



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Methylamine**

Chemical formula : CH₃NH₂

Synonyms : Monomethylamine; Aminomethane; Methanamine; Carbinamine; M-223; MMA; Methylamine, Gas; Anhydrous Methylamine; UN 1061

Company : Med Tech Gases, Inc.
20 Hall Street
Medford, MA 02155

Telephone : 800-FINE-GAS

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Methylamine	74-89-5	100%

3. Hazards Identification

Emergency Overview

Flammable gas. May cause flash fire.

Harmful if inhaled, respiratory tract burns, skin burns, eye burns, mucous membrane burns, allergic reactions.

Potential Health Effects

Inhalation : Irritation (possibly severe), nausea, difficulty breathing, headache, lung congestion, convulsions. May cause allergic reactions, fainting in long term exposure.

Eye contact : Irritation (possibly severe), tearing, blindness.

Skin contact : Irritation (possibly severe), allergic reactions, nausea, headache.

Ingestion : Burns.

Chronic Health Hazard : None.

4. First Aid Measures

Eye contact : Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Skin contact : 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.

Ingestion : 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.
- Inhalation : 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.
- Note to physicians : For inhalation, consider oxygen.
For skin contact, consider dilute acidic solution.
For ingestion, consider esophagoscopy. Avoid gastric lavage.

5. Fire-Fighting Measures

- Suitable extinguishing media : Regular dry chemical, carbon dioxide.
Large fires: Use regular foam or flood with fine water spray.
- Specific hazards : Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive.
- Fire fighting : Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For smaller tank or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Stop flow of gas.

6. Accidental Release Measures

- Air release : Reduce vapors with water spray. Collect runoff for disposal as potential hazardous waste.
- Soil release : 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.
- Water release : 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.
- Occupational spill/release : 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. Keep unnecessary people away, isolate hazard area and deny entry. 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).
- Additional advice : None.

7. Handling and Storage

Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

Storage

Store in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Protect from physical damage. Store outside or in a detached building. Store with flammable liquids. Keep separated from incompatible substances. Inside storage: Store in a cool, dry place. Store in a well ventilated area. Avoid heat, flames, sparks and other sources of ignition.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH	:	5 ppm TWA 15 ppm STEL
OSHA (final)	:	10 ppm TWA; 12 mg/m ³ TWA
OSHA (vacated)	:	10 ppm TWA; 12 mg/m ³ TWA
NIOSH	:	10 ppm TWA; 12 mg/m ³ TWA

IDLH

100 ppm

Engineering measures/Ventilation

Provide local exhaust or process enclosure ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

Personal protective equipment

Respiratory protection	:	The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. 100 ppm – Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the substance of concern. Any powered, air-purifying respiratory with cartridge(s) providing protection against this substance. Any self-contained breathing apparatus with a full facepiece. Any supplied-air respirator with a full facepiece. Emergency or planned entry into unknown concentrations or IDLH conditions – Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Escape – Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister. Any appropriate escape-type, self-contained breathing apparatus.
Hand protection	:	Wear appropriate chemical resistant gloves.
Eye protection	:	Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin and body protection	:	Wear appropriate chemical resistant clothing.

9. Physical and Chemical Properties

Form	:	Gas.
Color	:	Colorless.
Odor	:	Ammonia odor.
Vapor pressure	:	2250 mmHg @ 20°C
Vapor density	:	1.08 (air = 1)
Boiling point	:	-6°C
Melting point	:	-94°C
Water solubility	:	108% @ 25°C
Evaporation rate	:	> 1 (butyl acetate = 1)
Solvent solubility	:	Soluble: alcohol, ether, acetone, benzene

10. Stability and Reactivity

- Stability : Stable under normal conditions.
- Conditions to avoid : Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Avoid inhalation of material or combustion by-products. Keep out of water supplies and sewers.
- Materials to avoid : Acids, metals, halogens, combustible materials, oxidizing materials.
- Hazardous decomposition products : Thermal decomposition products: oxides of carbon, nitrogen.

11. Toxicological Information

The components of this material have been reviewed in various sources and the following endpoints are published:

- METHYLAMINE (74-89-5) : Inhalation LC50 Rat: 2.9 mg/L/4H; Oral LD50 Rat: 375 mg/kg (male); Oral LD50 Rat: 80 mg/kg (female)

Acute Toxicity Level

- METHYLAMINE (74-89-5) : Toxic: inhalation, ingestion.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, OSHA or DFG.

Local Effects

- METHYLAMINE (74-89-5) : Corrosive: inhalation, skin, eye, ingestion

Target Organs

- METHYLAMINE (74-89-5) : Immune system (sensitizer)

Medical Conditions Aggravated by Exposure

Eye disorders, respiratory disorders, skin disorders and allergies.

12. Ecological Information

Aquatic Toxicity

- METHYLAMINE (74-89-5) : Fish: 96 Hr LC50 *Salvelinus fontinalis*: 150 mg/L [static]
Invertebrate: 48 Hr EC50 *Daphnia magna*: 163 mg/L; 48 Hr EC50 *Daphnia magna*: 147 – 180 mg/L [static]

13. Disposal Considerations

- Waste from residues / unused products : Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
- Contaminated packaging : Return cylinder to supplier.

14. Transport Information

DOT (US only)

- Proper shipping name : Methylamine, anhydrous

Class : 2.1
UN/ID No. : UN1061
Labeling : Flammable Gas

15. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

METHYLAMINE (74-89-5) : CERCLA: 100 lb final RQ; 45.4 kg final RQ
OSHA (safety): 1000 lb TQ (anhydrous)

SARA 311/312

Acute: Yes
Chronic: Yes
Fire: Yes
Reactive: No
Pressure: Yes

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
METHYLAMINE	74-89-5	Yes	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65