

SAFETY DATA SHEET
DIMETHYLAMINOETHANOL (DMAE)

CATALOG #3093

1. IDENTIFICATION

Product Name: Dimethylaminoethanol

Synonyms: DMAE

A list of applicable products can be found on Section 16

Chemical Family: Alkyl Alkanolamine

Chemical Formula: C₄H₁₁NO

Chemical Name: Ethanol, 2-(dimethylamino)-

EPA Reg Num

Product Use

COMPANY IDENTIFICATION

TOUSIMIS RESEARCH CORP.

2211 LEWIS AVENUE

ROCKVILLE,

MARYLAND 20851

UNITED STATES

Company Contact Information:

301-881-2450

trc@tousimis.com

EMERGENCY TELEPHONE NUMBER

Emergency Contact: 1-800-424-9300

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Clear, colorless liquid with ammonia-like odor.

DANGER!

FLAMMABLE LIQUID AND VAPOR.

CAUSES EYE AND SKIN BURNS. MAY CAUSE BLINDNESS.

CAUSES DIGESTIVE TRACT BURNS.

MAY BE HARMFUL IF SWALLOWED.

MAY BE HARMFUL IF ABSORBED THROUGH SKIN

MAY CAUSE NAUSEA, HEADACHE OR DIZZINESS.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be slightly toxic if swallowed or absorbed through skin, practically non-toxic if inhaled and corrosive to eyes and skin. Vapors may be severely irritating to the eyes, skin and respiratory tract. This material has a strong objectionable odor that may cause nausea, headache, or dizziness. Temporary and reversible visual disturbances characterized by mildly blurred vision, a blue-gray discolorization of sight (blue haze) or halo vision (appearance of a halo when looking at light sources) may occur. If swallowed, this material may cause mild to severe burns to the mouth, throat and digestive tract. Medical conditions that may be aggravated by exposure to this material include lung disease or limited respiratory capacity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name: Dimethylaminoethanol

CAS Registry Number: 108-01-0

Typical %: 99.5%

OSHA Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA Inventory list.

4. FIRST AID MEASURES

Eyes: Immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin: Immediately flush with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Ingestion: Do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

5. FIREFIGHTING MEASURES

Fire and Explosive Properties

Auto-Ignition Temperature	NE
Flash Point	104 F (40 C)
Flash Point Method	TCC
Flammable Limits	
Upper	NE
Lower	NE

Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards

When burned, the following hazardous products of combustion can occur: Oxides of carbon and nitrogen

6. ACCIDENTAL RELEASE MEASURES

Handling

Do not taste or swallow.

Do not get in eyes, on skin or on clothing.

Keep away from heat, sparks and flame.

7. HANDLING AND STORAGE

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling. Use grounding and bonding connection when transferring material to prevent static discharges, fire or explosion.

CONTAINER HAZARDOUS WHEN EMPTY. Emptied container retains vapor and product residue. Follow labeled warnings even after container is emptied. RESIDUAL VAPORS MAY EXPLODE ON IGNITION. DO NOT CUT, DRILL GRIND OR WELD ON OR NEAR THIS CONTAINER. Improper disposal or reuse of this container may be dangerous and/or illegal.

Storage

Store in well ventilated area away from heat and sources of ignition such as flame, sparks and static electricity. Ensure that all storage and handling equipment is properly rated, grounded and installed to satisfy electrical classification requirements. Static electricity may accumulate and create a fire hazard. All storage containers, including containers such as drums, cylinders and IBC's, must be bonded and grounded during filling and emptying operations. Store away from oxidizers and reactive materials. Keep container tightly closed. Observe all federal, state and local regulations and National Fire Protection Association (NFPA) Codes which pertain to the specific local conditions of storage and use, including OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, and 497.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposures. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Eye / Face Protection

Where there is potential for eye contact, wear a face shield, chemical goggles, and have one eye flushing equipment immediately available.

Skin Protection

Butyl rubber or Nitrile Gloves should be worn when handling this material. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact can occur. Wash skin thoroughly after handling.

Respiratory Protection

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and chemical goggles. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

The components of this product have no established Airborne Exposure Guidelines

- Only these components with exposure limits are printed in this section.
- Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
- ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
- WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor: Clear, colorless liquid with ammonia-like odor.

pH: NE

Specific Gravity: 0.89 @ 22 C
Vapor Pressure: 5 mmHg @ 20 C
Vapor Density: 3.1
Melting Point: NA
Freezing Point: -59 C (-74.5 F)
Boiling Point: 130-137 C (266-278.6 F)
Solubility in Water: Complete
Evaporation Rate: NE
Percent Volatile: 100
Viscosity: 3.6 cP
Molecular Weight: 89.14
Other Physical Data: Refractive index: 1.43 @ 20 C

10. STABILITY AND REACTIVITY

Stability

This material is chemically stable under normal and anticipated storage and handling conditions.

Incompatibility

Avoid contact with oxidizers, perchlorates, nitrates and peroxides as violent reaction may occur. All amines, under certain conditions, may form nitrosamines, avoid mixing with Nitrite.

Hazardous Decomposition Products

None known.

11. TOXICOLOGICAL INFORMATION

Toxicological Information

Data on this material and/or its components are summarized below.

Single exposure (acute) studies indicate:

Oral – Slightly Toxic to Rats (LD50 1,200-2,340 mg/kg)

Dermal – Slightly Toxic to Rabbits (LD50 1,210-2,140 mg/kg)

Inhalation – Practically Non-toxic to Rats (4-hr LC50 1,641 ppm)

Eye Irritation – Corrosive to Rabbits

Skin Irritation – Corrosive to Rabbits (1-hr & 4-hr exposures; non-corrosive following 3-min exposure)

Some rare cases of asthmatic reactions have been reported in humans. No skin allergy was observed in guinea pigs following repeated exposure. Following repeated exposure in the feed, increased kidney to body weight ratios were noted in rats. Sign of

respiratory and eye irritation and a decrease in body weight were the primary effects noted in rats following repeated inhalation. No adverse effects and no treatment-related tumors were observed in mice following lifetime administration in the drinking water. No birth defects were observed in the offspring of rats after inhalation during pregnancy, even at levels that produced toxic effects in the mothers. No genetic changes were observed in tests using bacteria.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

12. ECOLOGICAL INFORMATION

Ecotoxicological Information

No data are available

Chemical Fate Information

No data are available

13. DISPOSAL CONSIDERATIONS

Waste Disposal

Incineration is the recommended method for disposal observing all local, state and federal regulations. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

14. TRANSPORT INFORMATION

DOT Name	2-Dimethylaminoethanol
DOT Technical Name	
DOT Hazard Class	8(3)
UN Number	UN2051
DOT Packing Group	PG II
RQ	
DOT Special Information	Primary Hazard – Corrosive Subsidiary Hazard – Flammable
	“PG based on Corrositex assay”

15. REGULATORY INFORMATION

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	Fire	Y
Delayed (Chronic) Health	Y	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA Inventory list.

Ingredient Related Regulatory Information:

SARA Reportable Quantities CERCLA RQ SARA TPQ
Dimethylaminoethanol

Massachusetts Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Dimethylaminoethanol

New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right to Know Substance List.

Dimethylaminoethanol

Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Right to Know Substance List.

Dimethylaminoethanol

16. OTHER INFORMATION

Key

NE = Not Established NA – Not Applicable (R) = Registered Trademark

Miscellaneous

Dimethylaminoethanol, Low voe

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