

Section 1: Product and Company Identification

Middlesex Gases & Technologies

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Product Code: Dimethylamine

Section 2: Hazards Identification



Danger

Hazard Classification:

Acute Oral Toxicity (Category 4)
Eye Effects (Category 1)
Flammable (Category 1)
Gases Under Pressure
Specific target organ toxicity (Single Exposure) (Category 3)

Hazard Statements:

Causes serious eye damage
Contains gas under pressure; may explode if heated
Extremely flammable gas
Harmful if swallowed
May cause respiratory irritation;

Precautionary Statements**Prevention:**

Wash thoroughly after handling.
Wear eye protection/face protection.
Do not eat, drink or smoke when using this product.
[In case of inadequate ventilation] wear respiratory protection.
Avoid breathing dust/fume/gas/mist/ vapors/spray.
Use only outdoors or in a well-ventilated area.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Response:

If swallowed: Immediately call a poison center or doctor.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Eliminate all ignition sources if safe to do so.
 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
 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

CAS #
124-40-3

Chemical Substance	Chemical Family	Trade Names
DIMETHYLAMINE, ANHYDROUS	amines, aliphatic	N-METHYLMETHANAMINE; DMA; DIMETHYLAMINE, AQUEOUS SOLUTION; DIMETHYLAMINE SOLUTION; DIMETHYLAMINE; O-2443; RCRA U092; UN 1032

Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes. If necessary, and it can be done safely, continue rinsing with water during transport to emergency care facility.	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. Keep warm. Get immediate medical attention.	Victims of overexposure by inhalation should be observed for up to 72 hours for delayed onset of pulmonary edema. Use of acidics to neutralize swallowed contents is contraindicated.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Carbon dioxide, regular dry chemical Large fires: Use regular foam or flood with fine water spray.	Nitrogen oxides, ammonia, hydrogen cyanide, nitriles, isocyanates, nitrosamines, carbon monoxide, carbon dioxide, and other irritating and toxic fumes	<ul style="list-style-type: none"> ▪ Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. ▪ Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. ▪ Protective material types: nitrile gloves, metatarsal shoes

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.	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
Dig holding area such as lagoon, pond or pit for containment. Collect runoff for disposal as potential hazardous waste. 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. Absorb with activated carbon. 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. Keep separated from incompatible substances.	Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Electrical equipment must be non-sparking or explosion-proof. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
DIMETHYLAMINE, ANHYDROUS: DIMETHYLAMINE: 10 ppm (18 mg/m ³) OSHA TWA 5 ppm ACGIH TWA 15 ppm ACGIH STEL 10 ppm (18 mg/m ³) 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 self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

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	Colorless	Colorless	N/A	Gas	Fishy, ammonia odor	N/A

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
0 F (-18 C) (CC)	Not available	Not available	756 F (402 C)	0.144	0.028

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
45 F (7 C)	-134 F (-92 C)	1.72 atm @ 20 C	1.6 (Air =1)	0.68 @ 0 C (liquid)	Soluble	11.8 (0.1M solution, 0.45%) (calculated)	0.047-0.34 ppm	>1.0 (butyl acetate=1)	Not available

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
45.09	C2-H7-N	Not available	Not available	1	Not applicable	Soluble: Alcohol, ether, alkali solutions

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, acids, combustible materials, halogens, oxidizing materials, nitrating agents, mercury, nitrophenols, lewis acids, alkali metals, acylating agents, epoxides, carbon disulfide, carbon dioxide

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Oxides of carbon, nitrogen Forms corrosive solutions when exposed to water or moist air.	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
698 mg/kg oral-rat LD50	Not available	Irritation (possibly severe), difficulty breathing, lung congestion

Eye Irritation	Skin Irritation	Sensitization
Irritation (possibly severe), blurred vision	Burns	Respiratory tract burns, skin burns, eye burns, mucous membrane burns

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
ACGIH: A4 -Not Classifiable as a Human Carcinogen	Available.	Not available	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: 17000 ug/L 96 hour(s) LC50 (Mortality) Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>) Invertebrate toxicity: >100000 ug/L 48 hour(s) LC50 (Mortality) Common shrimp (<i>Crangon crangon</i>) Algal toxicity: 1400 ug/L 7 week(s) (Biomass) Green algae (<i>Scenedesmus quadricauda</i>) 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): U092.

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

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Dimethylamine, anhydrous	UN1032	2.1	Not applicable	2.1	Forbidden	150 kg	None

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Dimethylamine, anhydrous	UN1032	2.1; 8	Not applicable

Section 15: Regulatory Information

U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
1000 LBS	Not regulated.	Not regulated.

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release
Yes	No	Yes	No	Yes

SARA 372.65

DIMETHYLAMINE

OSHA Process Safety

2500 LBS TQ

State Regulations

CA Proposition 65
Not regulated.

Canadian Regulations

WHMIS Classification
A, B1, D2B, E

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=3 FIRE=4 REACTIVITY=0

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