

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 00021
Product Name: Refrigerated Ethane

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
Information: Infotrac (outside of United States) +1 (352)323-3500

2. HAZARDS IDENTIFICATION

Flammable Gases: Category 1
Gas Under Pressure: Refrigerated Liquefied Gas

Symbol:



GHS Signal Word: Danger

GHS Hazard Phrases: H220 - Extremely flammable gas.
 H281 - Contains refrigerated gas; may cause cryogenic burns or injury.
 HUS1 - May displace oxygen and cause rapid suffocation.

GHS Precaution Phrases: P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P282 - Wear cold insulating gloves/face shield/eye protection.

GHS Response Phrases: P315 - Get immediate medical advice/attention.
 P336 - Thaw frosted parts with lukewarm water. Do not rub affected areas.
 P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

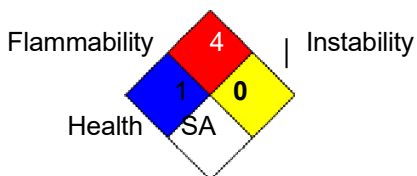
GHS Storage and Disposal Phrases: P381 - Eliminate all ignition sources if safe to do so.
 P403 - Store in well-ventilated place & protect from sunlight.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Additional Hazards Information: Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Contact with gas escaping the container can cause frostbite. At very high concentrations, cardiac sensitization to the action of adrenaline can occur.

Unknown Acute Toxicity (GHS-US): No data available.

Hazard Rating System:



NFPA: Special Hazard

Potential Health Effects (Acute and Chronic):

Inhalation: In elevated concentrations, may cause asphyxiation, central nervous system effects and

increased breathing rate. Symptoms of asphyxia include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

Skin Contact:	Contact with gas/liquid escaping the container: May cause frostbite or freeze burns.
Eye Contact:	Contact with gas/liquid escaping the container: May cause frostbite or freeze burns. May cause permanent damage.
Ingestion:	Not a likely route of exposure. Contact with gas/liquid escaping the container: May cause frostbite or freeze burns.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
74-84-0	Ethane	100 %
74-82-8	Methane	<=0.1 %
74-98-6	Propane	<=0.5 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:	If you feel unwell, seek medical advice (show the label where possible). Never give anything by mouth to an unconscious person. If frostbite or freezing has occurred, immediately call a poison center for proper washing temperatures. If frostbite or freezing has occurred, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do NOT use hot water. Do not rub affected areas. Get medical attention immediately.
In Case of Inhalation:	Get immediate medical attention if breathing difficulty persists. First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system). Remove victim to fresh air and keep at rest in a position comfortable for breathing.
In Case of Skin Contact:	Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. If frostbite or freezing has occurred, immediately call a poison center for proper washing temperatures. Thaw frosted parts with lukewarm water. Do not rub affected areas. Get medical attention immediately. Wash clothing before reuse. Clean shoes thoroughly before reuse.
In Case of Eye Contact:	Immediately call a poison center for proper washing temperatures. If frostbite or freezing has occurred, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do NOT use hot water. Do not rub your eyes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Get immediate medical advice/attention.
In Case of Ingestion:	Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Signs and Symptoms of Exposure:	Contains refrigerated gas; may cause cryogenic burns or injury. May displace oxygen and cause rapid suffocation.
Indication of any immediate medical attention and special treatment needed:	IF exposed or concerned: Get medical attention/advice. If medical advice is needed, have product container or label at hand.
Note to Physician:	Treat symptomatically and supportively. Show this safety data sheet to the doctor in attendance.

