



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

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

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.

5. Fire-Fighting Measures

- Suitable extinguishing media : Carbon dioxide, regular dry chemical.
- 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

- Personal precautions : None.
- Environmental precautions : 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.
- Methods for cleaning up : 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

- 10 ppm (18 mg/m³) OSHA TWA
- 5 ppm ACGIH TWA
- 15 ppm ACGIH STEL
- 10 ppm (18 mg/m³) NIOSH recommended TWA 10 hour(s)

Engineering measures

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 supplied-air respirator with a full facepiece. Any self-contained breathing apparatus with a full facepiece.
 - For unknown concentrations or immediately dangerous to life or health – Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.
 - Escape – Any air-purifying respirator with a full facepiece and a canister providing against this substance. 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 : 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)
- Freezing point : -134 F (-92 C)
- Water solubility : Soluble.

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

Irritation Data

50 mg/5 minute(s) eyes-rabbit

Toxicity Data

4540 ppm/6 hour(s) inhalation-rat LC50; 698 mg/kg oral-rat LD50

Carcinogen Status

ACHIG: A4 – Not classified as a Human Carcinogen

Acute Health Hazard

Ingestion : Moderately toxic.
Inhalation : Slightly toxic.
Skin : Not available.

12. Ecological Information

Ecotoxicity Data

Fish toxicity : 17000 ug/L 96 hour(s) LC50 (Mortality) Rainbow trout, donalson trout (Oncorhynchus mykiss).
Invertebrate toxicity : > 100000 ug/L 48 hour(s) LC50 (Mortality) Common shrimp (Crangon crangon).
Algal toxicity : 1400 ug/L 7 week(s) (Biomass) Green algae (Scenedesmus quadricauda).
Other toxicity : 17780 ug/L 8 hour(s) EC50 (Teratogenesis) Bullfrog (Rana catesbeiana).

Fate and Transport

Bioconcentration : 810 ug/L 24 hour(s) BCF (Residue) Diatom (Cyclotella cryptica) 360 ug/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.

14. Transport Information

DOT (US only)

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

Further information

Cylinders should be transported in a secure upright position in a well ventilated truck.

15. Regulatory Information

OSHA Process Safety (29 CFR 1910.119) Hazard Class(es)

2500 lbs TQ.

TCSA

Material is listed in TSCA inventory.

SARA Title III Section 302 Extremely Hazardous Substances (40 CFR 355.30)

Not regulated.

SARA Title III Section 304 Extremely Hazardous Substances (40 CFR 355.40)

Not regulated.

SARA Title III SARA Sections 311/312 Hazardous Categories (40 CFR 370.21)

Acute: Yes

Chronic: No

Fire: Yes

Reactive: No

Sudden Release: Yes

SARA Title III Section 313 (40 CFR 372.65)

Dimethylamine

16. Other Information

Prepared by : Specialty Gases of America, Inc.

For additional information, please visit our website at www.americangasgroup.com.