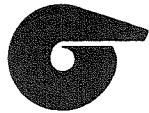


JUN 27 1994



GEBAUER COMPANY
 9410 St. Catherine Avenue • Cleveland, Ohio 44104
 1-800-321-9348 toll-free • (216) 271-5252
 FAX (216) 271-5335

Material Safety Data Sheet

ETHYL CHLORIDE

Topical Anesthetic

After Hours Emergency: Chemtrec (800) 424-9300

I. IDENTIFICATION

TRADE NAME SYNONYM	ETHYL CHLORIDE	REVISION DATE:	January, 1994 by D. Bodkin
CHEMICAL NAME SYNONYMS	Ethyl Chloride, Chloroethane Hydrochloric Ether	CAS NO.	75-00-3
CHEMICAL FAMILY	Halogenated Hydrocarbon	FORMULA	C ₂ H ₅ Cl

II. HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENTS				CAS NO.	%	TLV (UNITS)
Ethyl Chloride				75-00-3	100	1000 PPM
HMS RATINGS		SARA/TITLE III PRODUCT HAZARD CATEGORIES:		LISTS:		
Health	1	Chronic Health	No	Extremely Hazardous		
Flammability	4	Acute Health	Yes	Substance	No	
Reactivity	0	Fire Hazard	Yes	CERCLA Hazardous		
Personal Protection	—	Pressure Hazard	Yes	Substance	Yes	
		Reactivity Hazard	No	Toxic Chemicals	Yes	

III. PHYSICAL DATA

BOILING POINT 54°F (12.2°C)	FREEZING POINT -218°(-139°C)	EVAPORATION RATE (butyl acetate =1)	greater than 1
VAPOR PRESSURE at 70°F (21.1°C) 20.3 psia (140 kPa)	SPECIFIC GRAVITY (H ₂ O=1) 0.921 @ 34°F		
VAPOR DENSITY (air =1) at BP 2.2	PERCENT VOLATILE BY VOLUME 100		
SOLUBILITY IN WATER Reacts with water 0.57g/108g water at 68°F			
APPEARANCE AND ODOR Colorless liquid with a pungent, ether-like odor, liquid is water white.			

IV. FIRE AND EXPLOSION HAZARDS

FLASH POINT (Method Used) -45°F (-42.8°C) OC/-58°F (-50°C) CC	AUTO-IGNITION TEMPERATURE 966°F (519°C)
FLAMMABLE OR EXPLOSIVE LIMITS IN AIR BY % VOLUME LOWER: 3.2	UPPER: 15.4
EXTINGUISHING MEDIA Dry chemical or Carbon dioxide for small fires	ELECTRICAL CLASSIFICATION Group C. NFPA No. 70
SPECIAL FIREFIGHTING PROCEDURES Stop flow of gas. From a safe distance, use water to keep fire-exposed containers cool. Allow fire to burn itself out. Use a positive pressure self-contained breathing apparatus. Rescue personnel should avoid unnecessary exposure.	
UNUSUAL FIRE AND EXPLOSION HAZARDS Upon combustion, ethyl chloride forms phosgene. Extreme hazard of fire or explosion may result from static electric discharge or other ignition sources. Vapor is heavier than air and may travel a considerable distance to a source of ignition and flashback. Vapor may explode if ignited in enclosed areas.	

V. HEALTH HAZARDS

THRESHOLD LIMIT VALUE 1000 PPM

EFFECTS OF OVEREXPOSURE

INHALATION: Headache, dizziness, nausea, vomiting, loss of coordination and disorientation may produce narcotic and anesthetic effects. May produce central nervous system depression, respiratory paralysis, or fatal coma with respiratory or cardiac arrest. May sensitize the myocardium to endogenous epinephrine, causing dangerous dysrhythmias. Although absorbed through lungs and skin, it also is rapidly given off through the lungs.

