

Section 1: Product and Company Identification

Middlesex Gases & Technologies

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Product Code: Methyl Chloride

Section 2: Hazards Identification



Hazard Classification:

Carcinogenicity (Category 2)
Gases Under Pressure
Specific target organ toxicity (Repeated Exposure) (Category 2)

Hazard Statements:

Contains gas under pressure; may explode if heated
May cause damage to organs through prolonged or repeated exposure
Suspected of causing cancer

Precautionary Statements

Prevention:

Obtain special instructions before use.
Do not breathe dust/fume/gas/mist/ vapors/spray..
Wear protective gloves, protective clothing, eye protection and face protection.
Do not handle until all safety precautions have been read and understood.

Response:

Call a poison center or doctor if you feel unwell.
If exposed or concerned: Get medical advice/attention.

Storage:

Protect from sunlight.
Store in well-ventilated place.
Store locked up.

Disposal:

Dispose of contents and/or container in accordance with applicable regulations.

Section 3: Composition/Information on Ingredients

CAS #

74-87-3

Chemical Substance	Chemical Family	Trade Names
METHYL CHLORIDE	halogenated, aliphatic	CHLOROMETHANE; MONOCHLOROMETHANE; RCRA U045; UN 1063; CH3Cl

Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.	Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.	Never make an unconscious person vomit or drink fluids. Give large amounts of water. DO NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	For inhalation, consider oxygen.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Let burn unless leak can be stopped immediately. Large fires: Use regular foam or flood with fine water spray.	Hydrogen chloride and carbonyl chloride	<ul style="list-style-type: none"> ▪ Any self-contained breathing apparatus with a full facepiece. ▪ Any self-contained breathing apparatus with a full facepiece.

Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.	Avoid heat, flames, sparks and other sources of ignition. Keep out of water supplies and sewers.	Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition.

Methods for Cleanup	Other Information
Contact emergency personnel	Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA). Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

Section 7: Handling and Storage

Handling	Storage
Store and handle in accordance with all current regulations and standards. Protect from physical damage. Store in a cool, dry place. Store in a well-ventilated area. Store outside or in a detached building. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. Keep separated from incompatible substances.	Avoid heat, flames, sparks and other sources of ignition.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
METHYL CHLORIDE: 100 ppm OSHA TWA 200 ppm OSHA ceiling 300 ppm OSHA peak (5 minutes in any 3 hours) 50 ppm (103 mg/m ³) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 100 ppm (207 mg/m ³) OSHA STEL (vacated by 58 FR 35338, June 30, 1993) 50 ppm ACGIH TWA (skin) 100 ppm ACGIH STEL (skin) NIOSH TWA (lowest feasible concentration)

Engineering Controls

Handle only in fully enclosed systems.

Eye Protection	Skin Protection	Respiratory Protection
Wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	Wear appropriate chemical resistant clothing.	Any self-contained breathing apparatus with a full facepiece.

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Gas	Colorless	Colorless	N/A	Gas	Sweet odor	Sweet taste

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
<32 F (<0 C) (CC)	Not available	Not available	1170 F (632 C)	0.174	0.081

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
-11 F (-24 C)	-144 F (-98 C)	3600 mmHg @ 20 C	1.8 (Air=1)	0.915 @ 20 C	Slightly soluble	Not applicable	10 ppm	Not applicable	Not available

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
50.49	C-H3-CL	Not available	Not available	Not available	Not applicable	Soluble: Alcohol, ether, benzene, acetone, chloroform, acetic acid

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, halogens

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Phosgene, acid halides, oxides of carbon, hydrogen chloride, chlorine, phosgene, carbonyl chloride, ethylene and other olefins, and carbon monoxide	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
1800 mg/kg oral-rat LD50	Not available	Nausea, vomiting, diarrhea, headache, drowsiness, symptoms of drunkenness, visual disturbances, bluish skin color, lung congestion, nerve damage, paralysis, convulsions, coma

Eye Irritation	Skin Irritation	Sensitization
Frostbite	Irritation, blisters, symptoms of drunkenness, nerve damage	Central nervous system depression

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3; ACGIH: A4 -Not Classifiable as a Human Carcinogen	Available.	Available.	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: 270000 ug/L 96 hour(s) LC50 (Mortality) Inland silverside (<i>Menidia beryllina</i>) Invertebrate toxicity: >8000000 ug/L 72 month(s) (Population Growth) Flagellate euglenoid (<i>Entosiphon sulcatum</i>) Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available

Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U045.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
METHYL CHLORIDE, or REFRIGERANT GAS R 40	UN1063	2.1	Not applicable	2.1	Forbidden	100kg	N/A

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
METHYL CHLORIDE; or REFRIGERANT GAS R 40	UN1063	2.1	Not applicable

Section 15: Regulatory Information

U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
100 LBS RQ	Not regulated.	Not regulated.

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	Yes	Yes	No	Yes

SARA 372.65

METHYL CHLORIDE

OSHA Process Safety

15000 LBS TQ

State Regulations

CA Proposition 65
Known to the state of California to cause the following: METHYL CHLORIDE Developmental toxicity (Mar 10, 2000)

Canadian Regulations

WHMIS Classification
Included for disclosure at 1% or greater, proposed for disclosure at 0.1% or greater.

National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Listed on inventory.	Not listed.	Not determined.

Section 16: Other Information

NFPA Rating

HEALTH=2 FIRE=4 REACTIVITY=0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard