



MATERIAL SAFETY DATA SHEET - CALIBRATION CHECK GAS

PRODUCT NAME: HYDROGEN CHLORIDE (1 PPM – 200 PPM) IN NITROGEN

MSDS NO: HCL

Version:3

Date: March, 2012

1. Chemical Product and Company Identification

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24-HOUR EMERGENCY NUMBER: 1-800-424-9300

PRODUCT NAME: HYDROGEN CHLORIDE (1 PPM – 200 PPM) IN NITROGEN
CHEMICAL NAME: Hydrogen Chloride in nitrogen
COMMON NAMES/ SYNONYMS: None
TDG (Canada) CLASSIFICATION: 2.2
WHIMIS CLASSIFICATION: A

2. COMPOSITION/ INFORMATION ON INGREDIENTS

Table with 5 columns: INGREDIENT, %VOLUME, PEL-OSHA, TLV-ACGIH, LD50 or LC50 Route/Species. Rows include Hydrogen Chloride and Nitrogen.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

This product is a clear, pungent-smelling, yellowish-green gas mixture, which is severely irritating. This product may produce oxygen-deficient atmospheres.

ROUTE OF ENTRY:

Table with 5 columns: Skin Contact, Skin Absorption, Eye Contact, Inhalation, Ingestion. Rows show Yes/No for various routes and health effects.

Carcinogenicity: --NTP: No IARC: No OSHA: No

EYE EFFECTS:

At 10-50 ppm Hydrogen Chloride can be irritating to the eyes and mucous membranes, which can be tolerated for several hours. Prolonged exposure can cause blindness.



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SKIN EFFECTS:

Skin over-exposures to this product may lead to burns or dermatitis, depending upon concentration and duration of exposure.

INGESTION EFFECTS:

Ingestion unlikely. Gas at room temperature.

INHALATION EFFECTS:

Due to the small size of this cylinder, no unusual health effects from over-exposure are anticipated under routine circumstances of use. Inhalation of Hydrogen Chloride may lead to irritation of the nose and throat. Additionally, over-exposure can cause the following health effects: coughing, labored breathing, sore throat, and potentially fatal lung disorders. Repeated Hydrogen Chloride over-exposures can result in emphysema and erosion of teeth.

NFPA HAZARD CODES

Health: 3
Flammability: 0
Reactivity: 0

HMIS HAZARD CODES

Health: 3
Flammability: 0
Reactivity: 0

RATING SYSTEM

0= No Hazard
1= Slight Hazard
2= Moderate Hazard
3= Serious Hazard
4= Severe Hazard

4. FIRST AID MEASURES

EYES:

PERSONS WITH POTENTIAL EXPOSURE SHOULD NOT WEAR CONTACT LENSES. Flush contaminated eyes with copious quantities of water. Part eyelids to assure complete flushing. Continue for a minimum of 15 minutes. Seek immediate medical attention.

SKIN:

Remove contaminated clothing as rapidly as possible. Flush affected area with copious quantities of water. Seek immediate medical attention.

INGESTION:

Not required

INHALATION:

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. If breathing has stopped administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

These containers hold gas under pressure, with no liquid phase. If involved in a major fire, they should be sprayed with water to avoid pressure increases, otherwise pressures will rise and ultimately they may distort or burst to release the contents. The gases will not add significantly to the fire, but containers or fragments may be projected considerable distances - thereby hampering fire fighting efforts.

6. ACCIDENTAL RELEASE MEASURES

In terms of weight, these containers hold very little contents, such that any accidental release by puncturing etc. will be of no practical concern.



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7. HANDLING AND STORAGE

Suck back of water into the container must be prevented. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Use only in well-ventilated areas. Do not heat cylinder by any means to increase rate of product from the cylinder. Do not allow the temperature where cylinders are stored to exceed 130°F (54°C).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Use adequate ventilation for extended use of gas.

9. PHYSICAL AND CHEMICAL PROPERTIES

| PARAMETER: | VALUE: |
|---------------------|---|
| Physical state | : Gas |
| Evaporation point | : N/A |
| pH | : N/A |
| Odor and appearance | : Greenish-yellow gas mixture with a pungent odor |

10. STABILITY AND REACTIVITY

Stable under normal conditions. Expected shelf life 8 months.

11. TOXICOLOGICAL INFORMATION

No toxicological damage caused by this product.

12. ECOLOGICAL INFORMATION

Due to the small size of this cylinder, no ecological damage caused by this product.

13. DISPOSAL INFORMATION

Do not discharge into any place where its accumulation could be dangerous. Used containers are acceptable for disposal in the normal waste stream as long as the cylinder is empty and valve removed or cylinder wall is punctured; but GASCO encourages the consumer to return cylinders.

14. TRANSPORT INFORMATION

| | <u>United States DOT</u> | <u>Canada TDG</u> |
|------------------------|--|--|
| PROPER SHIPPING NAME: | Compressed Gas N.O.S. (Hydrogen Chloride in Nitrogen) | Compressed Gas N.O.S. (Hydrogen Chloride in Nitrogen) |
| HAZARD CLASS: | 2.2 | 2.2 |
| IDENTIFICATION NUMBER: | UN1956 | UN1956 |
| SHIPPING LABEL: | NONFLAMMABLE GAS | NONFLAMMABLE GAS |



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15. REGULATORY INFORMATION

Hydrogen Chloride is listed under the accident prevention provisions of section 112(r) of the Clean Air Act (CAA) with a threshold quantity (TQ) of 5,000 pounds.

16. OTHER INFORMATION

This MSDS has been prepared in accordance with the Chemicals (Hazard Information and Packaging for Supply (Amendment) Regulation 1996. The information is based on the best knowledge of GASCO, and its advisors and is given in good faith, but we cannot guarantee its accuracy, reliability or completeness and therefore disclaim any liability for loss or damage arising out of use of this data. Since conditions of use are outside the control of the Company and its advisors we disclaim any liability for loss or damage when the product is used for other purposes than it is intended.

MSDS/S010/HCL/ March, 2012