

Section 1: Product and Company Identification

Middlesex Gases & Technologies

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Product Code: Methyl Mercaptan

Section 2: Hazards Identification



Danger

Hazard Classification:

Acute Aquatic Toxicity (Category 1)
Acute Gas Inhale Toxicity (Category 3)
Acute Vapor Inhale Toxicity (Category 3)
Chronic Aquatic Toxicity (Category 1)
Gases Under Pressure

Hazard Statements:

Contains gas under pressure; may explode if heated
Toxic if inhaled
Very toxic to aquatic life
Very toxic to aquatic life with long lasting effects

Precautionary Statements**Prevention:**

Use only outdoors or in a well-ventilated area.
Avoid breathing dust/fume/gas/mist/ vapors/spray.
[In case of inadequate ventilation] wear respiratory protection.

Response:

If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center or doctor.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Protect from sunlight.
Store locked up.

Disposal:

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

Section 3: Composition/Information on Ingredients

CAS #
74-93-1

Chemical Substance	Chemical Family	Trade Names
METHYL MERCAPTAN	mercaptans	METHANETHIOL; THIOMETHANOL; MERCAPTOMETHANE; METHYL SULFHYDRATE; THIOMETHYL ALCOHOL; RCRA U153; STCC 4905520; UN 1064; CH4S

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.	If a large amount is swallowed, get medical attention.	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
Carbon dioxide, alcohol resistant foam Let burn unless leak can be stopped immediately. Large fires: Use regular foam or flood with fine water spray.	Sulfur oxides, hydrogen sulfide	<ul style="list-style-type: none"> Any self-contained breathing apparatus with a full facepiece. Use a chemical protective suit. Any self-contained breathing apparatus with a full facepiece. Use a chemical protective suit.

Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Evacuation radius: 150 feet. For tank, rail car or tank truck: 800 meters (1/2 mile). Do not get water directly on material. Do not touch spilled material.	Avoid heat, flames, sparks and other sources of ignition.	Stop leak if possible without personal risk. Remove sources of ignition. Reduce vapors with water spray.

Methods for Cleanup	Other Information
Dig holding area such as lagoon, pond or pit for containment. Dike for later disposal. Absorb with sand or other non-combustible material. Absorb with activated carbon. Collect spilled material using mechanical equipment.	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).

Section 7: Handling and Storage

Handling	Storage
Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355.30).	Grounding and bonding required. Keep separated from incompatible substances.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
METHYL MERCAPTAN: 10 ppm (20 mg/m ³) OSHA ceiling 0.5 ppm (1 mg/m ³) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 0.5 ppm ACGIH TWA 0.5 ppm (1 mg/m ³) NIOSH recommended ceiling 15 minute(s)

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.	For the gas: Wear appropriate chemical resistant clothing. For the liquid: Wear appropriate protective, cold insulating clothing.	Any self-contained breathing apparatus with a full facepiece. Use a chemical protective suit.

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	Clear	Colorless	N/A	Gas	Garlic odor	N/A

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
<0 F (<-18 C) (OC)	Not available	Not available	Not available	0.218	0.039

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
43 F (6 C)	-189 F (-123 C)	1535 mmHg @ 21.1 C	1.66 (Air=1)	Not applicable	2.4% @ 20 C	Not applicable	0.0021 ppm	Not applicable	Not available

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
48.11	C-H3-S-H	1.999 g/L @ 20 C	Not available	100%	Not applicable	Soluble: Alcohol, ether, petroleum ether, naphtha

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Contact with water or moist air may form flammable and/or toxic gases or vapors.	Contact with water or moist air may form flammable and/or toxic gases or vapors.	Acids, metals, combustible materials, halo carbons, reducing agents, metal oxides, peroxides, oxidizing materials, nitric acid, mercury oxide, calcium hypochlorite

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Oxides of sulfur	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
LC50, Inhalation, rat = 675 ppm.	Not available	Irritation, nausea, vomiting, wheezing, irregular heartbeat, headache, symptoms of drunkenness, bluish skin color, suffocation, lung congestion, blood disorders, kidney damage, liver damage, convulsions, coma

Eye Irritation	Skin Irritation	Sensitization
Irritation, blurred vision	Irritation, blisters	Harmful if inhaled, respiratory tract irritation, skin irritation, eye irritation, central nervous system depression

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Not available	Available.	Not available	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: 500 ug/L 5 hour(s) (Mortality) Spottfin shiner (Notropis spilopterus) Invertebrate toxicity: 50000 ug/L 48 hour(s) (Mortality) Midge (Chironomus sp) 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): U153.

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 mercaptan	UN1064	2.3	Not applicable	2.3; 2.1	Forbidden	Forbidden	Toxic-Inhalation Hazard Zone C

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Methyl mercaptan	UN1064	2.3; 2.1	Not applicable

Section 15: Regulatory Information

U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
100 LBS RQ	500 LBS TPQ	100 LBS RQ

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	No	Yes	No	Yes

SARA 372.65

METHYL MERCAPTAN: Administrative stay issued Aug. 22, 1994

OSHA Process Safety

5000 LBS TQ

State Regulations

CA Proposition 65

Not regulated.

Canadian Regulations

WHMIS Classification

ABD1

National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Listed on inventory.	METHANETHIOL CAS NUMBER: 74-93-1 SECTION 4	Not determined.

Section 16: Other Information

NFPA Rating

HEALTH=4 FIRE=4 REACTIVITY=0

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