



1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

PRODUCT IDENTIFIER:	Dimethylethylenamine (DETA)
MANUFACTURER:	TOSOH SPECIALTY CHEMICALS USA, Inc.
ADDRESS:	1720 Windward Concourse, Suite 125 Alpharetta, Georgia 30005
PHONE:	1-770-442-9518
EMERGENCY PHONE:	CHEMTREC 1-800-424-9300 OR 1-703-527-3887
RECOMMENDED USE:	General industrial products

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Acute toxicity

Oral:

Category 4

Dermal:

Category 4

Inhalation:

Category 2

Skin corrosion/irritation

Category 1B

Serious eye damage/eye irritation

Category 1

Sensitization – Skin

Category 1B

Reproductive toxicity

Category 1B

HAZARD SYMBOL:



SIGNAL WORD:

DANGER

HAZARD STATEMENTS:

Harmful if swallowed.
Harmful in contact with skin.
Fatal if inhaled.
Causes severe skin burns and serious eye damage.
May cause an allergic skin reaction.
May damage fertility or the unborn child.



2. HAZARDS IDENTIFICATION (continued)

PREVENTION: Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

RESPONSE: If in eyes: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing.
Immediately call a poison control center/doctor.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Call a poison control center/doctor if you feel unwell.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Immediately call a poison control center/doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
Call a poison control center/doctor if you feel unwell.
If exposed or concerned: Get medical advice/attention.

STORAGE: Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

DISPOSAL: Dispose of contents/container in accordance with Federal and state regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS #</u>	<u>OSHA Hazardous(Y/N)</u>	<u>Concentration (%)</u>
Diethylenetriamine	111-40-0	Y	100

4. FIRST AID MEASURES

EYE CONTACT: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention if irritation.



4. FIRST AID MEASURES (cont.)

SKIN CONTACT:	Remove contaminated clothing and shoes. Wash with plenty of water, for at least 15 minutes. Seek immediate medical attention. Launder contaminated clothing and shoes before re-use.
INGESTION:	Do not induce vomiting. If victim is conscious and alert, give 1-2 glasses of water to drink. Do not give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended.
INHALATION:	If respiratory irritation or distress occurs, remove victim to fresh air. Seek immediate medical attention.
NOTES TO PHYSICIAN:	All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. No specific antidote available.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:	Water spray, fog, dry chemical, foam, CO ₂
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Closed containers may rupture due to buildup of pressure when exposed to extreme heat.
SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS:	Firefighters should wear NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing. Cool containers exposed to fire with water.
HAZARDOUS DECOMPOSITION MATERIALS UNDER FIRE CONDITIONS:	Oxides of carbon, oxides of nitrogen, ammonia.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:	Wear appropriate protective gear for the situation. (See Personal Protection Information in Section 8).
ENVIRONMENTAL PRECAUTIONS:	Do not flush to drain. Spills may be reportable to the National Response Center (800-424-/8802) and to state and/or local agencies.
METHOD FOR CLEAN UP:	Extinguish or remove all sources of ignition. Absorb with an inert absorbent, sweep up and place in an appropriate closed container. Clean up residual material by washing area with water. Collect washings for disposal. Spills may be reportable to the National



Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

- PRECAUTIONS FOR SAFE HANDLING:** Handle material with suitable protection (See Section 8). Handle with adequate ventilation. Avoid breathing vapors. Avoid contact with eyes, skin and clothing.
- VENTILATION:** General area dilution/exhaust ventilation.
- CONDITIONS FOR SAFE STORAGE:** Store upright in a cool, dry, well ventilated area out of direct sunlight. Keep away from heat, open flames and ignition sources. Keep container tightly closed. Do not reuse container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- ENGINEERING MEASURES:** Set up hand-wash station and eyewash station near work area.
General area dilution/exhaust ventilation.
- EXPOSURE LIMITS:**
Diethylenetriamine 1ppm – ACGIH TWA (skin)
- PERSONAL PROTECTION MEASURES:**
- Respiratory protection:** When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with regulatory standards and/or industrial recommendations. Self-contained or supplied-air respiratory equipment is recommended.
- Eye protection:** Safety glasses with side shields, goggles or face shield are recommended.
- Skin protection:** Skin contact should be minimized through the use of chemical-resistant gloves and boots, and suitable protective clothing.

The following general measures should be taken when working or handling this material:

- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly to remove accidental splashes of contact with this material.



