

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Code:** 00014  
**Product Name:** Ethylene Compressed  
**Company Name:** Gas Innovations  
 18005 E. Hwy 225  
 La Porte, TX 77571  
**Web site address:** www.gasinnovations.com **Phone Number:** +1 (281)471-2200  
**Emergency Contact:** 3E (within United States) +1 (866)303-2640  
**Intended Use:** Industrial Use +1 (352)323-3500

## 2. HAZARDS IDENTIFICATION

**Flammable Gases:** Category 1

**Gas Under Pressure:** Compressed gas

**Symbol:**



**GHS Signal Word:** Danger

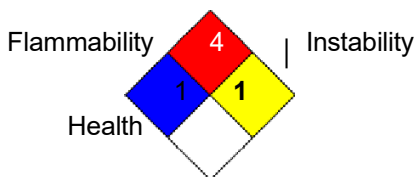
**GHS Hazard Phrases:** H220 - Extremely flammable gas.  
H280 - Containers gas under pressure; may explode if heated.  
H335 - May cause respiratory irritation.

**GHS Precaution Phrases:** P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P261 - Avoid breathing gas/vapors.  
P271 - Use only outdoors or in a well-ventilated area.

**GHS Response Phrases:** P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
P381 - Eliminate all ignition sources if safe to do so.  
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**GHS Storage and Disposal Phrases:** P410+403 - Protect from sunlight and store in well-ventilated place.  
P403+233 - Store container tightly closed in well-ventilated place.  
P501 - Dispose of contents/containers in accordance with local/regional/national/international regulations.

**Hazard Rating System:**



**NFPA:** Special Hazard

**Potential Health Effects (Acute and Chronic):**

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation. Vapors may cause drowsiness and dizziness. This material can act as a simple asphyxiant by displacement of air.

**Skin Contact:** May be harmful if absorbed through the skin. May cause skin irritation.

**Eye Contact:** May cause eye irritation.  
**Ingestion:** May be harmful if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
74-85-1	Ethylene	100 %

### 4. FIRST AID MEASURES

**Emergency and First Aid Procedures:**

**In Case of Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Keep victim warm and rested. If not breathing give artificial respiration. In high concentrations, may cause asphyxiation. Consult a physician.

**In Case of Skin Contact:** Wash off with soap and plenty of water. Contact with evaporating liquid may cause frostbite or freezing of skin. In case of frostbite, spray with water for at least 15 minutes. Get immediate medical attention

**In Case of Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart and flush eyes with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel.

**In Case of Ingestion:** Ingestion is not considered a potential route of exposure, however, if swallowed, get medical attention

**Signs and Symptoms of Exposure:** Nausea. Dizziness. Headache. Narcosis

**Note to Physician** Consult a physician. Show this safety data sheet to the doctor in attendance.

### 5. FIRE FIGHTING MEASURES

**Flash Pt:** Not applicable to gases and gas mixtures

**Explosive Limits:** Lower level: 2.7% (Volume in air) Upper level EL: 36% (Volume in air)

**Autoignition Pt:** 450 C (842 F)

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire; carbon dioxide, regular dry chemical, dry powder, foam, water spray or fog large fires: flood with fine water spray. Do not use water jet to extinguish.

**Fire Fighting Instructions:** Personnel may have to wear approach-type protective suits and positive pressure self-contained breathing apparatus. Firefighters' turnout gear may be inadequate.

Cylinders exposed to fire may rupture with violent force. Extinguishing surrounding fire and keep cylinders cool by applying water from a maximum possible distance with a water spray. Flammable gases may spread from a spill after the fire is extinguished and be subject to re-ignition. Keep unnecessary people away and isolate. For tank, rail car, or tank truck, Evacuation radius: 1600 meters (1 mile). Stop leak, stop flow of gas.

**Flammable Properties and Hazards:** High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide.

## 6. ACCIDENTAL RELEASE MEASURES

**Protective Precautions,  
Protective Equipment and  
Emergency Procedures:**

Ensure adequate ventilation. Wear protective equipment consistent with the site emergency plan. Evacuate personnel to a safe area. Close doors and windows of adjacent premises. Keep containers closed. Mark danger area. Seal off low-lying areas. Keep upwind. EN 137 Respiratory protective devices- self-contained open-circuit compressed air breathing apparatus Use proper personal protective equipment as indicated in Section 8.

**Environmental Precautions:**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains

**Steps To Be Taken in Case  
Material Is Released or Spilled:**

Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist or gas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Notify local emergency planning committee and state emergency response commission for release greater than or equal to RQ.

## 7. HANDLING AND STORAGE

**Precautions To Be Taken  
in Handling:**

Avoid inhalation of vapor or mist. Keep away from heat, sparks and flame. Keep away from sources of ignition - No smoking. Use spark-proof tools and explosion proof equipment. Use in a closed system. Secure the cylinder to prevent it from falling or being knocked over. Leak check the lines and equipment. Have an emergency plan covering steps to be taken in the event of an accidental release. Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. Keep container below 50 C in a well-ventilated place.

**Precautions To Be Taken  
in Storing:**

Cylinders should be stored and used in dry, well-ventilated areas away from sources of heat or ignition. Store away from oxidizers. Store locked up and keep containers tightly closed. Protect containers against damage. Incompatible materials: acids, halo carbons, halogens, metal salts, metals, oxidizing materials, peroxides.

**Other Precautions:**

When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	NIOSH IDLH
74-85-1	Ethylene	No data	TLV: Simple asphyxiant ppm, 200 ppm TWA	No data

<b>Respiratory Equipment (Specify Type):</b>	No special respiratory protection equipment is required with adequate ventilation. Where protection is desired, use multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). See sections 5 & 6.
<b>Eye Protection:</b>	Face shield and safety glasses. Wear eye protection to En 166 when using gases.
<b>Protective Gloves:</b>	Wear neoprene gloves during cylinder change out or wherever contact with product is possible. EN 388 Protective gloves against mechanical risks.
<b>Other Protective Clothing:</b>	Wear metatarsal shoes for cylinder handling, and protective clothing where needed. Wear fire resistant or flame retardant clothing.
<b>Engineering Controls (Ventilation etc.):</b>	Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility, and a safety shower is recommended. Oxygen detectors should be used when asphyxiating gases may be released. Provide local exhaust ventilation system. Only use permanent leak tight installations. Take precautions against static discharges.
<b>Work/Hygienic/Maintenance Practices:</b>	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Do not eat, drink, or smoke when using the product

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical States:</b>	<input checked="" type="checkbox"/> Gas	<input type="checkbox"/> Liquid	<input type="checkbox"/> Solid
<b>Appearance and Odor:</b>	Colorless & Odorless Gas.		
<b>Freezing Point:</b>	-169 C (-272 F)		
<b>Boiling Point:</b>	-102.85 C (-153.13 F)		
<b>Autoignition Pt:</b>	450 C (842 F)		
<b>Flash Pt:</b>	Not applicable to gases and gas mixtures		
<b>Explosive Limits:</b>	Lower level:2.7% (Volume in air) Upper level EL:36 % (Volume in air)		
<b>Specific Gravity (Water = 1):</b>	0.974 g/cm <sup>3</sup> (at 15 C)		
<b>Density:</b>	1.26 g/L at 0 C		
<b>Vapor Pressure (vs. Air or mm Hg):</b>	760 mmHg at -104 C		
<b>Vapor Density(air=1)</b>	1		
<b>Evaporation Rate:</b>	NA		
<b>Solubility in Water:</b>	130 mg/L(25 C)		
<b>Saturated Vapor Concentration:</b>	NA		
<b>Viscosity:</b>	0.0093 cp		
<b>pH:</b>	NA		
<b>Percent Volatile</b>	100%		

**10. STABILITY AND REACTIVITY**

<b>Stability:</b>	Unstable [ ] Stable [ X]
<b>Conditions To Avoid - Instability:</b>	Heat, flames and sparks. High pressure. Minimize contact with material – container may rupture or explode if exposed to heat.
<b>Incompatibility Materials to Avoid:</b>	Air and oxidizers, carbon tetrachloride, chlorine, Copper, Polymerization initiators.
<b>Hazardous Decomposition or Byproducts:</b>	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide. Under normal conditions of storage and use, hazardous decomposition products shall not be produced.
<b>Possibility of Hazardous Reactions:</b>	Will occur [ ] Will not occur [ X]
<b>Conditions To Avoid - Hazardous Reactions:</b>	No data available.