5. FIRE FIGHTING MEASURES

Flash Pt:	-104°C (-155°F)
Method Used:	TCC
Explosive Limits:	Lower level: 1.8% (Volume in air) Upper-level EL: 12.5% (Volume in air)
Autoignition Pt:	959°F (515°C)
Suitable Extinguishing Media:	Stop the flow of gas. If the flow cannot be stopped, let the fire burn out while cooling the cylinder and the surrounding areas using a water spray. Extinguish secondary fires with water spray, stream or fog in flooding amounts.
Unsuitable Extinguishing Media:	Halogenated compounds, Simultaneous use of foam and water is to be avoided as water destroys the foam.
Fire Fighting Instructions:	No action shall be taken involving any personal risk or without suitable training. Fight fire remotely due to the risk of explosion. Withdraw immediately if the venting safety device is operating or there is any discoloration of tank due to fire. Remove containers from fire area if you can do so without risk. Do not extinguish unless the leak can be stopped safely. Use water spray to keep fire-exposed containers cool. After the fire has been extinguished, explosive, toxic atmospheres may linger. If possible, avoid spraying cold areas of equipment to avoid rapid freezing of water, which can result in heavy icing and possible blockage of pressure release valves. Before entering such an area, especially confined areas, check the atmosphere with an appropriate monitoring device. Do not breathe vapor/fumes from fires or vapors from decomposition. Use water spray to disperse vapors. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Flammable Properties and Hazards:	Extremely flammable gas. May produce explosion with chlorine. May form explosive mixtures in air. Container may rupture or explode if exposed to heat. Vapors are heavier than air and may travel to a source of ignition and flash back. If exposed to fire, the container may undergo a BLEVE (boiling liquid expanding vapor explosion).
Hazardous Combustion Products:	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, hydrogen gas, and unburned hydrocarbons.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures:	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. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Steps To Be Taken in Case Material Is Released or Spilled:	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in the immediate area). Evacuate unnecessary personnel. Ensure adequate ventilation. Do not get in eyes, on skin or on clothing. Do not breathe vapor or mist. Gas/vapor is heavier than air and may accumulate in confined spaces, particularly at or below ground level. Gas will displace oxygen and cause rapid suffocation in confined areas. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Isolate the area. Ventilate the area before entry. Stop leaking if you can do it without risk. Consider the use of water spray to disperse vapors. Use only non-sparking tools and equipment. Contact local authorities.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not breathe gas. Handle as a flammable gas. Keep away from heat, sparks and flames. Electrical equipment should be approved for classified areas. Ground and bond containers when transferring material. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
Precautions To Be Taken in Storing:	Store in a cool, dry, well-ventilated area away from incompatible substances. Keep container closed when not in use. Do not store in direct sunlight. Avoid extremely high or low temperatures. Store in flameproof cabinet/area. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Store at temperatures not exceeding 52°C/125°F.
Other Precautions:	Handle empty containers with care because residual vapors are flammable. Ruptured cylinders may rocket. Do not pressurize, cut, heat, or weld containers. Asphyxiating gas at high concentrations. This product contains light hydrocarbon material, which is associated with cardiac sensitization following very high exposures or with concurrent exposure to high stress levels or heart-stimulating substances like epinephrine and catecholamines. Careful consideration should be applied preceding administration of epinephrine or similar heart stimulating substances. Handle in accordance with good industrial hygiene and safety practices. Keep out of reach of children. Use a first in – first out inventory system to prevent full cylinders from being stored for excessive periods of time.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	NIOSH IDLH
74-84-0	Ethane	No data	TLV: Simple asphyxiant ppm (1000 ppm 8H)	No data
74-82-8	Methane	No data	TLV: Simple asphyxiant ppm	No data
74-98-6	Propane	TWA: 1800 mg/m3 (1000 ppm)	TWA: (2500 ppm)	No data
CAS #	Chemical Name	Jurisdiction	Recommended Exposure Limits	Notations
74-98-6	Propane	California, USA PELs NIOSH	TWA: 1800 mg/m3 (1000 ppm) TWA: 1800 mg/m3 (1000 ppm)	

Recommended Exposure Limits:	Propane (74-98-6): USA NIOSH REL (TWA): 1800 MG/M3 USA NIOSH REL (TWA): 1000 ppm USA IDLH: 2100 ppm (10% LEL) USA OSHA PEL (TWA): 1800MG/M3 USA OSHA PEL (TWA): 1000 ppm.
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Respiratory Equipment (Specify Type):	Use a NIOSH/MSHA approved respirator if ventilation is not sufficient to effectively prevent buildup of vapors or mists, and the exposure limit is exceeded.
Eye Protection:	Chemical safety goggles. A full-face shield is recommended where there is a potential for eye contact.
Protective Gloves:	Wear appropriate protective gloves to prevent skin exposure. Chemical-resistant cryogenic gloves. If material is cold, wear thermally resistant protective gloves.
Other Protective Clothing:	Wear appropriate protective clothing to prevent skin exposure. Wear fire/flame resistant/retardant clothing. Chemical resistant apron. Chemical resistant gloves.
Engineering Controls (Ventilation etc.):	Ensure adequate ventilation, especially in confined areas. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use explosion-proof ventilation equipment. Proper grounding procedures to avoid static

Work/Hygienic/Maintenance Practices:

electricity should be followed. Gas detectors should be used when flammable gases or vapors may be released. Oxygen detectors should be used when asphyxiating gases may be released. Ensure all national/local regulations are observed.

