

**Hydrogen in Air 0.0001% to 2.0%**

(M)SDS Number: NLB 2270

Revision Date: 2/14/2014

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**1 PRODUCT AND COMPANY IDENTIFICATION**

**Manufacturer**

NorLab  
898 W. Gowen Rd.  
Boise, ID 83705

**Contact:** Quality Dept.  
**Phone:** 208-336-1643  
**Fax:** 208-433-6160  
**Web:** www.norlabgas.com

**Product Name:** Hydrogen in Air 0.0001% to 2.0%  
**Revision Date:** 2/14/2014  
**Version:** 1  
**(M)SDS Number:** NLB 2270  
**Common Name:** Hydrogen in Air  
**CAS Number:** Not Available - Gas Mixture  
**EPA Number:** Not Availble  
**RCRA Number:** Not Applicable  
**Chemical Family:** Gas Mixture  
**Chemical Formula:** Not Availalble  
**Synonyms:** Hydrogen in Air, Hydrogen in Air Cal Gas, Calibration Gas  
**Product Use:** Calibration of analytical instrumentation

For Transportation Emergency Contact CHEMTREC: 800-424-9300

**2 HAZARDS IDENTIFICATION**

**Route of Entry:** Inhalation;

**Inhalation:** Non-toxic - product contains suffecient oxygen to support respiration.

**Skin Contact:** Contact with rapidly expanding gas near the point of release may cause frostbite with redness, skin color change to gray or white, and blistering.

**Eye Contact:** None anticipated. Contact with rapidly expanding gas near the point of release may cause frostbite.

**Ingestion:** Not anticipated. Product is a gas at normal conditions.

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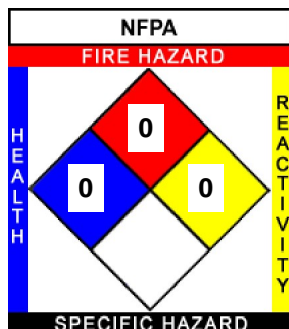
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NFPA:  
 HMIS III:

Health = 0, Fire = 0, Reactivity = 0  
 H0/F0/PH3



HMIS III	
HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARDS	3
PERSONAL PROTECTION	

GHS Signal Word:  
 WARNING

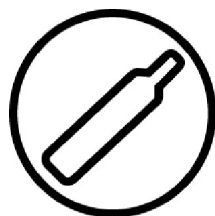
GHS Hazard Pictograms:



GHS Classifications:  
 Physical, Gases Under Pressure, Compressed Gas

GHS Phrases:  
 H280 - Contains gas under pressure; may explode if heated

GHS Precautionary Statements:  
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P281 - Use personal protective equipment as required.  
 P403+233 - Store in a well ventilated place. Keep container tightly closed.  
 P410+412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F



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**3 COMPOSITION/INFORMATION ON INGREDIENTS**

**Ingredients:**

Cas #	Percentage	Chemical Name
1333-74-0	0.0001-2.0%	Hydrogen
N/A	Balance	Air

**4 FIRST AID MEASURES**

- Inhalation:** Not considered dangerous.
- Skin Contact:** None required for gas. For frostbite, immerse skin in lukewarm water. DO NOT USE HOT WATER. Obtain medical attention.
- Eye Contact:** None Required for gas. If frostbite is suspected, flush eyes with cool water for 15 minutes and obtain immediate medical attention.
- Ingestion:** Not a direct hazard.

**5 FIRE FIGHTING MEASURES**

- Flammability:** Not Flammable
- Flash Point:** None
- Flash Point Method:** Not Applicable
- Burning Rate:** Not Applicable
- Autoignition Temp:** None
- LEL:** None
- UEL:** None

**Fire and Explosion Hazards:**  
 Nonflammable. Cylinders may rupture violently or vent rapidly from pressure when involved in a fire situation.

**Extinguishing Media:**  
 None required. Use as appropriate for surrounding materials

**Fire Fighting Instructions:**  
 Firefighters should wear respiratory protection (SCBA) and full turnout or Bunker gear. Continue to cool fire-exposed cylinders until well after flames are extinguished.

