



## SAFETY DATA SHEET

### DIETHANOLAMINE

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

Product name: DIETHANOLAMINE

Recommended use: Chemical for industrial

Manufacturer/Supplier: **MODERN CHEMICAL CO.,LTD.**  
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#### 2. HAZARDS IDENTIFICATION

##### Label elements

Pictogram



Signal word

Danger

##### Hazard statement(s):

- 1.) Harmful if swallowed.
- 2.) Causes skin irritation.
- 3.) Causes serious eye damage.
- 4.) May cause damage to organs through prolonged or repeated exposure.

##### Precautionary statement(s):

- 1.) Do not breathe dust/fume/gas/mist/vapours/spray.
- 2.) Wear protective gloves/protective clothing/eye protection/face protection.
- 3.) IF ON SKIN: Wash with plenty of soap and water.



- 4.) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do  
Continue rinsing.
- 5.) Immediately call a POISON CENTER or doctor/physician.
- 6.) Get medical advice/attention if you feel unwell.
- 7.) Rinse mouth.
- 8.) If skin irritation occurs. Get medical advice/attention.
- 9.) Take off contaminated clothing and wash before reuse.
- 10.) Dispose of contents/container to hazardous or specials waste collection point.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonym:** 2,2'-iminodiethanol, Ethanol, 2,2'-iminobis-, Bis(hydroxyethyl)amine

Ingredients	% (w/w)	CAS NO.
DIETHANOLAMINE	100	111-42-2

### 4. FIRST AID MEASURES

- Inhalation:** If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing become difficult or respiratory irritation persists.
- Skin contact:** Immediately remove contaminated clothing and shoes. Under a safety shower. Flush skin thoroughly with large amounts of running water for least 15 minutes. Do not attempt neutralize with chemical agents. Get medical attention immediately. Discard or decontaminated clothing and shoes before reuse.
- Eye contact:** Immediately flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Do not neutralize with chemical agents. Obtain medical attention immediately. Continue flushing for an additions 15 minutes if medical attention is not immediately available.
- Ingestion:** If person of conscious and can swallow, give two glasses of water (16 oz.), Induce vomiting as directed by medical personnel. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.

### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:**

Use water spray, dry chemical, Foam or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed



containers. Water of foam may cause frothing.

**Unsuitable Extinguishing Media:**

No data available.

**Specific hazards arising from Chemicals:**

No data available.

**Special protective equipment for fire-fighters:**

Wear full protective clothing and positive pressure breathing apparatus. Approach fire from upwind to avoid hazardous vapors and toxic decomposition product.

**6. ACCIDENTAL RELEASE MEAS**

**Precautions:** Remove persons to safety.

**Environmental precautions:** Do not discharge into the subsoil/soil. Do not discharge into the drains/surface waters/groundwater.

**Methods and Material for Containment and Clean Up:**

Pick up with absorbent material. Send in suitable containers for recovery or disposal.  
Dilute with plenty of water. Dispose of absorbed material in accordance with the regulations.

**7. HANDLING AND STORAGE**

**Precautions for Safe Handling & Product Transfer:**

Minimum feasible handling temperatures should be maintained. Eye wash should be available nearby when this product is handled or used.

**Conditions for Safe Storage & Unsuitable Materials:**

Requirements for storage rooms and vessels. Use steel or stainless steel containers. Only use containers that are approved specifically for the substance/product. Avoid direct sunlight, outdoor area and lower or higher temperature. Suitable temperature is 28-35 degree Celsius.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Occupational Exposure Limits:** TWA 0.46 ppm

**Appropriate Engineering Controls:** No data available



## Individual Protection Measures

- Respiratory protection:** Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air supplied respirators should always be worn when airborne concentration of the contamination or oxygen content is unknown.
- Hand protection:** Gloves resistant to chemical and petroleum distillates should be worn.
- Eye protection:** Avoid eye contact. Chemical type goggles should be worn. Don not wear contact lense.
- Skin and body protections:** Protective clothing such as coveralls or coats must be worn. Launder or dry-clean when soiled. Exposed workers should wash exposed skin several times daily with soap and water.
- Hygiene measures:** No data available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Form, Color and Odor :</b> liquid, colorless , ammonia-like	<b>Evaporation rate :</b> N/A
<b>Melting Point :</b> 27 °C	<b>Specific gravity :</b> 1.125 g/cm <sup>3</sup> at 20 °C
<b>pH :</b> 11.5	<b>Solubility in water :</b> Miscible
<b>Boiling point :</b> 269.9 °C	<b>Viscosity :</b> N/A
<b>Vapour pressure :</b> 0.028 hPa at 25°C	<b>Vapor density (air=1) :</b> N/A
<b>Lower explosive limits :</b> 1.0 %Vol	<b>Upper explosive limits :</b> 17.0 %Vol
<b>Auto-ignition temperature :</b> N/A	<b>Flash point:</b> 154.4°C
<b>Odour threshold:</b> N/A	<b>Flammability (solid, gas):</b> N/A
<b>Decomposition temperature:</b> N/A	<b>Solubility in other solvents:</b> N/A
<b>n-octanol/water partition coefficient (log P<sub>ow</sub>):</b> N/A	