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink, or smoke when using. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	Appearance: Water. White. Liquid. Colorless Odor: Slight. hydrocarbon-like. Odorless
Ph:	NA
Freezing Point:	No data
Boiling Point:	-127.48°F (-88.6°C)
Flash Pt:	-104°C (-155°F)
Method Used:	TCC
Evaporation Rate:	3.85 (butyl acetate = 1)
Flammability (solid, gas):	Extremely flammable in the presence of the following materials or conditions: oxidizing materials.
Explosive Limits:	LEL: 1.8% (V) UEL: 12.5% (V)
Vapor Pressure (vs. Air or mm Hg):	544 PSI (3751kPa) at 70°F (21.1°C)
Vapor Density (vs. Air = 1):	1.1
Specific Gravity (Water = 1):	0.466 at 32/39.2°F (0/4°C) and 1 atm
Density:	0.079 lb. / cu ft
Solubility in Water:	0.0244 g/l
Saturated Vapor Concentration:	NA
Octanol/Water Partition Coefficient:	1.09
Percent Volatile:	100 % by volume.
Autoignition Pt:	287°C (549°F)
Decomposition Temperature:	No data.
Viscosity:	NA
Molecular Formula:	C ₂ H ₆
Molecular Weight:	30.08 g/mol

10. STABILITY AND REACTIVITY

Reactivity:	Not reactive at normal temperatures and pressures. May produce explosion with chlorine
Stability:	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
Conditions To Avoid - Instability:	Extremes of temperature and direct sunlight. Ignition sources, Incompatible materials, contains gas under pressure; may explode if heated.
Incompatibility Materials to Avoid:	Strong acids, Strong bases, Strong oxidizers, Halogenated compounds, fluorine, chlorine.
Hazardous Decomposition or Byproducts:	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, hydrogen gas, and unburned hydrocarbons.
Possibility of Hazardous Reactions:	Will occur <input type="checkbox"/> Will not occur <input checked="" type="checkbox"/>

Conditions To Avoid - Hazardous Reactions: No data available.

11. TOXICOLOGICAL INFORMATION

Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: Negative
Neurotoxicity: No information available.
CAS#
74-84-0 LC50, Inhalation, Rat, 658 mg/l, 4h
74-98-6 LC50, Inhalation, Rat, 658 mg/l, 4h
Irritation or Corrosion: No information available.
Symptoms related to Toxicological Characteristics: Contact with gas/liquid escaping the container: May cause frostbite or freeze burns. May cause permanent damage. In elevated concentrations, may cause asphyxiation, central nervous system effects and increased breathing rate. Symptoms of asphyxia include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.
Chronic Toxicological Effects: Negative
Carcinogenicity: NTP - No IARC Monographs - No OSHA Regulated - No

12. ECOLOGICAL INFORMATION

General Ecological Information: Environmental: No information available.
Physical: No information available.
Results of PBT and vPvB assessment: No data available.
Persistence and Degradability: Not expected
Bio accumulative Potential: Not expected.
Mobility in Soil: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of contents and containers in accordance with local, regional, national, and international regulations.
Additional Information: Container may remain hazardous when empty. Continue to observe all precautions. Handle empty containers with care because residual vapors are flammable. Empty gas cylinders should be returned to the vendor for recycling or refilling. Do not puncture or incinerate container. Do not pressurize, cut, or weld containers
Ecology - Waste Materials: Avoid release to the environment.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping name: Ethane, Refrigerated Liquid.
DOT Hazard Class: 2.1 FLAMMABLE GAS
UN/NA number: UN1961

Labels:



MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Ethane, Refrigerated Liquid.
UN Number: 1961
Hazard Class: 2.1 - FLAMMABLE GAS
IMDG EMS Number: F-D, S-U

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Ethane, Refrigerated Liquid.
UN Number: 1961
Hazard Class: 2.1 - FLAMMABLE GAS
Additional Transport IATA Information: IATA ERG Code - 10L.

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)
74-84-0	Ethane	No	No	No
74-82-8	Methane	No	No	No
74-98-6	Propane	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
74-84-0	Ethane	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: Yes; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes - 0834; NY Part 597: No; PA HSL: Yes - 1; SC TAP: No; WI Air: No
74-82-8	Methane	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: Yes; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes - 1202; NY Part 597: No; PA HSL: Yes - 1; SC TAP: No; WI Air: No
74-98-6	Propane	TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: Yes; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes - 1594; NY Part 597: No; PA HSL: Yes - 1; SC TAP: No; WI Air: No

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
74-84-0	Ethane	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 1035; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - 2-2; Korea ECL: Yes - KE-

74-82-8	Methane	13138; Philippines ICCS: Yes; REACH: Yes - 01-2119486765-21: Full, (P) Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 1971; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - 9-1726; Korea ECL: Yes - KE-23181; Philippines ICCS: Yes; REACH: Yes - 01-2119474442-39: Full, (P)
74-98-6	Propane	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 1075; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - 9-1697; Korea ECL: Yes - KE-29258; Philippines ICCS: Yes; REACH: Yes - 01-2119486944-21: Full, (P)
Regulatory Information:	SARA Section 311/312 Hazard Classes: Fire hazard Sudden release of pressure hazard Immediate (acute) health hazard.	

16. OTHER INFORMATION

Revision Date:	08/22/2024
Preparer Name:	Crystal Maira
NFPA Ratings:	0= Minimal Hazard 1= Slight Hazard 2= Moderate Hazard 3= Serious Hazard 4= Severe Hazard
Company Policy or Disclaimer:	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.