



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Dimethylamine, Anhydrous**

Chemical formula : C₂H₇N

Synonyms : N-Methylmethanamine; DMA; Dimethylamine, Aqueous Solution; Dimethylamine Solution; Dimethylamine; O-2443; UN 1032

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
Dimethylamine, Anhydrous	124-40-3	100%

3. Hazards Identification

Emergency Overview

May cause respiratory tract burns, skin burns, eye burns, mucous membrane burns.
Flammable gas. May cause flash fire.

Potential Health Effects

Inhalation : Irritation (possibly severe), difficulty breathing, lung congestion.
Eye contact : Irritation (possibly severe), blurred vision.
Skin contact : Burns.
Ingestion : Burns, vomiting, digestive disorders.
Chronic Health Hazard : None.

4. First Aid Measures

General advice : None.

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

Skin contact : Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Destroy contaminated shoes.

Ingestion : DO NOT induce vomiting. Never make an unconscious person vomit or drink fluids. Give large amount 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 not breathing, oxygen should be administered by

qualified personnel. Get immediate medical attention.
Note to physicians : For inhalation, consider oxygen.
For ingestion, consider esophagoscopy. Avoid gastric lavage.

5. Fire-Fighting Measures

Suitable extinguishing media : Carbon dioxide, regular dry chemical.
Large fires: Use regular foam or flood with fine water spray.
Specific hazards : Severe fire hazard. Moderate explosion hazard. Vapor/air mixtures are explosive above flash point. The gas is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.
Fire fighting : Move container from fire area if it can be done without risk. Cool containers with water spray until well after fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: 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 tank, rail car or tank truck: Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Stop flow of gas.

6. Accidental Release Measures

Air release : Reduce vapors with water spray. Stay upwind and keep out of low areas. Collect runoff for disposal as potential hazardous waste.
Soil release : Dig holding area such as lagoon, pond or pit for containment. 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. Absorb with activated carbon. 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. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. 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. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH	:	5 ppm TWA 15 ppm STEL
OSHA (final)	:	10 ppm TWA; 18 mg/m ³ TWA
OSHA (vacated)	:	10 ppm TWA; 18 mg/m ³ TWA
NIOSH	:	10 ppm TWA; 18 mg/m ³ TWA

Engineering measures/Ventilation

Provide local exhaust 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. 250 ppm – Any supplied-air respirator operated in continuous-flow mode. 500 ppm – 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 respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern.
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	:	Fishy, ammonia odor.
Molecular weight	:	45.09
Vapor pressure	:	1.72 atm @ 20°C
Vapor density	:	1.6 (air = 1)
Specific gravity	:	0.68 @ 0°C (liquid) (water = 1)
Boiling point	:	45°F (7°C)
Melting point	:	-134°F (-92°C)
Water solubility	:	Soluble.
Solvent solubility	:	Soluble: alcohol, ether, alkali solutions

10. Stability and Reactivity

Stability	:	Stable at normal temperatures and pressure.
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	:	Metals, acids, combustible materials, halogens, 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 selected endpoints are published:

DIMETHYLAMINE, ANHYDROUS (124-40-3) : Oral LD50 Rat: 698 mg/kg; Inhalation LC50 Rat: >5.8 mg/L/4H; Dermal LD50 Rat: 3900 mg/kg

Acute Toxicity Level

DIMETHYLAMINE, ANHYDROUS (124-40-3) : Toxic: inhalation
Moderately toxic: ingestion

Component Carcinogenicity

ACGIH : A4 – Not classifiable as a Human Carcinogen

Local Effects

DIMETHYLAMINE, ANHYDROUS (124-40-3) : Corrosive: inhalation, skin, eye, ingestion

Medical conditions aggravated by exposure

Eye disorders, respiratory disorders, skin disorders and allergies.

12. Ecological Information

Aquatic Toxicity

DIMETHYLAMINE, ANHYDROUS (124-40-3) : Fish: 96 Hr LC50 Oncorhynchus mykiss: 111 – 125 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 120 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 210 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 127 – 349 mg/L [semi-static]; 96 Hr LC50 Brachydanio rerio: 396 mg/L [static]
Algae: 96 Hr EC50 Pseudokirchneriella subcapitata: 9 mg/L
Invertebrate: 48 Hr EC50 Daphnia magna Straus: 88.7 mg/L

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): U092.
Contaminated packaging : Return cylinder to supplier.
Component Waste Numbers : RCRA: waste_number U092 (Ignitable waste)

14. Transport Information

DOT (US only)

Proper shipping name : Dimethylamine, anhydrous
Class : 2.1
UN/ID No. : UN1032
Labeling : 2.1, (8)

15. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified 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.

DIMETHYLAMINE, : 1000 lb final RQ; 454 kg final RQ
ANHYDROUS (124- SARA 313: 1.0 % de minimis concentration
40-3) CERCLA: 1000 lb final RQ; 454 kg final RQ
OSHA (safety): 2500 lb TQ (anhydrous)

SARA 311/312

Acute: Yes
Chronic: No
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
DIMETHYLAMINE, ANHYDROUS	124-40-3	Yes	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65.