## 10. STABILITY AND REACTIVITY

- Chemical Stability:** No data available.
- Reactions:** No data available.
- Possibility of Hazardous Reactions:** This material may react violently with acids. Do not add or formulate with nitrites.



<b>Conditions to avoid:</b>	No data available.
<b>Materials to avoid:</b>	Strong oxidizing agents. This material is corrosive to copper, zinc, aluminum and their alloys.
<b>Hazardous decomposition products:</b>	Toxic levels of ammonia, combustion products of nitrogen, carbon dioxide, carbon monoxide, irritating aldehydes and ketones may be formed on burning in a limited air supply.

## 11. TOXICOLOGICAL INFORMATION

<b>Acute toxicity:</b>	LD50 (Oral, rat): 1.41 g/kg LC50 (Dermal, rat): >5 g/kg
<b>Sensitization:</b>	Toxic to skin: Causes skin irritation. May cause an allergic skin reaction. Toxic to eye: Causes serious eye irritation.
<b>Chronic toxicity:</b>	In a chronic (two years) exposure study, sponsored by the National Toxicology Program (NTP), rats and mice were dermally exposed to Diethanolamine (DEA). Both male and female mice showed an increased incidence of liver tumors, and male mice showed an increased incidence of kidney tumors. In contrast, male and female rats did not show any increased incidence of tumors. NTP concluded, using their standard classification scheme, that there is “no evidence” of cancer in male and female rats, and “clear evidence” of liver and kidney cancer in male mice and “clear evidence” of liver cancer in female mice.
<b>Further toxicological information:</b>	No data available.

## 12. ECOLOGICAL INFORMATION

<b>Toxicity</b>	
<b>Toxicity to fish:</b>	DEA is expected to have low toxicity to aquatic species.
<b>Toxicity to daphnia and other aquatic invertebrates:</b>	No data available.
<b>Toxicity to algae:</b>	No data available.
<b>Toxicity to bacteria:</b>	No data available.
<b>Biodegradability Remarks:</b>	DEA is readily biodegradable and is not expected to persist in the environment.



Bioaccumulative Potential:	DEA is not expected to bioaccumulate. (low Kow=-1.43)
Mobility:	DEA is not expected to selectively partition and absorb to soil or sediments.
Affected in any other way:	No data available.

### 13. DISPOSAL CONSIDERATIONS

<b>Material Disposal:</b>	This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes etc. may render the resulting materials hazardous.
<b>Container Disposal:</b>	No data available.

### 14. TRANSPORT INFORMATION

**ADR/ADNR**

Not regulated

**IMGD**

Not regulated

**IATA**

Not regulated

### 15. REGULATORY INFORMATION

**TSCA Inventory Status:**

This product, or its components, are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

**WHMIS classification:**

Class D, DIV 2, Subdiv B: Irritant

**Canadian Inventory Status:**

This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

**EINECS Inventory Status:**



This product, or its components, are listed on or are exempt from the European Inventory of Existing Chemical Substance (EINECS) or the European List of Notified Chemical Substance (ELINCS).

**Australian Inventory Status:**

This product, or its components, are listed on or are exempt from the Australian Inventory of Chemical Substance (AICS).

**Japan Inventory status:**

This product, or its components, are listed on or are exempt from the Japan Ministry of International Trade and Industry (METI) inventory.

**China Inventory status:**

This product, or its components, are listed on or are exempt from the Inventory of Existing Chemical Substance in China (IECSC).

**Korea Inventory status:**

This product, or its components, are listed on or are exempt from the Korea Existing and Evaluated Chemical Substance (KECL) inventory.

**New Zealand Inventory status:**

This product, or its components, are listed on or are exempt from the New Zealand Inventory of Chemical (NZIoC).

**Philippine Inventory status:**

This product, or its components, are listed on or are exempt from the Philippine Inventory of Chemical and Chemical Substances (PICCS).

**16. Other Information**

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