

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Issue date: 01/01/1979 Revision date: 01/29/2021 Supersedes: 10/17/2016 Version: 1.0

### SECTION: 1. Product and company identification

#### 1.1. Product identifier

Product form : Substance  
 Substance name : Ethyl chloride  
 CAS-No. : 75-00-3  
 Formula : C<sub>2</sub>H<sub>5</sub>Cl  
 Other means of identification : Chelene, chloroethane, chloryl anesthetic, halocarbon 160, hydrochloric ether, kelene, monochloroethane, muriatic ether, narcotile, refrigerant gas R160

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.3. Details of the supplier of the safety data sheet

Praxair, Inc.  
 10 Riverview Drive  
 Danbury, CT 06810-6268 - USA  
 T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146  
[www.praxair.com](http://www.praxair.com)

#### 1.4. Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/week  
 — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887  
 (collect calls accepted, Contract 17729)

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Flam. Gas 1 H220  
 Press. Gas (Liq.) H280  
 Carc. 2 H351  
 Aquatic Acute 3 H402  
 Aquatic Chronic 3 H412

#### 2.2. Label elements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H220 - EXTREMELY FLAMMABLE GAS  
 H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED  
 H351 - SUSPECTED OF CAUSING CANCER (Inhalation)  
 H402 - HARMFUL TO AQUATIC LIFE  
 H412 - HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS  
 OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.  
 CGA-HG01 - MAY CAUSE FROSTBITE.  
 CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR

Precautionary statements (GHS US) :

P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No



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smoking. Heat, Open flames, Sparks, Hot surfaces  
P261 - Avoid breathing gas  
P262 - Do not get in eyes, on skin, or on clothing.  
P270 - Do not eat, drink or smoke when using this product.  
P271+P403 - Use and store only outdoors or in a well-ventilated place.  
P273 - Avoid release to the environment.  
P280+P284 - Wear protective gloves, protective clothing, eye protection, respiratory protection, and/or face protection.  
P377 - LEAKING GAS FIRE: Do not extinguish, unless leak can be stopped safely.  
P381 - Eliminate all ignition sources if safe to do so.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.  
CGA-PG05 - Use a back flow preventive device in the piping.  
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.  
CGA-PG20 - Use only with equipment of compatible materials of construction and rated for cylinder pressure.  
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).  
P304, P340, P313 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention.  
P302, P336, P315 - IF ON SKIN: Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.  
P308+P313 - If exposed or concerned: Get medical advice/attention.

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

No data available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%
Ethyl chloride (Main constituent)	(CAS-No.) 75-00-3	100

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Call a physician.
- First-aid measures after skin contact : For liquid spillage - flush with water for at least 15 minutes. The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.
- First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.
- First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available



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### 4.3. Indication of any immediate medical attention and special treatment needed

This material may be a cardiac sensitizer; avoid the use of epinephrine.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide, Dry chemical, Water spray or fog.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : EXTREMELY FLAMMABLE GAS.  
Explosion hazard : EXTREMELY FLAMMABLE GAS. Forms explosive mixtures with air and oxidizing agents.  
Reactivity : Special hazards caused by the material, its products of combustion or resulting gases: PHOSGENE.

### 5.3. Advice for firefighters

Firefighting instructions : **DANGER! Flammable, liquefied gas.**  
  
FORMS EXPLOSIVE MIXTURES WITH AIR  
  
Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.  
  
Special protective equipment for fire fighters : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.  
  
Other information : Containers are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.).

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : **Danger: Flammable, liquefied gas.** FORMS EXPLOSIVE MIXTURES WITH AIR. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if safe to do so. Reduce vapors with fog or fine water spray, taking care not to spread liquid with water. Shut off flow if safe to do so. Ventilate area or move container to a well-ventilated area. Flammable vapors may spread from leak and could explode if reignited by sparks or flames. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with an appropriate device.

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Try to stop release. Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

### 6.3. Methods and material for containment and cleaning up

No additional information available

### 6.4. Reference to other sections

See also sections 8 and 13.



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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment.

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. For other precautions in using this product, see section 16.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store only where temperature will not exceed 125°F (52°C). Post "No Smoking/No Open Flames" signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g. NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16.

**OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE:** 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.

#### 7.3. Specific end use(s)

None.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Ethyl chloride (75-00-3)		
ACGIH	ACGIH OEL TWA [ppm]	100 ppm
USA OSHA	OSHA PEL (TWA) [1]	2600 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) [2]	1000 ppm
USA IDLH	IDLH [ppm]	3800 ppm (10% LEL)

#### 8.2. Exposure controls

Appropriate engineering controls : Use an explosion-proof local exhaust system. Local exhaust and general ventilation must be adequate to meet exposure standards. MECHANICAL (GENERAL): **Inadequate - Use only in a closed system.** Use explosion proof equipment and lighting.

Hand protection : Neoprene rubber (HNBR) /.

Eye protection : Wear safety glasses when handling cylinders; vapor-proof goggles and a face shield during cylinder changeout or whenever contact with product is possible. Select eye protection in accordance with OSHA 29 CFR 1910.133.



