

0.0001% to 1.35% Ethylene in Air

SDS Number: NLB 2520

Revision Date: 6/1/2018

Page 1 of 9

1

PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

NorLab a division of Norco
898 W. Gowen Rd.
Boise, ID 83705

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

Product Name: 0.0001% to 1.35% Ethylene in Air
Revision Date: 6/1/2018
Version: 2
SDS Number: NLB 2520
Common Name: Ethylene in Air
CAS Number: Not Available - Gas Mixture
Chemical Formula: C₂H₄ + O₂ + N₂
Synonyms: Ethylene in Air, Ethene in Air, Calibration Gas
Product Use: Calibration of analytical instrumentation

For Transportation Emergency Contact CHEMTREC: 800-424-9300

2

HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):

Physical, Gases Under Pressure, Compressed Gas

GHS Label Elements, Including Precautionary Statements

GHS Signal Word: **WARNING**

GHS Hazard Pictograms:



GHS Hazard Statements:

H280 - Contains gas under pressure; may explode if heated
CGA-HG24 - SUPPORTS COMBUSTION.

GHS Precautionary Statements:

P202 - Do not handle until all safety precautions have been read and understood.
P251 - Pressurized container: Do not pierce or burn, even after use.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 - Use only outdoors or in a well-ventilated area.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P403+233 - Store in a well ventilated place. Keep container tightly closed.
P370+376 - In case of fire: Stop leak if safe to do so.
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52 °C (125 °F).
CGA-PG05 - Use a back flow preventive device in the piping.

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SDS Number: NLB 2520

Revision Date: 6/1/2018

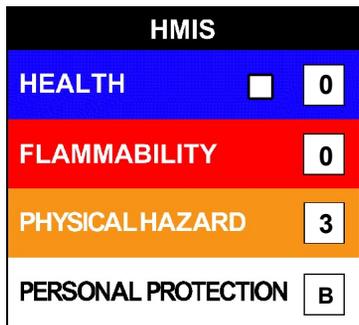
Page 2 of 9

- CGA-PG06 - Close valve after each use and when empty.
- CGA-PG10 - Use only with equipment rated for cylinder pressure.
- CGA-PG12 - Do not open valve until connected to equipment prepared for use.

Hazards not Otherwise Classified (HNOC) or not Covered by GHS

- Route of Entry:** Eyes; Inhalation; Skin;
- Inhalation:** Gas mixture contains sufficient oxygen to support life. Inhalation of high concentrations of Ethylene vapors may have a narcotic effect. Symptoms may include dizziness, headache and nausea.
- 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:** Contact with rapidly expanding gas near the point of release may cause frostbite.
- Ingestion:** Not anticipated. Product is a gas at normal conditions.

NFPA: Health = 0, Fire = 0, Reactivity = 0, Specific Hazard = n/a
 HMIS III: Health = 0, Fire = 0, Physical Hazard = 3
 HMIS PPE: B - Safety Glasses, Gloves



3 COMPOSITION/INFORMATION OF INGREDIENTS

Ingredients:

Cas#	%	Chemical Name
74-85-1	0.0001-1.35%	Ethylene
7782-44-7	20.9%	Oxygen
7727-37-9	77.75-79.0999%	Nitrogen

20.9% Oxygen in Nitrogen Indicates an Air Balance.

4 FIRST AID MEASURES

- Inhalation:** PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO PRODUCT. RESCUE PERSONNEL SHOULD BE EQUIPED WITH SELF-CONTAINED BREATHING APPARATUS. Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted (artificial) respiration and supplemental oxygen. Further treatment should be symptomatic and supportive.
- 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. For frostbite, immerse skin in lukewarm water. DO NOT USE HOT WATER. Obtain medical attention.
- Ingestion:** None required. Product is a gas at normal temperatures and conditions.

0.0001% to 1.35% Ethylene in Air

SDS Number: NLB 2520

Revision Date: 6/1/2018

Page 3 of 9

5 FIRE FIGHTING MEASURES

Flammability:	Not Flammable
Flash Point:	Not Available
Flash Point Method:	Not Determined
Burning Rate:	Not Determined
Autoignition Temp:	Not Determined
LEL:	2.7% (Ethylene)
UEL:	36.0% (Ethylene)

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:

Use water spray to cool adjacent cylinders and areas. 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 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.

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.

0.0001% to 1.35% Ethylene in Air

SDS Number: NLB 2520

Revision Date: 6/1/2018

Page 4 of 9

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure limits in Air below TLV & PEL limits. Maintain atmospheric Oxygen content at or above 19.5%

Personal Protective Equipment: Ethylene cas#:(74-85-1) [0.0001-1.35%]
Oxygen cas#:(7782-44-7) [20.9%]
Nitrogen cas#:(7727-37-9) [77.75-79.0999%]

Personal protective equipment

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested:Vitoject (KCL 890 / Aldrich Z677698, Size M)

Splash protection: Material: Nitrile rubber Minimum layer thickness: 0.4 mm Break through time: 60 min Material tested:Camatril (KCL 730 / Aldrich Z677442, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection: Impervious clothing., Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Ethylene cas#:(74-85-1) [0.0001-1.35%]

