

Material Safety Data Sheet Diethylenetriamine

1. IDENTIFICATION

Product name:Diethylenetriamine

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

PHYSICAL HAZARDS

Not classified

HEALTH HAZARDS

Acute toxicity (Oral)

Category 4

Acute toxicity (Dermal)

Category 4

Acute toxicity (Inhalation)

Category 2

Skin corrosion/irritation

Category 1B

Serious eye damage/eye irritation

Category 1

Respiratory sensitization

Category 1

Skin sensitization

Category 1

Reproductive toxicity

Category 1B

ENVIRONMENTAL HAZARDS

Acute aquatic hazard

Category 3

Label elements

Pictograms or hazard symbols



Signal word

Danger

Hazard statements

Fatal if inhaled

Harmful if swallowed or in contact with skin

Causes severe skin burns and eye damage

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause an allergic skin reaction

May damage fertility or the unborn child

Harmful to aquatic life

Precautionary statements

[Prevention]

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe mist, vapors or spray.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Wash hands and face thoroughly after handling.

[Response]

Wear respiratory protection.
Wear protective gloves, protective clothing, face protection.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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. Immediately call a POISON CENTER or doctor.

[Storage]

IF exposed or concerned: Get medical advice or attention.
Store in a well-ventilated place. Keep container tightly closed.

[Disposal]

Store locked up.
Dispose of contents and container in accordance with local, regional, national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Substance
Components: Diethylenetriamine
Percent: >98.0%(GC)(T)
CAS RN: 111-40-0
Synonyms: 2,2'-Diaminodiethylamine
Chemical Formula: C₄H₁₃N₃

4. FIRST AID MEASURES

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
Skin contact: Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician.
Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
Ingestion: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.
Protection of first-aiders: A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, foam, water in large amounts, carbon dioxide.
Specific hazards arising from the chemical: Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.
Precautions for firefighters: Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so.
Special protective equipment for firefighters: When extinguishing fire, be sure to wear personal protective equipment

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
Environmental precautions: Prevent product from entering drains.
Methods and materials for containment and cleaning up: Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust). In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.



7. HANDLING AND STORAGE

Precautions for safe handling

Technical measures: Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapour or mist. Wash hands and face thoroughly after handling.
Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated.

Advice on safe handling: Avoid all contact!

Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed. Store in a cool, dark and well-ventilated place.
Store under inert gas.
Protect from moisture.
Store locked up.
Store away from incompatible materials such as oxidizing agents.

Packaging material: Hygroscopic
Comply with laws.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Install a closed system or local exhaust. Also install safety shower and eye bath.

Exposure limits:

ACGIH TLV(TWA): 1 ppm (skin)

OSHA PEL(CL): 10 ppm (skin)

Personal protective equipment

Respiratory protection: Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.

Hand protection: Impervious gloves.

Eye protection: Safety goggles. A face-shield, if the situation requires.

Skin and body protection: Impervious protective clothing. Protective boots, if the situation requires.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state (20°C): Liquid
Form: Clear
Colour: Colorless - Very pale yellow
Odour: Ammoniacal
pH: No data available

Melting point/freezing point: -35°C

Boiling point/range: 209°C

Flash point: 97°C

Flammability or explosive limits:

Lower: 2%

Upper: 6.7%

Vapour pressure: 37Pa/20°C

Vapour density: 3.56

Relative density: 0.95

Solubility(ies):

[Water] Miscible

[Other solvents]

Miscible: Methanol, Benzene, Acetone, Ethanol

Soluble: Petroleum ether

Insoluble: Heptane

Log Pow: -2.13

Autoignition temperature: 358°C



10. STABILITY AND REACTIVITY

Chemical stability:	Stable under proper conditions.
Possibility of hazardous reactions:	No special reactivity has been reported.
Incompatible materials:	Oxidizing agents, Acids, Metals, Organic nitrogen compounds
Hazardous decomposition products:	Carbon dioxide, Carbon monoxide, Nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	ori-rat LD50:1080 mg/kg skn-rbt LD50:1090 mg/kg ihl-rat LCLo:70 mg/m ³ /4H ipr-rat LD50:74 mg/kg
Skin corrosion/irritation:	skn-rbt 500 mg open MOD
Serious eye damage/irritation:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	
IARC =	No data available
NTP =	No data available
Reproductive toxicity:	No data available
RTECS Number:	IE1225000

12. ECOLOGICAL INFORMATION

Ecotoxicity:	
Fish:	48h LC50:780 ppm (Oryzias latipes)
Crustacea:	48h LC50:53.5 mg/L (Daphnia magna)
Algae:	96h EC50:345.6 mg/L (Selenastrum capricornutum)
Persistence / degradability:	0 % (by BOD) , 4.3 % (by UV-VIS)
Bioaccumulative potential(BCF):	<0.3 - 1.7 (conc. 2 ppm) , <2.8 - 6.3 (conc. 0.2 ppm)
Mobility in soil	
Log Pow:	-2.13
Soil adsorption (Koc):	88
Henry's Law (PaM³/mol):	1.0 x 10 ⁻⁹

13. DISPOSAL CONSIDERATIONS

Recycle to process, if possible. Consult your local regional authorities. You may be able to burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

14. TRANSPORT INFORMATION

Hazards Class:	8: Corrosive.
UN-No:	2079
Proper shipping name:	Diethylenetriamine
Packing group:	II

15. REGULATORY INFORMATION

Regulations on the Control over Safety of Dangerous Chemicals (State Council announces on January 26, 2002 and revised on February 16,2011): Safe use and production, the storage of a dangerous chemical, transport, loading and unloading were prescribed.

This product is included in the list of dangerous chemicals(2015)/Serial No.: 636





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16. OTHER INFORMATION

Further information

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