9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
COLOR:	Colorless
ODOR:	Ammonia-like
pH:	12 (@25% aqueous)
MELTING POINT:	-38F (-39C)
BOILING POINT:	405F (207C)
FLASH POINT:	219F (104C)
AUTOIGNITION POINT:	No data available
EXPLOSIVE LIMITS(Lower):	2% (by volume)
EXPLOSIVE LIMITS(Upper):	6.7% (by volume)
VAPOR PRESSURE:	37 Pa @ 20C (68F)
VAPOR DENSITY:	3.56 (Air = 1)
EVAPORATION RATE:	No data available
RELATIVE DENSITY:	0.952
SOLUBILITY IN WATER:	Soluble
PARTITION COEFFICIENT:	-1.3 (approx)
DECOMPOSITION TEMPERATURE:	No data available

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	This material is stable under normal handling and storage conditions described in Section 7.
CONDITIONS TO AVOID:	Heat, open flame, sparks, direct sunlight.
INCOMPATIBLE MATERIALS:	Strong oxidizing agents, strong acids, copper, zinc, aluminum and their alloys.
HAZARDOUS DECOMPOSITION PRODUCTS:	Oxides of carbon, oxides of nitrogen, ammonia.
HAZARDOUS POLYMERIZATION:	Not applicable

11. TOXICOLOGICAL INFORMATION

EYE CORROSION / IRRITATION:	Severely irritating, rabbit.
SKIN CORROSION / IRRITATION:	Corrosive, rabbit.
ACUTE TOXICITY:	
ACUTE ORAL TOXICITY:	LD ₅₀ = 1553 mg/kg, rat.
ACUTE DERMAL TOXICITY:	LD ₅₀ = 1045 mg/kg, rabbit.
ACUTE INHALATION TOXICITY:	LC ₅₀ > 0.7 mg/L, rat (4hr, aerosol).
SKIN SENSITIZATION	Positive sensitizer (guinea pig).



GENETIC TOXICITY

Negative in the Ames test, Chinese Hamster Ovary (CHO) Mutation test, Sister-chromatid exchange (SCE) test and Unscheduled DNA Synthesis.

CARCINOGENICITY:

In a lifetime dermal oncogenicity study in mice, no treatment-related tumors were observed at dosing levels of 5% (aqueous). This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

REPRODUCTIVE TOXICITY:

In a reproductive/developmental toxicity study in the rat, the NOAEL (no-observed-adverse-effect level) is 30 mg/kg/day. In higher-dose levels (100 and 300 mg/kg/day), both the duration of gestation and post-implantation losses were elevated.

STOT-SINGLE EXPOSURE:

Not available

STOT-REPEATED EXPOSURE:

When tetraethylenepentamine was administered to the skin of male mice for their lifetime to determine the carcinogenic potential of the material, hyperkeratosis and/or necrosis was observed (indicating skin irritation). However, no dermal hyperplasia or treatment-related tumors were reported.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

96hr LC₅₀ = 420 mg/L (guppy)
48hr EC₅₀ = 16 mg/L (daphnia magna), 21 Day NOEC = 5.6 mg/L (daphnia magna)
72hr IC₅₀ = 187 mg/L (algae, growth rate)

PERSISTENCE AND DEGRADABILITY:

Inherently biodegradable.

MOBILITY IN SOIL:

No data available

13. DISPOSAL CONSIDERATION (INCLUDING CONTAINER)

RESIDUAL WASTE:

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from Federal laws and regulations. Consult state and

local regulations regarding the proper disposal of this material.



**CONTAMINATED VESSELS AND
CONTAINERS:**

Rinse containers before disposal. Do not allow rinsate to enter the water systems.

EPA Hazardous Waste = C (Corrosive)

14. TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: DIETHYLENETRIAMINE
UN NUMBER: UN2079
UN CLASS or DIVISION: 8
UN PACKING GROUP: II
LABELS: Corrosive
EMERGENCY GUIDE#: 154

15. REGULATORY INFORMATION

Inventory Status:

US (TSCA):	Yes
Canada (DSL):	Yes
EU (REACH):	Yes
Australia (AICS):	Yes
Japan (METI):	Yes
Korea (KECL):	Yes

Where: Yes = all ingredients are listed on the inventory, Exempt = All ingredients are either on the inventory or exempt from the requirements of listing, No = Not determined, or one or more ingredients are not on the inventory and are not exempt from listing

SARA Title III Hazard Classes:

Fire Hazard:	No
Reactive Hazard:	No
Release of Pressure:	No
Acute Health Hazard:	Yes
Chronic Health Hazard:	No

**SARA Extremely Hazardous Substances /
CERCLA Hazardous Substances:** None

California Proposition 65: This product does not contain any components that are regulated under Proposition 65.

**16. OTHER INFORMATION INCLUDING INFORMATION ON PREPARATION AND
REVISION OF THIS MSDS**

National Fire Protection Association ("NFPA") Hazard Ratings:

Health: 3 (Severe)
Flammability: 1 (Slight)
Reactivity: 0 (Minimal)



TOSOH SPECIALTY CHEMICALS USA, INC.

National Paint and Coatings Hazardous Materials Identification System (“HMIS”) Hazard Ratings:

Health: 3 (Severe)
Flammability: 1 (Slight)
Physical Hazard: 0 (Minimal)

HISTORY:

Date previous SDS: May 1, 2008

Date of issue: January 8, 2015

Reasons for Revision: GHS Format

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END OF SAFETY DATA SHEET