactivity : Reacts with water to form corrosive acids. Corrosive vapors.

### 5.3. Advice for firefighters

- Firefighting instructions : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) 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

- 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.

#### 6.1.2. 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.

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### 6.2. Environmental precautions

Try to stop release if safe to do so.

### 6.3. Methods and material for containment and cleaning up

For containment : Try to stop release if safe to do so.  
Methods for cleaning up : Dispose of this material and its container in accordance with local regulations.

### 6.4. Reference to other sections

See also Sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Pressurized container: Do not pierce or burn, even after use. Do not pierce or burn, even after use. Use equipment rated for cylinder pressure.  
Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.  
Hygiene measures : Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.  
Storage conditions : Do not expose to temperatures exceeding 52°C (125°F). Protect cylinder from physical damage. Keep container closed when not in use. Store in well ventilated area.  
Incompatible products : None known.  
Incompatible materials : Reducing agents. Bases or caustic materials.

### 7.3. Specific end use(s)

Test gas/Calibration gas.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Nitrogen (7727-37-9)

#### Hydrogen chloride (7647-01-0)

USA ACGIH	ACGIH Ceiling (ppm)	2 ppm
USA OSHA	OSHA PEL (Ceiling) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm

### 8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked 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.  
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 : None necessary during normal and routine operations. See sections 5 & 6.  
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.

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Clear, colorless gas.
Molecular mass	: Not applicable for gas-mixtures.
Color	: Colorless
Odor	: Irritating/pungent odour
Odor threshold	: No data available
pH	: Not applicable for gas-mixtures.
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable for gas-mixtures.
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not flammable - not combustible
Vapor pressure	: Not applicable.
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Relative gas density	: Lighter or similar to air.
Solubility	: Water: Solubility in water of component(s) of the mixture : • : 720000 mg/l • : 20 mg/l
Log Pow	: Not applicable for gas-mixtures.
Log Kow	: Not applicable for gas-mixtures.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: Not applicable - not flammable.
Oxidizing properties	: None.
Explosive limits	: Not applicable - not flammable

#### 9.2. Other information

Additional information : None.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reacts with water to form corrosive acids. Corrosive vapors.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

May react violently with reducing agents.

#### 10.4. Conditions to avoid

Moisture.

#### 10.5. Incompatible materials

Reducing agents. Bases or caustic materials.

#### 10.6. Hazardous decomposition products

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

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

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Acute toxicity : Not classified

<b>Nitrogen (7727-37-9)</b>	
LC50 inhalation rat (ppm)	410000 ppm/4h

<b>Hydrogen chloride (7647-01-0)</b>	
LD50 oral rat	700 mg/kg
LD50 dermal rabbit	> 5010 mg/kg
LC50 inhalation rat (ppm)	1560 ppm/4h
ATE US (oral)	700.00000000 mg/kg body weight
ATE US (gases)	1405.00000000 ppmV/4h

Skin corrosion/irritation : Not classified  
pH: Not applicable for gas-mixtures.

Serious eye damage/irritation : Not classified  
pH: Not applicable for gas-mixtures.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

<b>Hydrogen chloride (7647-01-0)</b>	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified  
No known effects from this product.

Aspiration hazard : Not classified  
Not applicable for gases and gas-mixtures.

Symptoms/injuries after inhalation : May displace oxygen and cause rapid suffocation. If you feel unwell, seek medical advice.

Symptoms/injuries after skin contact : Adverse effects not expected from this product.

Symptoms/injuries after eye contact : Adverse effects not expected from this product.

Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.

Symptoms/injuries upon intravenous administration : Not known.

Chronic symptoms : Adverse effects not expected from this product.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Classification criteria are not met.

### 12.2. Persistence and degradability

<b>Hydrogen Chloride (0.0001% - 0.9999%) in Nitrogen</b>	
Persistence and degradability	No data available.

<b>Nitrogen (7727-37-9)</b>	
Persistence and degradability	No ecological damage caused by this product.

