



Qualikems

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(Formerly known as Qualikems fine chem Pvt Ltd)

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Material Safety Data Sheet

Triethanolamine

Section 1 - Chemical Product and Company Identification

MSDS Name: Triethanolamine

Synonyms: TEA; 2,2',2''-Nitrilotriethanol; 2,2',2''-Trihydroxytriethylamine; Tri(2-hydroxyethyl)amine.

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
102-71-6	Triethanolamine	>97	203-049-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless to pale yellow solid or liquid.

Warning! This material can be a liquid or solid depending on storage and/or shipping conditions. Causes eye and skin irritation. May cause dermatitis. Hygroscopic (absorbs moisture from the air).

Target Organs: Kidneys, liver, eyes, skin, peripheral nervous system.

Potential Health Effects

Eye: Contact produces irritation, tearing, and burning pain. May cause transient corneal injury.

Skin: May cause irritation with burning pain, itching and redness. Prolonged skin contact may cause injury especially if the skin is abraded. Skin contact may cause an allergic skin reaction (sensitization) in a small proportion of individuals. 100% triethanolamine was required to produce an irritant reaction in nonscarified skin. The highest non-irritant concentration was reported to be 50% triethanolamine. (ICI Chemicals & Polymers Limited)

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: Material has a very low vapor pressure and inhalation exposures are not expected unless material is heated or misted. Inhalation of vapor from heated material or mist may cause irritation of the respiratory tract, experienced as nasal discomfort and discharge, with chest pain and coughing.

Chronic: May cause liver and kidney damage. Prolonged or repeated contact may cause skin necrosis and/or ulceration of the skin. Prolonged and/or repeated skin exposure may cause allergic dermatitis. Oral and dermal administration of triethanolamine to laboratory

animals produced liver, kidney, and nerve damage (scattered degeneration in the myelin sheath of individual fibers).

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for a t least 15 minutes. Get medical aid.

Skin: In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical aid if symptoms occur. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam. Solid streams of water or high volume water jet may spread fire.

Flash Point: 179 deg C (354.20 deg F)

Autoignition Temperature: 315 deg C (599.00 deg F)

Explosion Limits, Lower:1.3

Upper: 8.5

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid breathing vapors from heated material. Avoid contact with eyes, skin, and clothing. Avoid breathing spray or mist. If material is solid, carefully thaw and mix before sampling or using. Do not add nitrites or other nitrosating agents. A nitrosamine, which may cause cancer, may be formed.

Storage: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Triethanolamine	5 mg/m ³ TWA	none listed	none listed

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Section 9 - Physical and Chemical Properties

Physical State: Solid or liquid

Appearance: viscous - colorless to pale yellow

Odor: ammonia-like - weak odor

pH: 10.5 (15 g/l H₂O)

Vapor Pressure: 3.59E-006 mm Hg @ 25 deg C

Vapor Density: 5.14 (air=1)

Evaporation Rate: Not available.

Viscosity: 601 cps @ 25 deg C

Boiling Point: 335 deg C (dec)

Freezing/Melting Point: 21 deg C

Decomposition Temperature: > 325 deg C

Solubility: Soluble.

Specific Gravity/Density: 1.125

Molecular Formula: (HOCH₂CH₂)₃N

Molecular Weight: 149.19

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Darkens on exposure to light and air. Hygroscopic: absorbs moisture or water from the air.

Conditions to Avoid: Light, moisture, exposure to air, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, copper, copper alloys.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 102-71-6: KL9275000

LD50/LC50:

CAS# 102-71-6:

Draize test, rabbit, eye: 20 mg Severe;

Draize test, rabbit, eye: 10 mg Mild;

Draize test, rabbit, skin: 560 mg/24H Mild;

Oral, mouse: LD50 = 5846 mg/kg;

Oral, rabbit: LD50 = 2200 mg/kg;

Oral, rat: LD50 = 4920 uL/kg;

Skin, rabbit: LD50 = >20 mL/kg;

Skin, rat: LD50 = >16 mL/kg;

Carcinogenicity:

CAS# 102-71-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No data available.

Reproductive Effects: No information found

Mutagenicity: No data available.

Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: 5600 mg/L; 96H; LC50

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	IATA	
Shipping Name:	Not Regulated	
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

Hazard Symbols:

Not available.

Risk Phrases:

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

Section 16 - Additional Information

MSDS Creation Date: 5/04/1999

Revision #3 Date: 10/03/2005

Revision #4 Date: 09/03/2010

Revision #5 Date: 08/03/2015

Revision #6 Date: 07/03/2020

Revision #7 Date: 06/03/2025

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