**6 ACCIDENTAL RELEASE MEASURES**

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or valve, contact the appropriate emergency telephone number listed in section 1, or call your closest Norco/NorLab location.

**7 HANDLING AND STORAGE**

**Handling Precautions:** Use only in well-ventilated areas. Valve protection caps must remain in place unless the cylinder is secured with valve outlet piped to use 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 (<3000 PSIG) 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 backflow

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into the cylinder.

For additional recommendations, consult Compressed Gas Association Pamphlets P-1.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.

**Storage Requirements:**

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavy traffic areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125 degrees F (52 degrees C). Cylinders should 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 from being stored for excessive periods of time. Post "NO SMOKING OR OPEN FLAMES" sign in the storage or use area.

**8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Engineering Controls:**

General Ventilation

**Personal Protective Equip:**

Eye/Face Protection:

Safety goggles or glasses as appropriate for the job.

Skin Protection:

Protective gloves of material appropriate for the job.

Respiratory Protection:

Positive pressure air line with full-face mask and escape bottle or self-contained breathing apparatus should be available for emergency use.

Other/General Protection:

Safety shoes.

Hydrogen

OSHA PEL: None Established  
 ACGIH PEL: Simple Asphyxiant  
 LC<sub>50</sub> or LD<sub>50</sub> : Not Applicable  
 RTECS #: MW8900000  
 IDLH: Not Available

Air

OSHA PEL: Not Applicable  
 ACGIH PEL: Not Applicable  
 LC<sub>50</sub> or LD<sub>50</sub> : Not Applicable  
 RTECS #: Not Available  
 IDLH: Not Available

**9 PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:**

Colorless Gas

**Physical State:**

Gas

**Odor Threshold:**

Not Applicable

**Particle Size:**

Not Applicable

**Spec Grav./Density:**

Not Applicable

**Viscosity:**

Not Applicable

**Odor:**

Odorless

**Molecular Formula:**

H<sub>2</sub> in Air

**Solubility:**

Slightly Soluble

**Softening Point:**

Not Applicable

**Percent Volatile:**

100%

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**STABILITY AND REACTIVITY**

**Stability:** Stable  
**Conditions to Avoid:** None known  
**Materials to Avoid:** None  
**Hazardous Decomposition:** Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide.  
**Hazardous Polymerization:** Will not occur.

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**TOXICOLOGICAL INFORMATION**

Air is non toxic.  
Hydrogen acts as a simple asphyxiant.

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**ECOLOGICAL INFORMATION**

Product does not contain Class I or Class II ozone depleting substances. Not toxic. Will not bioconcentrate.

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**DISPOSAL CONSIDERATIONS**

Do not attempt to dispose of residual waste or unused quantities in returnable containers. Return in shipping container, properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to Norco for proper disposal.

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**TRANSPORT INFORMATION**

DOT Class: Non-Flammable Gas (2.2) #2.2  
UN #: UN1956

Proper Shipping Name US:  
UN 1956, Compressed Gas N.O.S., (Hydrogen, Air), 2.2

Proper Shipping Name Canada:  
UN1956, Compressed Gas, N.O.S., 2.2



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**REGULATORY INFORMATION**

COMPONENT / (CAS/PERC) / CODES

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\*Hydrogen (1333740 0.0001-2.0%) MASS, NJHS, PA, TSCA, TXAIR

**SARA Title III Notifications and Information:**

Hydrogen is listed under the accident prevention provisions of section 112(r) of the Clean Air Act (CAA) with a threshold quantity (TQ) of 10,000 pounds.

**SARA Title III - Section 313 Supplier Notification:**

This product does not contain toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and 40 CFR 372.

**SARA Title III - Hazard Classes:**

Sudden Release of Pressure Hazard

**California Proposition 65:**

This product does not contain ingredient(s) known to the State of California to cause cancer or reproductive toxicity.

REGULATORY KEY DESCRIPTIONS

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MASS = MA Massachusetts Hazardous Substances List  
NJHS = NJ Right-to-Know Hazardous Substances  
PA = PA Right-To-Know List of Hazardous Substances  
TSCA = Toxic Substances Control Act  
TXAIR = TX Air Contaminants with Health Effects Screening Level

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**OTHER INFORMATION**

**Disclaimer:**

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).