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Skin and body protection	: Wear metatarsal shoes and work gloves for cylinder handling, and protective clothing where needed. Wear appropriate chemical gloves during cylinder changeout or wherever contact with product is possible. Select per OSHA 29 CFR 1910.132, 1910.136, and 1910.138.
Respiratory protection	: When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).
Thermal hazard protection	: Wear cold insulating gloves when transfilling or breaking transfer connections.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless liquid. Colorless gas at room temperature.
Molecular mass	: 64.5 g/mol
Color	: Colorless.
Odor	: Pungent ether-like
Odor threshold	: No data available
pH	: Not applicable.
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable.
Melting point	: -138 °C (-216.94 °F)
Freezing point	: No data available
Boiling point	: 12.3 °C (54.14 °F)
Flash point	: -50 (-50 – -43) °C (-58°F, -45°F) TCC and TOC, respectively
Critical temperature	: 187.2 °C (369.0 °F)
Auto-ignition temperature	: 519 °C (966 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: 3.8 – 15.4 vol %
Vapor pressure	: 1.34 bar (19.5 psia) (at 20°C (68°F))
Critical pressure	: 52.6 bar (764.2 psia)
Relative vapor density at 20 °C	: No data available
Relative density	: 0.92 (water = 1) (at 0 °C (32 °F))
Relative gas density	: 2.23 (air = 1) (at 21.1 °C (70 °F))
Solubility	: Water:
Partition coefficient n-octanol/water (Log Pow)	: 1.43
Partition coefficient n-octanol/water (Log Kow)	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: MAY FORM EXPLOSIVE MIXTURES WITH AIR.
Oxidizing properties	: None.
Explosion limits	: No data available

### 9.2. Other information

Additional information	: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level.
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Special hazards caused by the material, its products of combustion or resulting gases: PHOSGENE.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

May occur.

#### 10.4. Conditions to avoid

No additional information available

#### 10.5. Incompatible materials

Water. Oxidizing agents. Sodium. Potassium. Calcium. Aluminum. Zinc. Magnesium.

#### 10.6. Hazardous decomposition products

Phosgene. Hydrochloric acid.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Ethyl chloride ( f )75-00-3	
LC50 Inhalation - Rat	152 g/m <sup>3</sup> (Exposure time: 2 h)
LC50 Inhalation - Rat [ppm]	85747 ppm/1h
ATE US (gases)	42873.5 ppmV/4h
ATE US (vapors)	152 mg/l/4h
ATE US (dust, mist)	152 mg/l/4h

Skin corrosion/irritation : Not classified

pH: Not applicable.

Serious eye damage/irritation : Not classified

pH: Not applicable.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : SUSPECTED OF CAUSING CANCER (Inhalation).

Ethyl chloride (75-00-3)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

Ethyl chloride (75-00-3)	
EC50 - Crustacea [1]	58 mg/l (Exposure time: 48 h - Species: Daphnia magna)



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### 12.2. Persistence and degradability

#### Ethyl chloride (75-00-3)

Persistence and degradability	Not readily biodegradable.
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### 12.3. Bioaccumulative potential

#### Ethyl chloride (75-00-3)

Partition coefficient n-octanol/water (Log Pow)	1.43
Partition coefficient n-octanol/water (Log Kow)	Not applicable.
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

### 12.4. Mobility in soil

#### Ethyl chloride (75-00-3)

Mobility in soil	No data available.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

### 12.5. Other adverse effects

Effect on ozone layer : None.

Effect on the global warming : No known effects from this product.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste) : U.S. - RCRA (Resource Conservation & Recovery Act) - Basis for Listing - Appendix VII. U.S. - RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Monitoring. U.S. - RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents. U.S. - RCRA (Resource Conservation & Recovery Act) - Part 268 Appendix III - Halogenated Organic Compounds (HOCs). U.S. - RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards. U.S. - RCRA (Resource Conservation & Recovery Act) - TSD Facilities Ground Water Monitoring.

Product/Packaging disposal recommendations : Do not attempt to dispose of residual or unused quantities. Return container to supplier.

## SECTION 14: Transport information

In accordance with DOT

Transport document description (DOT) : UN1037 Ethyl chloride, 2.1

UN-No.(DOT) : UN1037

Proper Shipping Name (DOT) : Ethyl chloride

Class (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115

Hazard labels (DOT) : 2.1 - Flammable gas



DOT Special Provisions (49 CFR 172.102) : B77 - Other packaging are authorized when approved by the Associate Administrator.  
N86 - UN pressure receptacles made of aluminum alloy are not authorized.  
T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.

### Additional information

Emergency Response Guide (ERG) Number : 115

Other information : No supplementary information available.



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Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:  
- Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

### Transport by sea

UN-No. (IMDG) : 1037  
Proper Shipping Name (IMDG) : ETHYL CHLORIDE  
Class (IMDG) : 2 - Gases  
Division (IMDG) : 2.1 - Flammable gases  
MFAG-No : 115

### Air transport

UN-No. (IATA) : 1037  
Proper Shipping Name (IATA) : Ethyl chloride  
Class (IATA) : 2  
Civil Aeronautics Law : Gases under pressure/Gases flammable under pressure

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Ethyl chloride (75-00-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	100 lb
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SARA Section 313 - Emission Reporting	1 %
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All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.

### 15.2. International regulations

#### CANADA

#### Ethyl chloride (75-00-3)

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

#### Ethyl chloride (75-00-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)





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### 15.2.2. National regulations

#### Ethyl chloride (75-00-3)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Japanese ISHL (Industrial Safety and Health Law)  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Japanese Poisonous and Deleterious Substances Control Law  
Listed on the Canadian IDL (Ingredient Disclosure List)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on EPA Hazardous Air Pollutant (HAPS)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)

### 15.3. US State regulations

#### Ethyl chloride(75-00-3)

U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
No significant risk level (NSRL)	150 µg/day
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List



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### SECTION 16: Other information

#### Other information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Linde asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Linde Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Linde Inc, it is the user's obligation to determine the conditions of safe use of the product.

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#### NFPA health hazard

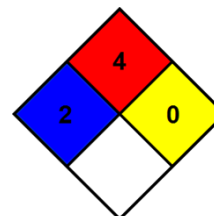
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

#### NFPA fire hazard

: 4 - Materials that rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and burn readily.

#### NFPA instability

: 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US GHS DUAL BRANDED LINDE->PRAXAIR

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*