
Material Safety Data Sheet

Product Name	<u>Diethanolamine</u>
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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification:**Product Description:** Diethanolamine**Synonyms:****CAS-No:** 111-42-2**EC-No.:** 203-868-0**Molecular Formula:** C₄H₁₁NO₂

REACH Registration No: A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.

1.2. Relevant identified uses of the substance or mixture and uses advised against:**Recommended Use:** Reagent for Analysis**1.3. Details of the supplier of the safety data sheet:**

- **Company** **Finar Limited**
184-186/P, Chacharwadi Vasna,
Sarkhej-Bavla Highway,
Ta.: Sanand, Dist.: Ahmedabad,
Email: info@finarchemicals.com
Web: www.finarchemicals.com
- **E-Mail Address** safety@finarchemicals.com; info@finarchemicals.com

1.4. Emergency Telephone Number:

- For Emergency contact on: +91 - 2717 - 616 717
- Registered office No: +91 - 79 - 40040085

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SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4, Oral, H302

Skin irritation, Category 2, H315

Serious eye damage, Category 1, H318

Specific target organ toxicity - repeated exposure, Category 2, Oral, Kidney, Liver, Blood, H373

Chronic aquatic toxicity, Category 3, H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label Elements:

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H373 May cause damage to organs (Kidney, Liver, Blood) through prolonged or repeated exposure if swallowed.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment

P280 Wear eye protection.

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Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P314 Get medical advice/ attention if you feel unwell.

Hazard statements

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P280 Wear eye protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other Hazards:

None Known

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances: Diethanolamine

3.2. Mixtures:

Component	CAS-No	EC-No.	Weight %
Triethanolamine	111-42-2	203-868-0	> 95

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

- If inhaled**

Fresh Air. Call in physician.

- If case of skin contact**

Take off immediately all contaminated clothing. Rinse skin with water/ shower.

- In case of eye contact**

Rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

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- **If swallowed**
Make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2. Most important symptoms and effects, both acute and delayed:

Irritation and corrosion.
Risk of serious damage to eyes.
Cough, Nausea, Headache, Dizziness.

4.3. Indication of any immediate medical attention and special treatment needed:

No information Available

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

Suitable Extinguishing Media- Use water, Carbon dioxide (CO2), Dry powder

Unsuitable Extinguishing Media- For this substance/mixture no limitations of extinguishing agents are given.

5.2. Special hazards arising from the substance or mixture:

Combustible.
Vapours are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.
Fire may cause evolution of nitrogen oxides, nitrogen gases

5.3. Advice for firefighters:

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further Information:

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures:**

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2. Environmental precautions:

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up:

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material. Dispose of properly.

Clean up affected area.

6.4. Reference to other sections:

For disposal see Sections 13.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling****Advice on Safe handling**

Observe label precautions.

Hygiene Measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2. Conditions for safe storage, including any incompatibilities:

Storage conditions

Tightly closed. Dry.

Recommended storage temperature- See Product Label

7.3. Specific end use(s):

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Contains no substances with occupational exposure limit values.

8.2. Exposure Controls:

- **Appropriate Engineering Controls:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Personal Protective Equipment:

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

- **Eye & Face Protection-**

Tightly fitting Safety Goggles.

- **Skin Protection -**

Hand Protection

Full Contact

Material : Natural latex

Minimum layer thickness : 0.6 mm

Break through time : 480 min

Splash Contact

Material : Nitrile Rubber

Minimum layer thickness : 0.11 mm

Break through time : 30 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 706 Lapren® (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves

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(e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Respiratory Protection-

Required when dusts/vapours/aerosols are generated.

Recommended Filter type: Filter A-(P2)

The entrepreneur must ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental Exposure Controls- Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

- **Appearance: Form:** Solid
Color: Colorless
- **Physical State:** Solid
- **Odour:** Ammoniacal
- **pH:** 11
- **Melting Point:** 28°C
- **Critical Temperature:** No data available
- **Vapor Pressure:** < 0.01 hPa at 25 °C
0.6 hPa at 100 °C
- **Relative Vapor Density:** 3.6
- **Viscosity Dynamic:** 390 mPa.s at 30 °C
- **Viscosity Kinematic:** 357.2 mm²/s at 30 °C
- **Lower Explosive Limit:** 2.1 % (V)
- **Upper Explosive Limit:** 10.6 % (V)
- **Decomposition Temperature:** > 270 °C
- **Volatility:** No data available
- **Bulk Density:** No data available
- **Odor Threshold:** 0.27 ppm
- **Water/Oil Dist. Co eff.:** No data available
- **Ionicity (in Water):** No data available
- **Boiling Point/Range:** 360°C at 1.013 hPa

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- **Flash Point:** 176 °C
- **Specific Gravity / Density:** 1.126 g/cm³ at 20 °C
- **Ignition Temperature:** 365°C – 370 °C
- **Water Solubility:** At 20°C Soluble

9.2. Other information:

Molecular weight: 105.14 g/mol

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: -

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2. Chemical stability: -

Hygroscopic, Sensitive to light.

