



Tel: 514-956-7503
Fax: 514-956-7504
Internet: www.megs.ca
Email : support@megs.ca

Montreal	St-Laurent	Tel : 514-956-7503	Fax : 514-956-7504
Ottawa	Nepean	Tel : 613-226-4228	Fax : 613-226-4229
Quebec	Quebec	Tel : 418-834-7447	Fax : 418-834-3774

MSDS: Halocarbon 13

PRODUCT INFORMATION

PRODUCT: Halocarbon 13

TRADE NAME: Halocarbon 13 or Freon® 13

CHEMICAL NAME: Chlorotrifluoromethane

SYNONYMS: R-13 or Refrigerant 13

FORMULA: $CClF_3$

CHEMICAL FAMILY: Halogenated Hydrocarbon

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: 104.46

PRODUCT USE: Various

**PRODUCT IDENTIFICATION UN 1022
NUMBER:**

HAZARDOUS INGREDIENTS

CHEMICAL ID	CONCENTRATION	CAS #	LD(50)	LC(50)
	100%			
Halocarbon 13		75-72-9	None	None

PHYSICAL DATA

PHYSICAL STATE: Gas and liquid under pressure

APPEARANCE: Colorless

ODOR: Slightly ethereal odor

ODOR THRESHOLD: Unknown

SPECIFIC GRAVITY (H₂O = 1): 0.989

VAPOR PRESSURE: 2835 kPa
VAPOR DENSITY (air = 1): 3.64
EVAPORATION RATE: Not applicable
BOILING POINT: -81.44°C
FREEZING POINT: -181°C
pH: Unknown
GAS DENSITY: 285.8 kg/m³ @ 15°C, 101.3 kPa
COEFFICIENT OF WATER/OIL @ 25°C, Bunsen Coefficient = 0.02
DISTRIBUTION:

FIRE OR EXPLOSION HAZARD

CONDITIONS OF FLAMMABILITY: Nonflammable gas
MEANS OF EXTINCTION: Nonflammable gas
FLASHPOINT AND METHOD OF DETERMINATION: Nonflammable gas
UPPER EXPLOSION LIMIT (% BY VOL): Nonflammable gas
LOWER EXPLOSION LIMIT (% BY VOL): Nonflammable gas
AUTO-IGNITION TEMPERATURE: Nonflammable gas
FLAMMABILITY CLASSIFICATION: Nonflammable gas
HAZARDOUS COMBUSTION PRODUCTS: Nonflammable gas
EXPLOSION DATA: Nonflammable gas
SENSITIVITY TO STATIC DISCHARGE: None

REACTIVITY DATA

CHEMICAL STABILITY: Stable
INCOMPATIBLE MATERIALS: Aluminum
CONDITIONS OF REACTIVITY: At higher temperature (150°C)
HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen fluoride and other toxic fluorides

TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY:

SKIN CONTACT: Contact with rapidly evaporating liquid may cause frostbite or cryogenic "burns".

SKIN ABSORPTION: None

EYE: None

INHALATION: High concentrations of Halocarbon 13 so as to exclude an adequate supply of oxygen to the lungs causes dizziness, possible nausea and eventual unconsciousness.

INGESTION: None

ACUTE OVER EXPOSURE EFFECTS: Mild irritant at low concentrations. May act as a narcotic at higher concentrations.

Frostbite effects are a change in color of the skin to gray or white possibly followed by blistering.

CHRONIC OVER EXPOSURE EFFECTS: None reported

EXPOSURE LIMITS: No TWA is established. It should be considered a simple asphyxiant. Oxygen levels should be maintained than 18 molar percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg. (ACGIH 1995-1996)

IRRITANCY OF PRODUCT: Mild irritant

SENSITIZATION TO MATERIAL: None

CARCINOGENICITY, REPRODUCTIVE EFFECTS: None

TERATOGENICITY, MUTAGENICITY: None

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: None

PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: Plastic or rubber gloves. Safety goggles or safety glasses. Safety shoes.

SPECIFIC ENGINEERING CONTROLS: Halocarbon 13 is noncorrosive and may be used with any common structural material. Silver and copper bearing alloys can act as catalysts for the decomposition of halocarbon 13 at high temperatures. Alloys containing more than 2% magnesium should not be used if water is present.

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 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 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. Do not tamper with (valve) safety device. Close valve after each 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.

TDG CLASSIFICATION: 2.2

WHMIS CLASSIFICATION: A

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 HALOCARBON 13. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

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. Further treatment should be symptomatic and supportive.

EYE CONTACT: Flush contaminated eye(s) with copious quantities of water. Part eyelids to assure complete flushing. Continue for a minimum of 15 minutes.

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.

PREPARATION INFORMATION

PREPARED BY: Safety Department

DATE PREPARED: 09/01/1999

LAST REVISION DATE: 05/21/2002

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