SKIN: Rapid evaporation of liquid may cause frostbite. Symptoms of frostbite are blanching of the skin, cold feeling numbness. Cutaneous sensitization may occur, but is extremely rare. Freezing can occasionally alter pigmentation. A single prolonged skin exposure is not likely to result in absorption of harmful amounts.

EYES: Is a slight irritant to mucosal tissues.

Ethyl Chloride is known as a liver and kidney toxin. It is the least toxic of the Chlorohydrocarbons and no form of chronic poisoning has been reported. Repeated excessive exposure may cause incoordination and/or anesthesia.

EMERGENCY FIRST AID PROCEDURES FOR:

INHALATION: Minor symptoms are relieved by breathing fresh uncontaminated air. If breathing has stopped, or is impaired, give assisted respiration (i.e., mouth-to-mouth). Supplemental oxygen should be given. Keep victim warm and quiet. Seek medical attention promptly.

EYES: If liquid enters the eyes, flood with large amounts of water. Contact lenses should not be worn.

SKIN: Unintentional freezing: flood or soak frozen tissue in tepid water (105-115°F). DO NOT USE HOT WATER.

INGESTION: Seek medical help immediately.

VI. REACTIVITY DATA

STABILITY	<input type="checkbox"/> UNSTABLE <input checked="" type="checkbox"/> STABLE	CONDITIONS TO AVOID: Sources of heat, ignition, or moisture
INCOMPATIBILITY (Materials to avoid)	Oxidizers, alkaline metals	
HAZARDOUS DECOMPOSITION PRODUCTS	Forms phosgene on combustion, forms hydrogen chloride with water or steam	
HAZARDOUS POLYMERIZATION	<input type="checkbox"/> MAY OCCUR <input checked="" type="checkbox"/> WILL NOT OCCUR	CONDITIONS TO AVOID:

VII. SPILL OR LEAK PROCEDURES

IN CASE MATERIAL IS RELEASED OR SPILLED Eliminate all sources of ignition. Allow spilled ethyl chloride to evaporate, ventilate enclosed areas. In case of large spill, evacuate all personnel from area.

WASTE DISPOSAL METHOD Comply with Federal, State and Local laws; Return unused quantities to Gebauer Co.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	For large spills: Positive pressure self-contained breathing apparatus should be available for emergency use. For clinical setting: Minimize inhalation of vapors by patient, especially when applying to head & neck.		
VENTILATION	LOCAL EXHAUST	Too prevent accumulation of vapors.	MECHANICAL (GENERAL) None
PROTECTIVE GLOVES	For large spills only: Teflon® or Kel-F® Do not use PVC, natural rubber, butyl rubber or polypropylene.		EYE PROTECTION For large spills only: Safety goggles or glasses, or face shield For Patient use: Cover patient's eyes, if applying on or near face.
OTHER PROTECTIVE EQUIPMENT	Eyebath	FOR CLINICAL SETTING: Gloves or goggles are not required.	

IX. SPECIAL PRECAUTIONS

HANDLING AND STORAGE	Protect against physical damage. Store in cool, dry, well-ventilated area. Do not subject containers to temperatures above 120°F (50°C). Use only in well-ventilated area. DO NOT store on or near high frequency ultrasound equipment.	
OTHER PRECAUTIONS	Do not use near sparking motors or other non-explosive equipment. No smoking signs should be posted wherever Ethyl Chloride is used or stored.	
D.O.T. PROPER SHIPPING NAME	Ethyl Chloride	ID NO.:UN 1037
D.O.T. CLASSIFICATION	Flammable Gas	ID Hazard Class 2.1
D.O.T. LABELING	Red Label, "Flammable Gas"	

Information contained in this material safety data sheet is offered without charge for use by technically qualified personnel at their discretion and risk. All statements, technical information and recommendations contained herein are based on tests and data which we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and no warranty of any kind is made with respect thereto. This information is not intended as a license to operate under or a recommendation to practice or infringe any patent of this Company or other covering any process, composition of matter or use.

Since the Company shall have no control of the use of the product described herein, the Company assumes no liability of loss or damage incurred from the proper or improper use of such product.