10.3. Possibility of hazardous reactions: -

Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines!

Exothermic reaction with anhydrides, Oxidizing agents, acids, Isocyanates, Halogenated compounds, Peroxides, phenols, acid halides, strong reducing agents

10.4. Conditions to avoid: - Exposure to moisture

10.5. Incompatible materials: - bronze, Copper, Copper alloys, brass, Zinc, zinc alloys

10.6. Hazardous decomposition products: - In the event of fire: See section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral toxicity

LD50 Rat – 6,400 mg/kg

Method: OECD Test Guideline 401

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute Inhalation toxicity

Symptoms: Possible damages, mucosal irritations

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Acute Dermal toxicity

LD50 Rabbit - > 8328 mg/kg

(RTECS)

Skin corrosion/irritation

Rabbit

Result: - Irritating

Method: OECD Test Guideline 404

Serious Eye damage/eye irritation

Rabbit

Result: - Causes serious eye damage

Method: OECD Test Guideline 405

Respiratory or Skin sensitization

Sensitisation test: Guinea pig

Result: Negative

Method: OECD Test Guideline 406

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: Negative

Method: OECD Test Guideline 471

(National Toxicology Program)

Mutagenicity (mammal cell test): chromosome aberration.

Result: Negative

Method: OECD Test Guideline 473

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: Negative

Method: OECD Test Guideline 476

Carcinogenicity

No information available

Reproductive toxicity

No information available

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Specific target organ toxicity - single exposure

No information available

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Exposure routes: Ingestion

Target Organs: Kidney, Liver, Blood

Aspiration hazard

No information available

11.2 Additional Information

Systemic effects:

Cough, Nausea, Headache, Dizziness

Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments.

However, when the product is handled appropriately, hazardous effects are unlikely to occur.

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: ECOLOGICAL INFORMATION**12.1. Toxicity:****Toxicity to fish:**

Static test LC50 Pimephales promelas (fathead minnow): 1460 mg/l; 96 h

Analytical Monitoring: No

(IUCLID)

Toxicity daphnia and other aquatic invertebrates:

Static test EC50 Ceriodaphnia dubia (water flea): 30.1 mg/l; 48 h

Analytical Monitoring: No

(ECHA)

Toxicity to algae:

Static test ErC50 Pseudokirchneriella subcapitata (green algae): 9.7 mg/l; 96 h

US-EPA

Toxicity to bacteria:

Static test EC10 activated sludge: > 1,000 mg/l; 30 min

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Analytical Monitoring: No

OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

Semi-static test NOEC Daphnia magna (Water flea): 0.78 mg/l; 21 d

Analytical Monitoring: Yes

(ECHA)

12.2 Persistence and degradability:

Biodegradability

96 %; 28 d; aerobic

OECD Test Guideline 301E

Readily Biodegradable

Biochemical Oxygen Demand (BOD) - 885 mg/g (5 d)

Chemical Oxygen Demand (COD) - 1,352 mg/g

12.3 Bioaccumulate potential:

Partition coefficient: n-octanol/water

log Pow: -2.18 (25 °C)

OECD Test Guideline 107

Bioaccumulation is not expected.

12.4 Mobility in soil:

No information Available

12.5 Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006,

Annex XIII.

12.6 Other adverse effects

Additional ecological information

Biological effects:

Harmful effect due to pH shift.

When discharged properly, no impairments in the function of adapted biological wastewater treatment plants are to be expected.

Discharge into the environment must be avoided.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

	Land transport (ADR/RID)	Air transport (IATA)	Sea transport (IMDG)
14.1 UN Number	Not classified as dangerous in the meaning of transport regulations.		
14.2 Proper shipping name	Not classified as dangerous in the meaning of transport regulations.		
14.3 Class	Not classified as dangerous in the meaning of transport regulations.		
14.4 Packing group	Not classified as dangerous in the meaning of transport regulations.		
14.5 Environmentally hazardous	Not classified as dangerous in the meaning of transport regulations.		
14.6 Special precautions for user	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code		

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Not classified as dangerous in the meaning of transport regulations

15.2 Chemical safety assessment

For this product, a chemical safety assessment was not carried out

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SECTION 16: Other information

Training advice: -

Provide adequate information, instruction and training for operators.

References: Not available

Created: 09/06/2020

Disclaimer:

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