OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

Regd Office: Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
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Oxford
Range of
Laboratory Chemicals

MATERIAL SAFETY DATA SHEET

DIETHYLENE TRIAMINE 98%

(For Synthesis)

MSDS CAS:111-40-0

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product

Product Name:DIETHYLENE TRIAMINE

CAS#:111-40-0

Synonym:DETA; bis (2-aminoethyl) amine, 2,2'-Diaminodiethylamine; Aminoethylethandiamine

Chemical Name:Diethylene Triamine

Chemical Formula: $NH_2C_2H_4NHC_2H_4NH_2$

Brand: OXFORD

Details Of The Supplier Of The Safety Data Sheet :

Company identification: OXFORD LAB FINE CHEM LLP
Unit. No. 12, 1st Floor, Neminath Industrial Estate No. 6,
Navghar, Vasai (East). Palghar - 401 210.
Mumbai, Maharashtra, INDIA.
Tel: 91-250-2390989
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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS NO.	% by Weight
Diethylene Triamine	111-40-0	98%

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Section 3: Hazards Identification

Emergency Overview:

DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION.

SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Life)
Flammability Rating: 1 - Slight
Reactivity Rating: 2 - Moderate
Contact Rating: 4 - Extreme (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: White Stripe (Store Separately)

Potential Health Effects

Inhalation:

Inhalation can cause severe irritation of mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, and laryngitis, shortness of breath, headache, nausea and vomiting. High concentrations may cause lung damage. May cause allergic reaction in sensitive individuals.

Ingestion:

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach. Can cause sore throat, vomiting, diarrhea.

Skin Contact:

Corrosive. Symptoms of redness, pain, and severe burn can occur. May be absorbed through the skin with possible systemic effects. May cause allergic reaction in sensitive individuals.

Eye Contact:

Corrosive! Vapors are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.

Chronic Exposure:

Individuals chronically exposed may become sensitized, with allergic reactions to exposure.

Aggravation of Pre-existing Conditions:

Some individuals may become sensitized. Once acquired, sensitivity may be retained for many years, with possible cross-sensitization to other amines. Persons with pre-existing skin disorders or impaired respiratory function may be more susceptible to the effects of the substance.

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Section 4: First Aid Measures

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
CALL A PHYSICIAN IMMEDIATELY.

Ingestion:
DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

Skin Contact:
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.

Eye Contact:
Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

Section 5: Fire and Explosion Data

Fire:
Flash point: 102C (216F) CC
Autoignition temperature: 395C (743F)
Flammable limits in air % by volume:
Lel: 1.9; uel: 11.6
Low fire hazard when exposed to heat or flames.

Explosion:
Above flash point, vapor-air mixtures are explosive within flammable limits noted above.

Fire Extinguishing Media:
Water spray, dry chemical, alcohol foam, or carbon dioxide. Direct stream of water can scatter and spread flames. Water spray may be used to keep fire exposed containers cool.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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Section 6: Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer!

Section 7: Handling and Storage

Protect against physical damage. Outside or detached storage is preferred. Inside storage should be in a standard flammable liquids storage room or cabinet. Separate from oxidizing materials. Storage and use areas should be No Smoking areas. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

Section 8: Exposure Controls/Personal Protection

Airborne Exposure Limits:
-ACGIH Threshold Limit Value (TLV): 1 ppm (TWA) (skin).

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

Section 8: Exposure Controls/Personal Protection (Continued)

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, toprevent skin contact.

Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Section 9: Physical and Chemical Properties

Appearance	**: Yellow liquid.**
Molecular Weight	**: 103.17g/mole**
Odor	**: Slight ammonia odor.**
Color	**: Clear colorless to yellow.**
Solubility	**: Completely soluble in water.**
Specific Gravity	**: 0.96 @ 20C/20C**
pH	**: No information found.**
% Volatiles by volume @ 21C (70F)	**: No information found.**
Boiling Point	**: 199 - 209 °C**
Melting Point	**: -39C (-38F)**
Evaporation Rate (BuAc=1)	**: No information found.**
Auto-ignition temperature	**: 358 °C**
Decomposition temperature	**: No data available**
Flammability (solid, gas)	**: No data available**
Vapour pressure	**: 0.37 mm Hg at 20°C**
Relative vapour density at 20 °C	**: 3.56**
Relative density	**: No data available**
Density	**: 0.96 g/cm³**
Solubility	**: Water: Completely soluble in water**

Section 10: Stability and Reactivity Data

Stability:
Stable under ordinary conditions of use and storage. Hygroscopic.

Hazardous Decomposition Products:
May form carbon oxides, nitrogen oxides, hydrocarbons and amine vapors when heated to decomposition.

Hazardous Polymerization: **Will not occur.**

Incompatibilities:
This material is a strong alkaline. It reacts with carbon dioxide from the air; reacts violently with strong oxidants, acids, halogens, and reactive organic compounds; is corrosive toward aluminum, zinc, copper and its alloys; and causes spontaneous ignition with cellulose nitrate.

Conditions to Avoid:
Heat, flames, ignition sources and incompatibles.

Section 11: Toxicological Information

Oral rat LD50: 1080 mg/kg; skin rabbit LD50: 1090 mg/kg.

----------\Cancer Lists\----------

	---NTP Carcinogen---		
Ingredient	**Known**	**Anticipated**	**IARC Category**
----------	**-------**	**----------**	**----------**
Diethylene Triamine (111-40-0)	**No**	**NoNone**	

Section 12: Ecological Information

Environmental Fate:
When released into the soil, this material may evaporate to a moderate extent. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is not expected to biodegrade. When released into water, this material is not expected to evaporate significantly. This material has a log octanol-water partition coefficient of less than 3.0. This material is not expected to significantly bio-accumulate. When released into the air, this material is expected to be readily degraded by

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reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of less than 1 day.
Environmental Toxicity:No information found.

Section 13: Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14: Transport Information

Land transport (ADR-RID)

Proper shipping name: DIETHYLENETRIAMINE
UN N°: 2079
H.I. nr: 80
ADR - Class: 8
Labelling – Transport: 8 : Corrosive substance.
ADR – Group: II

Sea transport (IMDG) [English only]

Proper shipping name: DIETHYLENETRIAMINE
UN N°: 2079
IMO-IMDG - Class or division: 8 : Corrosive substance.
IMO-IMDG - Packing group: II

Air transport (ICAO-IATA) [English only]

Proper shipping name: DIETHYLENETRIAMINE
UN N°: 2079
IATA - Class or division: 8 : Corrosive substance.
IATA - Packing group: II

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Section 15: Other Regulatory Information

----------\Chemical Inventory Status - Part 1\----------

Ingredient	TSCA	EC	Japan	Australia
Diethylene Triamine (111-40-0)	Yes	Yes	Yes	Yes

----------\Chemical Inventory Status - Part 2\----------
--Canada—

Ingredient	Korea	DSL	NDSL	Phil.
Diethylene Triamine (111-40-0)	Yes	Yes	No	Yes

----------\Federal, State & International Regulations - Part 1\----------
--------SARA 302- ------SARA 313------

Ingredient	RQ	TPQ	List	Chemical Catg.
Diethylene Triamine (111-40-0)	No	No	No	No

----------\Federal, State & International Regulations - Part 2\----------
-----RCRA- -TSCA-----

Ingredient	CERCLA	261.33	8(d)
Diethylene Triamine (111-40-0)	No	No	No

Chemical Weapons Convention: No **TSCA 12(b):** No **CDTA:** Yes
SARA 311/312: Acute: Yes **Chronic:** Yes **Fire:** No **Pressure:** No
Reactivity: No (Pure / Liquid)

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Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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