Safety Data Sheet
Ethyl Chloride

Section 1: Product and Company Identification

Middlesex Gases & Technologies
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Product Code: Ethyl Chloride

Section 2: Hazards Identification

Danger

Hazard Classification:
Carcinogenicity (Category 2)
Flammable (Category 1)
Gases Under Pressure

Hazard Statements:
Contains gas under pressure; may explode if heated
Extremely flammable gas
Harmful to aquatic life with long lasting effects.
Suspected of causing cancer

Precautionary Statements
Prevention:
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Wear protective gloves, protective clothing, eye protection and face protection.
Do not handle until all safety precautions have been read and understood.

Response:
Eliminate all ignition sources if safe to do so.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
If exposed or concerned: Get medical advice/attention.

Storage:
Protect from sunlight.
Store in well-ventilated place.
Store locked up.

Disposal:
Dispose of contents and/or container in accordance with applicable regulations.

Section 3: Composition/Information on Ingredients

CAS #
75-00-3

Chemical Substance	Chemical Family	Trade Names
ETHYL CHLORIDE	halogenated, aliphatic	CHLOROETHANE; MONOCHLOROETHANE; MURIATIC ETHER; KELENE; HYDROCHLORIC ETHER; ETHER HYDROCHLORIC; ETHER MURIATIC; NARCOTILE; AETHYLIS; CHELEN; CHLORETHYL; CHLORIDUM; CHLORYL; CHLORYL ANESTHETIC; ETHER CHLORATUS; AETHYLIS CHLORIDUM; STCC 4908162; UN 1037; C2H5CL

Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.	Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	Not available

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Regular dry chemical, carbon dioxide, regular foam	Hydrogen chloride gas, phosgene.	▪ Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Use chemical protective clothing. ▪ Not available

Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry.	Avoid heat, flames, sparks and other sources of ignition.	Stop leak if possible without personal risk. Reduce vapors with water spray.

Methods for Cleanup	Other Information
Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Remove sources of ignition.	Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA). Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

Section 7: Handling and Storage

Handling	Storage
Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Grounding and bonding required. Protect from physical damage. Store outside or in a detached building. Store with flammable liquids. Keep separated from incompatible substances. Avoid contact with light. Store in a cool, dry place. Store in a well-ventilated area. Keep separated from incompatible substances.	Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Keep away from heat, sparks and flame. To avoid fire, minimize ignition sources. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Do not puncture or incinerate container. Wash thoroughly after handling. High pressure gas. Use equipment rated for cylinder pressure. Close valve after each use and when empty.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
ETHYL CHLORIDE: 1000 ppm (2600 mg/m3) OSHA TWA 100 ppm ACGIH TWA (skin) NIOSH (handle with caution in workplace)

Engineering Controls

Handle only in fully enclosed systems.

Eye Protection	Skin Protection	Respiratory Protection
For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.	Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Use chemical protective clothing.

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Gas	Colorless	Colorless	N/A	Gas	Pungent, ether-like odor	Burning taste

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
-58 F (-50 C) (CC)	Not available	Not available	966 F (519 C)	0.154	0.038

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
54 F (12 C)	-213 F (-136 C)	1000 mmHg @ 20 C	2.2 (Air=1)	0.9	0.6%	Not applicable	4.2 ppm (method not specified) (10); 140 ppm (50% detection); 680 ppm (100% detection)	Not applicable	0.26 mPa.s (0.26 centipoise) @ 20 C

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
64.52	C2-H5-CL	0.1649	Not available	Not available	Not applicable	Soluble: Alcohol, ether, organic solvents

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials

Stability	Conditions to Avoid	Incompatible Materials
Stable at normal temperatures and pressure. May react on contact with water. May release toxic and/or flammable gases.	Stable at normal temperatures and pressure. May react on contact with water. May release toxic and/or flammable gases.	Metals, oxidizing materials, water, aluminum, powdered metals

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Acid halides, phosgene, hydrochloric acid	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
(LC50): 80 ppm 4 hour(s) [Rat].	Not available	Irritation, blisters, blurred vision, nausea, vomiting, irregular heartbeat, headache, sore throat, frostbite, symptoms of drunkenness, disorientation, kidney damage, liver damage

Eye Irritation	Skin Irritation	Sensitization
Irritation, blurred vision	Irritation, blisters, frostbite	Eye irritation, central nervous system depression

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
IARC: Human No Adequate Data, Animal Limited Evidence, Group 3; ACGIH: A3 - Confirmed Animal Carcinogen	Available.	Available.	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: Not available Invertibrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	53- 91% degradation in 28 days of incubation)	None	Not available

Section 13: Disposal Considerations

Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. Dispose in accordance with all applicable regulations.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
Ethyl chloride	UN1037	2.1	Not applicable	2.1	Forbidden	150 kg	None

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Ethyl chloride	UN1037	2.1	Not applicable

Section 15: Regulatory Information

U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
100 LBS RQ	Not regulated.	Not regulated.

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	No	Yes	Yes	No

SARA 372.65

CHLOROETHANE (ETHYL CHLORIDE)

OSHA Process Safety

Not regulated.

State Regulations

CA Proposition 65
Known to the state of California to cause the following: Chloroethane (Ethyl chloride) Cancer (Jul 01, 1990)

Canadian Regulations

WHMIS Classification
A, B1

National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Listed on inventory.	Not listed.	Not determined.

Section 16: Other Information

NFPA Rating
HEALTH=2 FIRE=4 REACTIVITY=0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard