



Oriental Union Chemical Corporation

MSDS for Triethanolamine T85

1. Substance/preparation and company identification

Company:OUCC

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Kaohsiung,R.O.C

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2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Triethanolamine	102-71-6	85%	----

Synonyms: 2,2',2''-Nitrilotriethanol; daltogen; trolamine; TEA; triethylolamine

Chemical Formula: (HOCH₂CH₂)₃N

Diethanolamine	111-42-2	15%	Yes
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2,2'-IMINODIETHANOL, DEA

Chemical Formula: (HOCH₂CH₂)₂NH

3. Hazards Identification

Health Rating: 1 - Slight Flammability Rating: 1 - Slight

Reactivity Rating: 2 – Moderate Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: Orange (General Storage)

Potential Health Effects

Inhalation:

No adverse effects expected since TEA has a low vapor pressure.

Skin Contact:

May cause irritation, redness, and pain, especially on prolonged or repeated contact.

Eye Contact:

Corrosive. Contact causes severe irritation, burns, redness, and pain. May cause irritation, redness, pain, and corneal damage.

Ingestion:

May cause burns in the mouth, pharynx, and esophagus, abdominal pain, nausea, vomiting and diarrhea.

Chronic Exposure:

Repeated ingestion has caused kidney and liver damage in animals.



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4. First Aid Measures

Inhalation:

Not expected to require first aid measures.

Skin Contact:

Immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Ingestion:

If swallowed, **DO NOT INDUCE VOMITING**. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5. Fire Fighting Measures

Fire Extinguishing Media:

Dry chemical, alcohol foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool. Water can also be used to flush material from fire and to dilute spills to non-combustible mixtures. Water or foam may cause frothing.

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.

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits .

6. Accidental Release Measures

6.1 Ventilate area of leak or spill.

6.2 Wear appropriate personal protective equipment as specified in Section 8.

6.3 Contain and recover liquid when possible.

6.4 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.

6.5 Do not use combustible materials, such as saw dust.

6.6 Do not flush to sewer!



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7. Handling and Storage

- 7.1 Keep in a tightly closed container, stored in a cool, dry, ventilated area.
- 7.2 Protect against physical damage.
- 7.3 Isolate from any source of heat or ignition.
- 7.4 Avoid contact with copper and copper alloys.
- 7.5 Material is suitably handled in stainless steel equipment.
- 7.6 Do not use aluminum for storage of aqueous solutions.
- 7.7 Outside or detached storage is preferred.
- 7.8 Isolate from acidic materials.
- 7.9 May separate and freeze below 16C (60F).
- 7.10 Thaw and mix before sampling or using.
- 7.11 Do not store above 43C (110F)

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

- ACGIH Threshold Limit Value (TLV): 5 mg/m³ (TWA)

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). This substance has unknown warning properties. Where respirators are required, you must have a written program covering the basic requirements in the OSHA respirator standard. These include training, fit testing, medical approval, cleaning, maintenance, cartridge change schedules, etc. See 29CFR1910.134 for details.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

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.



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9. Physical and Chemical Properties

- 9.1 Appearance: Colorless to light yellow, viscous liquid.
- 9.2 Odor: Slight ammonia odor.
- 9.3 Solubility: Infinitely soluble.
- 9.4 Specific Gravity: 1.13 @ 20C/4C
- 9.5 pH: 10.5 % Volatiles by volume @ 21C (70F): 0
- 9.6 Boiling Point: >270°C
- 9.7 Melting Point: 13°C
- 9.8 Vapor Density (Air=1): 5.1
- 9.9 Vapor Pressure (mm Hg): < 0.01 @ 20C (68F)
- 9.10 Evaporation Rate (BuAc=1): < 1
- 9.11 Flash point: 185°C
- 9.12 Autoignition temperature: 305°C
- 9.13 Flammable limits in air % by volume: lel: 1.3; uel: 8.5(uel value estimated).

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Darkens on exposure to air or light.

Hazardous Decomposition Products:

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

Hazardous Polymerization: Will not occur.

Incompatibilities:

Copper, copper alloys, galvanized iron, acids, and oxidizers

Conditions to Avoid:

Heat, ignition sources, moisture, incompatibles.

11. Toxicological Information

information on triethanolamine :

Oral rat LD50: 8000 mg/kg

Skin rabbit: 560 mg/24H mild;

Eye rabbit: 5620 ug severe Investigated as a tumorigen and a mutagen.

information on diethanolamine :

Oral rat LD50: 620 uL/kg; skin rabbit LD50: 7,640 uL/kg; irritation, standard Draize, eye rabbit: 750 ug/24H severe; skin rabbit: 500 mg/24H mild; investigated as a tumorigen, reproductive effector.



12. Ecological Information

Environmental Fate:

- When released into the soil, this material is expected to readily biodegrade and is not expected to evaporate significantly. It may leach into groundwater.
- When released into water, this material is expected to readily biodegrade. This material has a log octanol-water partition coefficient of less than 3.0. This material is not expected to significantly bioaccumulate.
- When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to be readily removed from the atmosphere by dry and wet deposition.
- this material is expected to have a half-life between 1 and 10 days.

Environmental Toxicity: No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. 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.

14. Transport Information

- Not regulated in International Regulations.
 - In Taiwan : Road traffic safety rule No.84
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15. Regulatory Information

According to : the labor safety rule and ROC Environmental Laws and Regulations

16. Other Information

Label Hazard Warning:

WARNING! HARMFUL IF SWALLOWED. CAUSES SKIN IRRITATION AND SEVERE EYE IRRITATION.

Label Precautions: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing vapor. Keep container closed. Use with adequate ventilation.

Label First Aid:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases, get medical attention.



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