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**MSDS: Ethyl Chloride**

## PRODUCT INFORMATION

**PRODUCT:** Ethyl Chloride  
**TRADE NAME:** Ethyl Chloride, Chloroethane,  
Monochloroethane  
**CHEMICAL NAME:** Ethyl Chloride, Chloroethane  
**SYNONYMS:** None  
**FORMULA:** C<sub>2</sub>H<sub>5</sub>Cl  
**CHEMICAL FAMILY:** Chloro Alkane  
**SUPPLIER'S NAME:** MEGS Inc.  
**SUPPLIER'S ADDRESS:** 2675 De Miniac  
Ville St-Laurent, Qc, H4S 1E5  
**EMERGENCY PHONE NUMBER:** (514) 956-7503  
**MOLECULAR WEIGHT:** 64.52  
**PRODUCT USE:** Various  
**PRODUCT IDENTIFICATION UN 1037  
NUMBER:**

## HAZARDOUS INGREDIENTS

<b>CHEMICAL ID</b>	<b>CONCENTRATION</b>	<b>CAS #</b>	<b>LD(50)</b>	<b>LC(50)</b>
Ethyl Chloride	100%	75-00-3	None	Inhl-gpg 4000 PPM/45 min

## PHYSICAL DATA

**PHYSICAL STATE:** Gas or liquid under pressure  
**APPEARANCE:** Colorless gas and liquid  
**ODOR:** Pungent, ethereal odor  
**ODOR THRESHOLD:** Unknown  
**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** 0.878

**VAPOR PRESSURE:** 112 kPa  
**VAPOR DENSITY (air = 1):** 2.22  
**EVAPORATION RATE:** Unknown  
**BOILING POINT:** 12.28°C  
**FREEZING POINT:** -138.3°C  
**pH:** Unknown  
**GAS DENSITY:** 2.70 kg/m<sup>3</sup> @ 15°C, 101.3 kPa  
**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Slightly soluble in water

### **FIRE OR EXPLOSION HAZARD**

**CONDITIONS OF FLAMMABILITY:** Flammable over a specific range in air

**MEANS OF EXTINCTION:** Carbon dioxide or dry chemical. "Stop flow of gas before extinguishing fire".

**FLASHPOINT AND METHOD OF DETERMINATION:** -45°C (O.C.)

**UPPER EXPLOSION LIMIT (% BY VOL):** 15.4

**LOWER EXPLOSION LIMIT (% BY VOL):** 3.8

**AUTO-IGNITION TEMPERATURE:** 519°C

**FLAMMABILITY CLASSIFICATION:** Class 1 Group C

**HAZARDOUS COMBUSTION PRODUCTS:** Phosgene and hydrogen chloride

**EXPLOSION DATA:** Yes, in air

**SENSITIVITY TO STATIC DISCHARGE:** Yes

### **REACTIVITY DATA**

**CHEMICAL STABILITY:** Stable

**INCOMPATIBLE MATERIALS:** When dry is compatible with most commonly used materials.

**CONDITIONS OF REACTIVITY:** Moisture and elevated temperatures

**HAZARDOUS DECOMPOSITION PRODUCTS:** None

### **TOXICOLOGICAL PROPERTIES**

#### **ROUTES OF ENTRY:**

**SKIN CONTACT:** Is a slight irritant to the skin mucosal tissues. Due to its rapid rate of evaporation, it can cause tissue freezing or frostbite on dermal contact.

**SKIN ABSORPTION:** Yes, readily

**EYE:** See Skin Contact, above

**INHALATION:** At concentrations of approximately 2% (molar) has an anesthetic or narcotic effect causing headache, dizziness and possibly nausea. At higher concentrations can cause unconsciousness. Prolonged exposure to high concentrations have resulted in death.

**INGESTION:** None

**ACUTE OVER EXPOSURE EFFECTS:** Is absorbed through the lungs and skin, but is also rapidly given off through the lungs. It is apparently not metabolized to any significant degree when present in the body.

**CHRONIC OVER EXPOSURE EFFECTS:** It is the least toxic of the chlorohydrocarbons and a form of chronic poisoning has been reported.

**EXPOSURE LIMITS:** TWA = 100 molar ppm (ACGIH 1995-1996)

**IRRITANCY OF PRODUCT:** See Skin Contact, above.

**SENSITIZATION TO MATERIAL:** None

**CARCINOGENICITY, REPRODUCTIVE EFFECTS:** Classified as an animal carcinogen, although does not confirm an increased risk in exposed humans (ACGIH 1995-1996)

**TERATOGENICITY, MUTAGENICITY:** None known

**TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** Other chloro alkanes (low-boiling)

## **PREVENTIVE MEASURES**

**PERSONAL PROTECTIVE EQUIPMENT:** Teflon® or Kel-F® gloves. Safety goggles or safety glasses and face shield. Safety shoes, safety shower, eyewash "fountain".

**SPECIFIC ENGINEERING CONTROLS:** Dry ethyl chloride can be handled in most common materials of construction. Gasketing material should be Teflon®, Kel-F®, Buna S®, or Buna N®. Do not use PVC, polypropylene, Hypalon®, natural or butyl rubber.

**LEAK AND SPILL PROCEDURES:** EVACUATE ALL PERSONNEL FROM AFFECTED AREA.

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 on container or container valve, contact the closest MEGS location.

**WASTE DISPOSAL:** 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 MEGS for proper disposal. For emergency disposal, contact the closest MEGS location.

**HANDLING PROCEDURES AND EQUIPMENT:** USE ONLY IN WELL-VENTILATED AREAS.

Valve protection caps must remain in place unless container is secured with valve outlet piped to the point of use. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. 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. Do not tamper with (valve) safety device. Close valve after use and when empty.

**STORAGE REQUIREMENTS:** 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 52°C. Cylinders must 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 being stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no sources of ignition in the storage or use area.

**TDG CLASSIFICATION:** 2.1

**WHMIS CLASSIFICATION:** A, B

**SPECIAL SHIPPING INFORMATION:** Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

## **FIRST AID MEASURES**

**SPECIFIC FIRST AID PROCEDURES:** PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO ETHYL CHLORIDE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS AND BE COGNIZANT OF EXTREME FIRE AND

EXPLOSION HAZARD.

**INHALATION:** 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 resuscitation and supplemental oxygen. Medical assistance should be sought immediately. The physician should be instructed not to use adrenaline as a stimulant in cases of ethyl chloride poisoning.

**EYE CONTACT:** PERSONS WITH POTENTIAL EXPOSURE TO ETHYL CHLORIDE SHOULD NOT WEAR CONTACT LENSES.

**SKIN CONTACT:** Dermal Contact or Frostbite: Remove contaminated clothing and 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.

<b>PREPARATION INFORMATION</b>
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**PREPARED BY:** Safety Department

**DATE PREPARED:** 09/01/1999

**LAST REVISION DATE:** 05/21/2002

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