

INTERNATIONAL_GASES_AND_CHEMICALS_LTD

MATERIAL SAFETY DATA SHEETS

DATE: 10/06/97

SUPPLIER ADDRESS: SPEEDWELL RD
PARKHOUSE EAST
NEWCASTLE-U-LYME

EMERGENCY PHONE: (178) 256-5556
NUMBER

1. CHEMICAL PRODUCT

PRODUCT NAME: CYCLOPROPANE

SYNONYMS: Trimethylene.

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient Name	Formula	CAS#	Concentration	Exposure Limits (PPM)			
				ACGIH TLV	OSHA PEL	MAC	Other STEL
CYCLOPROPANE	C3H6	75-19-4	99+%	NE	NE	NE	NE

Note: NE = NONE ESTABLISHED

3. HAZARD IDENTIFICATION

*** EMERGENCY OVERVIEW ***

Flammable gas.

Can form explosive mixtures with air.

May cause frostbite.

Can cause anesthetic effects.

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation

ACUTE EFFECTS: Liquefied gas may cause freeze burns to skin and eyes. Acts as a central nervous system depressant. May act as a anesthetic. Excessive inhalation can cause nasal irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness and asphyxiation.

CHRONIC EFFECTS: May lead to anorexia, weight loss, insomnia, and kidney inflammation.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Heart disease.

OTHER EFFECTS OF OVEREXPOSURE: None

CARCINOGENICITY (US Only):

NTP - No

IARC MONOGRAPHS - No

OSHA REGULATED - No

Continued ...

4. FIRST AID MEASURES

INHALATION: Immediately remove victim to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration.

EYE CONTACT: Do not allow victim to rub or keep eyes tightly shut. Immediately flush eyes, including under the eyelids, gently but thoroughly with plenty of running water for at least 15 minutes. Seek medical attention as soon as possible.

SKIN CONTACT: If frostbite occurs, flush affected areas with lukewarm water.

INGESTION: Contact physician immediately.

IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN

NOTE TO PHYSICIAN: For frostbite, consider rapid rewarming at 42 deg.C.

5. FIRE FIGHTING MEASURES

FLASH POINT: Flammable gas

AUTOIGNITION TEMPERATURE: 498 deg. C

FLAMMABLE LIMITS: Vol.%
LOWER: 2.40
UPPER: 10.40

EXTINGUISHING MEDIA: Carbon dioxide, water spray, or dry chemical.

SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT: Wear self-contained breathing apparatus and full protective clothing. Keep fire exposed cylinders cool with water spray. If possible, stop the product flow or let it burn itself out.

HAZARDOUS COMBUSTION PRODUCTS: Toxic carbon monoxide may be given off during combustion.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Cylinder rupture may occur under fire conditions. May form explosive mixture in air. Vapors may travel a considerable distance to the source of ignition and flash back.

6. ACCIDENTAL RELEASE MEASURES

CLEAN UP PROCEDURES: Evacuate and ventilate area. Remove leaking cylinder to exhaust hood or safe outdoor area. Remove all sources of ignition.

SPECIALIZED EQUIPMENT: None

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in well ventilated areas. Keep valve protection cap on cylinders when not in use. Store away from heat, flame, and sparks. Keep away from oxidizing agents.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation to maintain concentrations below flammable limits.

PERSONAL PROTECTION

EYE/FACE PROTECTION: Goggles. A safety shower and eyewash station should be readily available.

SKIN PROTECTION: Wear suitable protective clothing.

RESPIRATORY PROTECTION: Use a self-contained breathing apparatus in case of emergency or non-routine use.

OTHER PROTECTIVE EQUIPMENT: Safety shoes when handling cylinders.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless
ODOR: Faint petroleum odor.
PHYSICAL STATE: Gas
VAPOR PRESSURE: @20 deg. C: 75psig
VAPOR DENSITY (AIR=1): 1.45
BOILING POINT (C): -34
SOLUBILITY IN WATER: Slight

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SPECIFIC GRAVITY (H₂O=1): 0.689
EVAPORATION RATE: N/Av
ODOR THRESHOLD: N/Av

REPORTABLE QUANTITIES: None
LABELING: FLAMMABLE GAS

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: Exposure to heat, ignition sources, and incompatibles.

MATERIALS TO AVOID: Strong oxidizing agents.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: Thermal oxidative decomposition can produce carbon oxides and acrid smoke. Propylene, hydrogen ethylene, and saturated hydrocarbons.

11. TOXICOLOGICAL INFORMATION

LETHAL CONCENTRATION (LC₅₀): NONE ESTABLISHED
LETHAL DOSE 50 (LD₅₀): N/Av
TERATOGENICITY: N/Av
REPRODUCTIVE EFFECTS: N/Av
MUTAGENICITY: N/Av

12. ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place.

14. TRANSPORT INFORMATION

CONCENTRATION: 99+%
DOT DESCRIPTION (US ONLY):
PROPER SHIPPING NAME: Cyclopropane
HAZARD CLASS: 2.1 (flammable)
IDENTIFICATION NUMBER: UN1027

ADR/RID (EU Only): Class 2, 2F

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

15. REGULATORY INFORMATION

OSHA: Process Safety Management: Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.

TSCA: Material is listed in TSCA inventory.

SARA: The threshold planning quantity for material is 10,000 lbs.

EU NUMBER: 200-847-8

NUMBER IN ANNEX 1 OF DIR 67/548: Material is listed in annex 1.

EU CLASSIFICATION: N/Av

R: 13

S: 9-16-33

16. OTHER INFORMATION

OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS:

N/Av - Not Applicable
N/Av - Not Available
SA - Simple Asphyxiant
NE - None Established

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