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MSDS: Cyclopropane

PRODUCT INFORMATION

PRODUCT: Cyclopropane
TRADE NAME: Cyclopropane
CHEMICAL NAME: Cyclopropane
SYNONYMS: Cyclopropane, Liquified or Trimethylene
FORMULA: C₃H₆
CHEMICAL FAMILY: Cycloalkane
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: 42.09
PRODUCT USE: Various
**PRODUCT IDENTIFICATION UN 1027
NUMBER:**

HAZARDOUS INGREDIENTS

CHEMICAL ID	CONCENTRATION	CAS #	LD(50)	LC(50)
Cyclopropane	100%	75-19-4	None	None

PHYSICAL DATA

PHYSICAL STATE: Liquid and gas under pressure
APPEARANCE: Colorless gas and liquid
ODOR: Ethereal odor
ODOR THRESHOLD: Unknown
SPECIFIC GRAVITY (H₂O = 1): Liquid @ Boiling Point = 0.837
VAPOR PRESSURE: @ 15°C = 541 kPa

VAPOR DENSITY (air = 1): 1.45
EVAPORATION RATE: Unknown
BOILING POINT: -32.8°C
FREEZING POINT: -127.6°C
pH: Unknown
GAS DENSITY: 1.78 kg/m³ @ 15°C, 101.3 kPa
COEFFICIENT OF WATER/OIL Slightly soluble in water
DISTRIBUTION:

FIRE OR EXPLOSION HAZARD

CONDITIONS OF FLAMMABILITY: Flammable within a specified range in air.

MEANS OF EXTINCTION: Water, carbon dioxide, dry chemical.
"Stop flow of gas before extinguishing fire".

FLASHPOINT AND METHOD OF DETERMINATION: Unknown

UPPER EXPLOSION LIMIT (% BY VOL): 10.4
LOWER EXPLOSION LIMIT (% BY VOL): 2.4
AUTO-IGNITION TEMPERATURE: 500°C
FLAMMABILITY CLASSIFICATION: None
HAZARDOUS COMBUSTION PRODUCTS: None

EXPLOSION DATA: Flammable
SENSITIVITY TO STATIC DISCHARGE: Yes

REACTIVITY DATA

CHEMICAL STABILITY: Stable
INCOMPATIBLE MATERIALS: Oxidizers
CONDITIONS OF REACTIVITY: None
HAZARDOUS DECOMPOSITION PRODUCTS: None

TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY:

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

SKIN ABSORPTION: None

EYE: See Skin Contact, above

INHALATION: Cyclopropane has been used as a medical general anesthetic. Quantity inhaled and duration control symptoms. They include dizziness, disorientation, incoordination, narcosis, nausea or vomiting leading to unconsciousness.

INGESTION: Unknown

ACUTE OVER EXPOSURE EFFECTS: After anesthesia, it may give rise to bronchospasms, laryngospasms, blood pressure collapse and in rare cases, hepatitis.

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

CHRONIC OVER EXPOSURE EFFECTS: No irreversible effects are known once an adequate supply of oxygen is returned (oxygen deficiency corrected).

EXPOSURE LIMITS: No TWA is established; should be considered a simple asphyxiant. Oxygen levels should be maintained at greater 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: None

SENSITIZATION TO MATERIAL: None

CARCINOGENICITY, REPRODUCTIVE EFFECTS: None known

TERATOGENICITY, MUTAGENICITY: Yes, cyt-chicken-inhalation; 20 ppm for 3 hours.

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: None

PREVENTIVE MEASURES

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

SPECIFIC ENGINEERING CONTROLS: Cyclopropane is noncorrosive and may be used with any common structural material.

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. 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.

For additional handling recommendations, consult Compressed Gas Association's Pamphlets P-1, P-2, and P-14 and Safety Bulletin SB-2.

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.

For additional storage recommendations, consult Compressed Gas Association's P-1, P-2, and P-14 and Safety Bulletin SB-2.

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

INHALATION: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Unconscious persons should be moved to an uncontaminated area, given assisted resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

EYE CONTACT: Not applicable

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: 01/01/1999

LAST REVISION DATE: 05/21/2002

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