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MSDS: Ethylene

PRODUCT INFORMATION

PRODUCT: Ethylene
TRADE NAME: Ethylene
CHEMICAL NAME: Ethylene or Ethene
SYNONYMS: Ethylene, Compressed
FORMULA: C₂H₄
CHEMICAL FAMILY: Olefin
SUPPLIER'S NAME: MEGS Inc.
SUPPLIER'S ADDRESS: 2675 De Miniac
Ville St-Laurent, Qc, H4S 1E5
EMERGENCY PHONE NUMBER: (613) 996-6666 (24h)
MOLECULAR WEIGHT: 28.06
PRODUCT USE: Various
PRODUCT IDENTIFICATION UN 1962
NUMBER:

HAZARDOUS INGREDIENTS

CHEMICAL ID	CONCENTRATION	CAS #	LD(50)	LC(50)
Ethylene	100%	74-85-1	None	Inhl-Mus 95 ppm

PHYSICAL DATA

PHYSICAL STATE: Gas under pressure
APPEARANCE: Colorless gas
ODOR: Slightly sweet odor
ODOR THRESHOLD: Unknown
SPECIFIC GRAVITY (H₂O = 1): See Vapor Density (air = 1)
VAPOR PRESSURE: Not applicable (gas)
VAPOR DENSITY (air = 1): 0.974
EVAPORATION RATE: Not applicable (gas)

BOILING POINT: -103.72°C
FREEZING POINT: -169.18°C
pH: Not applicable
GAS DENSITY: 1.160 kg/m³ @ 15°C, 101.3 kPa
COEFFICIENT OF WATER/OIL @ 15°C, Bunsen Coefficient = 0.139
DISTRIBUTION:

FIRE OR EXPLOSION HAZARD

CONDITIONS OF FLAMMABILITY: Flammable over a wide range in air

MEANS OF EXTINCTION: Carbon dioxide, dry chemical, water spray. "Stop flow of gas before extinguishing fire".

FLASHPOINT AND METHOD OF DETERMINATION: Not applicable (gas)

UPPER EXPLOSION LIMIT (% BY VOL): 32

LOWER EXPLOSION LIMIT (% BY VOL): 3.1

AUTO-IGNITION TEMPERATURE: 520°C

FLAMMABILITY CLASSIFICATION: Class 1 Group C

HAZARDOUS COMBUSTION PRODUCTS: None

EXPLOSION DATA: Yes, spontaneously with chloride in sunlight

SENSITIVITY TO STATIC DISCHARGE: Yes

REACTIVITY DATA

CHEMICAL STABILITY: Stable

INCOMPATIBLE MATERIALS: Chloride, nitrogen dioxide, aluminum chloride, carbon tetrachloride

CONDITIONS OF REACTIVITY: High temperature and pressure = polymerization to polyethylene

HAZARDOUS DECOMPOSITION PRODUCTS: None

TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY:

SKIN CONTACT: None

SKIN ABSORPTION: None

EYE: None

INHALATION: Anesthetic effect may cause drowsiness, headache, dizziness, loss of coordination, nausea or loss of consciousness.

INGESTION: None

ACUTE OVER EXPOSURE EFFECTS: Ethylene vapor will act as a simple asphyxiant by displacing the oxygen in the air. It is also a weak anesthetic but no other biological properties are known. The vapor will not irritate the eyes or mucous membranes.

CHRONIC OVER EXPOSURE EFFECTS: None

EXPOSURE LIMITS: Ethylene is defined as 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

TERATOGENICITY, MUTAGENICITY: None

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: None

PREVENTIVE MEASURES

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

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

LEAK AND SPILL PROCEDURES: Remove or "deactivate" all sources of ignition or flames. Stop flow of gas. If a leaking cylinder, remove to safe, well-ventilated area. If leak cannot be stopped, 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, drop 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 line to prevent hazardous back flow into the cylinder. Keep cylinder away from heat and flame, 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. 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 ETHYLENE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS AND BE COGNIZANT OF EXTREME FIRE AND EXPLOSION HAZARD.

INHALATION: Conscious persons who inhaled ethylene vapor should proceed 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: Not applicable

PREPARATION INFORMATION

PREPARED BY: Safety Department

DATE PREPARED: 01/01/2001

LAST REVISION DATE: 06/01/2011

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