**11. TOXICOLOGICAL INFORMATION**

<b>Reproductive toxicity:</b>	Acute toxicity: Inhalation LC 50- >57000 ppm Epidemiology: No information available. Teratogenicity: No information available. Reproductive Effects: No information available. Mutagenicity: No information available. Neurotoxicity: No information available
<b>Irritation or Corrosion:</b>	No data available
<b>Chronic Toxicological Effects:</b>	No data available.
<b>Carcinogenicity:</b>	NTP - No IARC Monographs - No OSHA Regulated - No

**12. ECOLOGICAL INFORMATION**

<b>General Ecological Information:</b>	Environmental: No information available. Physical: No information available
<b>Results of PBT and vPvB assessment:</b>	No information available
<b>Persistence and Degradability:</b>	Readily biodegradable. Unlikely to persist. 50% (2,9 d) Detected in water.
<b>Bio accumulative Potential:</b>	BCF fish 1: 4-4.6, Log Pow: 1.13, Not expected to persist for long in aquatic environments.
<b>Mobility in Soil:</b>	Due to high volatility, unlikely to cause ground/water pollution.

**13. DISPOSAL CONSIDERATIONS**

<b>Waste Disposal Method:</b>	Do not attempt to dispose of residual or unused quantities. Return container to supplier. Dispose of contents/containers in accordance with local/regional/national/international regulations.
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## 14. TRANSPORT INFORMATION

## LAND TRANSPORT (US DOT):

DOT Proper Shipping name: Ethylene  
 DOT Hazard Class: 2.1- Flammable gas  
 UN/NA number: UN1962  
 Labels:



DOT Packaging Non-Bulk (49 CFR 173.xxx):

DOT Packaging Bulk (49 CFR 173.xxx):

DOT Special Provisions (49 CFR 172.102):

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75):

## IMDG Information:

Shipping Name: Ethylene  
 Hazard Class: 2.1- Flammeable gas  
 UN: UN1962

## Sea Transport:

Transport document description (IMDG): UN 1962 Ethylene

UN-No. (IMDG): 1962

Proper Shipping Name (IMDG): ETHYLENE

## MFAG-No:

## Air Transport:

Transport document description (IATA): Ethylene

UN-No. (IATA): 1962

Proper Shipping Name (IATA): ETHYLENE

## 15. REGULATORY INFORMATION

## EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
74-85-1	Ethylene	No	No	No

## Other US EPA or State Lists

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
74-85-1	Ethylene	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: TAC; MA Oil/HazMat: Yes; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes - 0873; NY Part 597: No; PA HSL: Yes - E; SC TAP: No; WI Air: No

## International Regulatory Lists

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
74-85-1	Ethylene	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 1962; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - (2)-12; Korea ECL: Yes - KE-13226; Philippines ICCS: Yes; REACH: Yes - (R), (P)

**16. OTHER INFORMATION**

<b>Revision Date:</b>	09/08/2024
<b>Additional Information About This Product:</b>	Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Ensure adequate air ventilation. Ensure all national/local regulations are observed. Ensure equipment is adequately earthed. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted. No data available.
<b>Company Policy or Disclaimer:</b>	The information, recommendations, and suggestions herein were compiled from reference material and other sources believed to be reliable. However, the SDS's accuracy or completeness is not guaranteed by Gas Innovations or its affiliates, nor is any responsibility assumed or implied for any loss or damage resulting from inaccuracies or omissions. Since conditions of use are beyond our control, no warranties of merchantability of fitness for a particular purpose are expressed or implied. This SDS is not intended as a license to operate under, or a recommendation to infringe on, any patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.