<b>Hydrogen chloride (7647-01-0)</b>	
Persistence and degradability	Not applicable for inorganic gases.

### 12.3. Bioaccumulative potential

<b>Hydrogen Chloride (0.0001% - 0.9999%) in Nitrogen</b>	
Log Pow	Not applicable for gas-mixtures.
Log Kow	Not applicable for gas-mixtures.
Bioaccumulative potential	No data available.

<b>Nitrogen (7727-37-9)</b>	
Log Pow	Not applicable for inorganic gases.

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Nitrogen (7727-37-9)	
Bioaccumulative potential	No ecological damage caused by this product.

Hydrogen chloride (7647-01-0)	
Log Pow	Not applicable for inorganic gases.
Bioaccumulative potential	No data available.

### 12.4. Mobility in soil

Hydrogen Chloride (0.0001% - 0.9999%) in Nitrogen	
Mobility in soil	No data available.

Nitrogen (7727-37-9)	
Ecology - soil	No ecological damage caused by this product.

Hydrogen chloride (7647-01-0)	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

### 12.5. Other adverse effects

- Effect on ozone layer : None.
- Effect on the global warming : No known ecological damage caused by this product.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

- Waste treatment methods : Contact supplier if guidance is required. Do not discharge into any place where its accumulation could be dangerous. Must not be discharged to atmosphere. Gas may be scrubbed in alkaline solution under controlled conditions to avoid violent reaction. Ensure that the emission levels from local regulations or operating permits are not exceeded.
- Waste disposal recommendations : Refer to the CGA Pamphlet P-63 "Disposal of Gases" available at [www.cganet.com](http://www.cganet.com) for more guidance on suitable disposal methods.

## SECTION 14: Transport information

- In accordance with DOT
- Transport document description : UN1956 Compressed gas, n.o.s.
- UN-No.(DOT) : 1956
- DOT NA no. : UN1956
- DOT Proper Shipping Name : Compressed gas, n.o.s.
- Hazard labels (DOT) : 2.2 - Non-flammable gas



- DOT Symbols : G - Identifies PSN requiring a technical name
- DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307
- DOT Packaging Non Bulk (49 CFR 173.xxx) : 302;305
- DOT Packaging Bulk (49 CFR 173.xxx) : 314;315
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg
- DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

### Additional information

- Other information : No supplementary information available.

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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.

### ADR

Transport document description :

### Transport by sea

UN-No. (IMDG) : 1956  
Proper Shipping Name (IMDG) : COMPRESSED GAS, N.O.S.  
Class (IMDG) : 2.2 - Non-flammable, non-toxic gases

### Air transport

UN-No.(IATA) : 1956  
Proper Shipping Name (IATA) : COMPRESSED GAS, N.O.S.  
Class (IATA) : 2

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

<b>Hydrogen chloride (7647-01-0)</b>	
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 (gas only)
SARA Section 313 - Emission Reporting	1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

### 15.2. International regulations

#### CANADA

<b>Nitrogen (7727-37-9)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class A - Compressed Gas

  

<b>Hydrogen chloride (7647-01-0)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class A - Compressed Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material

#### EU-Regulations

<b>Hydrogen chloride (7647-01-0)</b>
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

#### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

#### 15.2.2. National regulations

<b>Hydrogen chloride (7647-01-0)</b>
Listed on 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)

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### 15.3. US State regulations

#### Nitrogen (7727-37-9)

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

#### 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) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### SECTION 16: Other information

Indication of changes : Revised safety data sheet in accordance with OSHA final rule on GHS implementation promulgated March 26, 2012.

Other information : This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product.

Full text of H-phrases: see section 16:

Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Compressed gas	Gases under pressure Compressed gas
Liquefied gas	Gases under pressure Liquefied gas
Skin Corr. 1A	Skin corrosion/irritation Category 1A
H280	Contains gas under pressure; may explode if heated
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled

SDS US (GHS HazCom 2012)

*This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Air Liquide America Corporation's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this product is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.*