

### Section 1: Product and Company Identification

**Middlesex Gases & Technologies**

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Product Code: Monomethylamine

### Section 2: Hazards Identification



**Danger**

**Hazard Classification:**

Acute Gas Inhale Toxicity (Category 4)  
Acute Vapor Inhale Toxicity (Category 4)  
Eye Effects (Category 1)  
Gases Under Pressure  
Skin Corrosion (Category 2)  
Specific target organ toxicity (Single Exposure) (Category 3)

**Hazard Statements:**

Causes serious eye damage  
Causes skin irritation  
Contains gas under pressure; may explode if heated  
Harmful if inhaled  
May cause respiratory irritation;

**Precautionary Statements**

**Prevention:**

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

**Response:**

Call a poison center or doctor if you feel unwell.  
If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.  
 If skin irritation occurs: Get medical advice/attention.  
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 If inhaled: Remove person to fresh air and keep comfortable for breathing.

**Storage:**

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

**Disposal:**

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

## Section 3: Composition/Information on Ingredients

<b>CAS #</b>
74-89-5

Chemical Substance	Chemical Family	Trade Names
METHYLAMINE, ANHYDROUS	amines, aliphatic	MONOMETHYLAMINE; CARBINAMINE; AMINOMETHANE; METHANAMINE; M-223; MMA; METHYLAMINE; UN 1061; METHYLAMINE, GAS; ANHYDROUS METHYLAMINE; CH5N

## Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). For burns, cover affected area securely with sterile, dry, loose-fitting dressing. Get medical attention.	Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	DO NOT induce vomiting. Never make an unconscious person vomit or drink fluids. Give large amounts of water or milk. When 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. For skin contact, consider dilute acidic solution. For ingestion, consider esophagoscopy. Avoid gastric lavage.

## Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Regular dry chemical Large fires: Use regular foam or flood with fine water spray. avoid carbon dioxide	Nitrogen oxides, ammonia, hydrogen cyanide, nitriles, isocyanates, nitrosamines, carbon monoxide, carbon dioxide and other irritating and toxic fumes	<ul style="list-style-type: none"> <li>▪ Any supplied-air respirator with a full facepiece. Use chemical protective suit.</li> <li>▪ Any supplied-air respirator with a full facepiece. Use chemical protective suit.</li> </ul>

## Section 6: Accidental Release Measures

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

Methods for Cleanup	Other Information
Collect runoff for disposal as potential hazardous waste. Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Dike for later disposal. Absorb with sand or other non-combustible material. Add dilute acid. Cover with absorbent sheets, spill-control pads or pillows. Neutralize. Collect with absorbent into suitable container. Add a reducing agent. 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. Inside storage: Store in a cool, dry place. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition.	Protect from physical damage. Store outside or in a detached building. Store with flammable liquids. Keep separated from incompatible substances.

## Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
METHYLAMINE, ANHYDROUS: METHYLAMINE: 10 ppm (12 mg/m <sup>3</sup> ) OSHA TWA 5 ppm ACGIH TWA 15 ppm ACGIH STEL 10 ppm (12 mg/m <sup>3</sup> ) NIOSH recommended TWA 10 hour(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.	Wear appropriate chemical resistant clothing.	Any supplied-air respirator with a full facepiece. Use 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	Ammonia odor	N/A

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
-32 F (-0 C) TOC	Not available	Not available	806 F (430 C)	0.207	0.049

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
21 F (-6 C)	-137 F (-94 C)	2250 mmHg @ 20 C	1.08 (Air=1)	Not applicable	108% @ 25 C	Basic	0.02 ppm	>1 (butyl acetate=1)	0.00666 cP @ 25 C

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
31.06	C-H3-N-H2	1.302 g/L @ 20 C	Not available	Not available	Not applicable	Soluble: Alcohol, ether, acetone, benzene

## Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Acids, metals, halogens, combustible materials, oxidizing materials, halogenating agents, epoxides, carbon dioxide

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Oxides of carbon, nitrogen	Will not polymerize.

## Section 11: Toxicology Information

### Acute Effects

Oral LD50	Dermal LD50	Inhalation
100 mg/kg oral-rat LD50	Irritation : : 100 mg open skin-guinea pig severe	Irritation (possibly severe), nausea, difficulty breathing, headache, lung congestion, convulsions

Eye Irritation	Skin Irritation	Sensitization
Irritation (possibly severe), tearing, blindness	Irritation (possibly severe), allergic reactions, nausea, headache	Harmful if inhaled, respiratory tract burns, skin burns, eye burns, mucous membrane burns, allergic reactions

### 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: 1000000 ug/L 48 hour(s) LC50 (Mortality) Medaka, high-eyes ( <i>Oryzias latipes</i> ) Invertebrate toxicity: 163000 ug/L 48 hour(s) EC50 (Immobilization) Water flea ( <i>Daphnia magna</i> ) Algal toxicity: 3100 ug/L 96 hour(s) (Physiological) Green algae ( <i>Gloeotaenium loitlesbergerianu</i> ) Phyto toxicity: Not available Other toxicity: Not available	Not available	6910 ug/L 24 hour(s) BCF (Residue) Diatom ( <i>Cyclotella cryptica</i> ) 110 ug/L	Not available

## Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262.

## 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
Methylamine, anhydrous	UN1061	2.1	Not applicable	2.1	Forbidden	150 kg	N/A

## Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Methylamine, anhydrous	UN1061	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

Not regulated.

### OSHA Process Safety

1000 LB TQ

### State Regulations

CA Proposition 65
Not regulated.

### Canadian Regulations

WHMIS Classification
ABD1E

### 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=4 FIRE=4 REACTIVITY=0

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