

**MATERIAL SAFETY DATA SHEET****ETHANE**

Telephone Number: (770) 925-4640  
Emergency Contact: CHEMTREC  
Emergency Phone Number: (800) 424-9300

**SECTION #1 - IDENTIFICATION**

Product: ETHANE

CAS Number: 74-84-0  
Product Code: MSDS CODE G-31  
Chemical Family: Aliphatic Hydrocarbon  
Chemical Formula: C<sub>2</sub>H<sub>6</sub>

Synonyms: BIMETHYL  
DIMETHYL  
ETHYL HYDRIDE  
G-31  
METHYLMETHANE

Hazard Rating - Health: 1 Slight  
- Fire: 4 Extreme  
- Reactivity: 0 Negligible

**SECTION #2 - CHEMICAL COMPONENTS**

Component: ETHANE  
CAS Number: 74-84-0 Percent of Mixture: 100.0000  
None established. Keep oxygen  
levels above 18%.

**SECTION #3 - PHYSICAL DATA**

Boiling Point: - 127.5°F - 88.6°C  
Melting Point: - 279.9°F - 183.3°C  
Vapor Pressure: 558 psia  
Specific Gravity: 1.04  
Solubility (H<sub>2</sub>O): Negligible

**APPEARANCE**

A colorless gas.

**ODOR**

Odorless

**SECTION #4 - FIRE FIGHTING & EXPLOSION DATA**

Flash Point: - 211°F - 135°C  
Autoignition: 882°F 472.2°C

Lower Explosive Limit (%): 3  
Upper Explosive Limit (%): 12.4

**FIRE AND EXPLOSION HAZARDS**

Ethane is slightly heavier than air and may travel a considerable distance to an ignition source. Should flame be extinguished and flow of gas continue, increase ventilation to prevent flammable mixture formation in low areas or pockets.

Electrical Classification: Class 1, Group D.

**EXTINGUISHING MEDIA**

Carbon dioxide, dry chemical or water spray.

**SPECIAL FIRE FIGHTING INSTRUCTIONS**

If possible stop the flow of gas supply. Use water spray to cool adjacent areas.

**SECTION #5 - EXPOSURE AND EFFECTS - INHALATION****ROUTES OF EXPOSURE - INHALATION**

Ethane is a simple asphyxiant. Oxygen levels should be maintained at greater than 18 molar percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg. High concentrations of Ethane so as to exclude an adequate supply of oxygen to the lungs causes dizziness, deeper breathing due to air hunger, possible nausea and eventual unconsciousness. It may cause anesthetic effect. Ethane is relatively inactive biologically and essentially nontoxic; therefore, the major hazard is the exclusion of an adequate supply of oxygen to the lungs.

**FIRST AID - INHALATION**

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO BUTANE. 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. Keep victim warm and quiet.

**SECTION #5 - EXPOSURE AND EFFECTS - SKIN****ROUTES OF EXPOSURE - SKIN**

Contact with rapidly evaporating liquid can cause cyogenic "burns" or frostbite. Frostbite effects are a change in color of the skin to gray or white, possibly followed by blistering.

**FIRST AID - SKIN**

For dermal contact or frostbite, flush affected areas with lukewarm water. DO NOT USE HOT WATER! A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing.

**SECTION #5 - EXPOSURE AND EFFECTS - EYES****ROUTES OF EXPOSURE - EYES**

Contact with evaporating liquid may cause tissue freezing.

**FIRST AID - EYES**

Never introduce ointment or oil into the eyes without medical advice! In case of freezing or cryogenic "burns" caused by rapidly evaporating liquid, DO NOT WASH THE EYES WITH HOT OR EVEN TEPID WATER! Remove victim from the source of contamination. Open eyelids wide to allow liquid to evaporate. If pain is present, refer the victim to an ophthalmologist for treatment and follow up. If the victim cannot tolerate light, protect the eyes with a light bandage.

**SECTION #5 - MISCELLANEOUS TOXICOLOGICAL INFORMATION**

Carcinogenicity - NTP: No IARC: No NTP: No

**SECTION #6 - REACTIVITY & POLYMERIZATION**

Stability: Stable

**INCOMPATIBLE MATERIALS**

Oxidizers.

Hazardous Polymerization: Will not occur.

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### SECTION #7 - SPILL, LEAK, & DISPOSAL PROCEDURES

#### STEPS TO BE TAKEN IN THE EVENT OF SPILLS, LEAKS, OR RELEASE

Evacuate all personnel from affected areas. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact CHEMTREC for emergency assistance or call your closest Holox location.

#### WASTE DISPOSAL METHODS

Do not attempt to dispose of waste or unused quantities. Return in the shipping container **PROPERLY LABELED, WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE** to Holox for proper disposal.

SARA Hazard Classes: Acute Health Hazard  
Fire Hazard  
Sudden Release of Pressure Hazard

### SECTION #8 - SPECIAL PROTECTIVE MEASURES

#### VENTILATION

Hood with forced ventilation. Local exhaust to prevent dilution of oxygen levels below 18%. Mechanical ventilation in accordance with electrical codes.

#### EYE PROTECTION

Safety goggles or glasses.

#### SKIN PROTECTION

Plastic or rubber gloves. Protective gloves made of any suitable material. Use insulated gloves if contact with liquid product may occur.

#### RESPIRATORY PROTECTION

Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.

#### OTHER PROTECTION

Safety shoes, safety shower, eyewash "fountain".

### SECTION #9 - SPECIAL PRECAUTIONS - STORAGE & HANDLING

#### STORAGE & HANDLING CONDITIONS

Use only in well-ventilated areas. Valve protection caps must remain in place unless container 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 reducing regulator when connecting cylinder to lower pressure (<2000 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 back flow into the cylinder.

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130°F. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty containers should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "NO SMOKING OR OPEN FLAMES" signs in the storage or use area.

### SECTION #10 - SHIPPING INFORMATION

Proper Shipping Name: Ethane or Ethane, compressed

Hazard Class: Flammable Gas

DOT Identification Number: UN1035

DOT Shipping Label: Flammable Gas

### SECTION #11 - MISC COMMENTS & REFERENCE DOCUMENTATION

Ethane is non-corrosive and may be used with any common structural material.

Earth ground and bond all lines and equipment associated with the ethylene system. Electrical equipment should be non sparking or explosion-proof.

Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipments of a compressed gas cylinder, which has not been filled by the owner or with his (written) consent, is a violation of Federal Law (49CFR).

For additional recommendations, consult Compress Gas Association Pamphlet P-1.

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