Components with workplace control parameters

TWA 200 ppm USA. ACGIH Threshold Limit Values (TLV)
Asphyxia Not classifiable as a human carcinogen

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless Gas	Odor:	Faint ethereal and sweetish odor.
Physical State:	Gas	Molecular Formula:	C2H4 + O2 + N2
Odor Threshold:	Poor warning properties at low concentr:	Solubility:	Not Determined
Particle Size:	Not Determined	Percent Volatile:	100%
Spec Grav./Density:	Not Determined	Freezing/Melting Pt.:	Not Available
Boiling Point:	Not Available	Flash Point:	Not Applicable
Flammability:	Not Flammable		

0.0001% to 1.35% Ethylene in Air

SDS Number: NLB 2520

Revision Date: 6/1/2018

Page 5 of 9

10**STABILITY AND REACTIVITY**

Chemical Stability:	Product is stable under normal conditions.
Conditions to Avoid:	Oxidizers. Avoid heat, sparks, and flame.
Materials to Avoid:	Strong Oxidizing Agents.
Hazardous Decomposition:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous Polymerization:	Will not occur.

11**TOXICOLOGICAL INFORMATION**

Ethylene cas#:(74-85-1) [0.0001-1.35%]

Information on toxicological effects

Acute toxicity:

Oral LD50 no data available

Inhalation LC50

Dermal LD50

Other information on acute toxicity

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Ethylene)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Teratogenicity: no data available

Specific target organ toxicity - single exposure (Globally Harmonized System):

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure (Globally Harmonized System):

no data available

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Vapours may cause drowsiness and dizziness.

Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation.

Signs and Symptoms of Exposure: Nausea, Dizziness, Headache, narcosis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects: no data available

Additional Information:

RTECS: KU5340000

Oxygen cas#:(7782-44-7) [20.9%]

0.0001% to 1.35% Ethylene in Air

SDS Number: NLB 2520

Revision Date: 6/1/2018

Page 6 of 9

Information on toxicological effects

Acute toxicity:

Oral LD50 no data available

Inhalation LC50

Dermal LD50

Other information on acute toxicity

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Teratogenicity: no data available

Specific target organ toxicity - single exposure (Globally Harmonized System):
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System):
no data available

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation.

Signs and Symptoms of Exposure: Nausea, Dizziness, Unconsciousness, May be harmful.

Synergistic effects: no data available

Additional Information:

RTECS: RS2060000

Nitrogen cas#:(7727-37-9) [77.75-79.0999%]

Information on toxicological effects

Acute toxicity:

Oral LD50 no data available

Inhalation LC50

Dermal LD50

Other information on acute toxicity

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

0.0001% to 1.35% Ethylene in Air

SDS Number: NLB 2520

Revision Date: 6/1/2018

Page 7 of 9

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Teratogenicity: no data available

Specific target organ toxicity - single exposure (Globally Harmonized System):
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System):
no data available

Aspiration hazard: no data available

Potential health effects: Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Ingestion May be harmful if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation.

Signs and Symptoms of Exposure: May be harmful., Nausea, Headache, Vomiting

Synergistic effects: no data available

Additional Information:

RTECS: QW9700000

0.0001% to 1.35% Ethylene in Air

SDS Number: NLB 2520

Revision Date: 6/1/2018

Page 8 of 9

12

ECOLOGICAL INFORMATION

Ethylene cas#:(74-85-1) [0.0001-1.35%]

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

Oxygen cas#:(7782-44-7) [20.9%]

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

Nitrogen cas#:(7727-37-9) [77.75-79.0999%]

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

0.0001% to 1.35% Ethylene in Air

SDS Number: NLB 2520

Revision Date: 6/1/2018

Page 9 of 9

13 DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations. Do not attempt to dispose of waste or unused quantities in returnable cylinders. Return in the shipping container, properly labeled, with any valve outlet plugs or caps secure and valve protection cap in place to NorLab for proper disposal. Non-refillable containers should be vented in a well-ventilated area then disposed of in compliance with local regulations, or returned to NorLab.

14 TRANSPORT INFORMATION

UN1956, Compressed gas, n.o.s., 2.2

Proper Shipping Name US:

UN 1956, Compressed Gas, N.O.S., (Ethylene, Air), 2.2

Proper Shipping Name Canada:

UN 1956, Compressed Gas, N.O.S., (Ethylene, Air), 2.2



15 REGULATORY INFORMATION

Component (CAS#) [%] - CODES

Ethylene (74-85-1) [0.0001-1.35%] MASS, NJHS, PA, SARA313, TSCA, TXAIR

Oxygen (7782-44-7) [20.9%] MASS, PA, TSCA

Nitrogen (7727-37-9) [77.75-79.0999%] MASS, PA, TSCA

Regulatory CODE Descriptions

MASS = MA Massachusetts Hazardous Substances List

NJHS = NJ Right-to-Know Hazardous Substances

PA = PA Right-to-Know List of Hazardous Substances

SARA313 = SARA 313 Title III Toxic Chemicals

TSCA = Toxic Substances Control Act

TXAIR = TX Air Contaminants with Health Effects Screening Level

16 OTHER INFORMATION

Disclaimer:

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