

Triethanolamine 85%

SDS Revision Date (mm/dd/yyyy): 03/20/2024

Page 1 of 10

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Triethanolamine 85%**

Other means of identification : Not available.

Recommended use of the chemical and restrictions on use

: Laboratory chemicals
Use pattern: Professional Use Only
Recommended restrictions: None known.

Chemical family

: Amino alcohol

Name, address, and telephone number
of the supplier:

Comet Chemical Company Ltd.

3463 Thomas Street
Innisfill, ON, Canada
L9S 3W4

Supplier's Telephone #

: (705) 436-5580

24 Hr. Emergency Tel #

: GFL Environmental - 1-888-772-2543

Name, address, and telephone number of
the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Light yellow liquid. Mild ammonia odour.

Most important hazards: Causes serious eye damage. Causes skin irritation. Suspected of causing cancer.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).
Classification:

Skin Irritation - Category 2

Serious eye damage/eye irritation - Category 1

Carcinogen - Category 2

Specific Target Organ Toxicity, Repeated Exposure - Category 2

Label elements

Hazard pictogram(s)



Signal Word

DANGER!

Hazard statement(s)

Causes skin irritation.

Causes serious eye damage.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.



Triethanolamine 85%

SDS Revision Date (mm/dd/yyyy): 03/20/2024

Page 2 of 10

SAFETY DATA SHEET

Precautionary statement(s)

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash thoroughly after handling.
Do not breathe mist or vapor.
Wear protective gloves/clothing and eye/face protection.

IF exposed: Call a Poison Center or doctor/physician.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
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/doctor.
Store locked up.
Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Triethanolamine	TEA	102-71-6	80.0 - 100.0
Diethanolamine	DEA	111-42-2	10.0 - 30.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Never give anything by mouth to an unconscious person. Call a physician.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Obtain medical attention if symptoms develop and persist.
- Skin contact* : Wash off immediately with plenty of water. Remove and wash contaminated clothing before re-use. If irritation or symptoms develop, seek medical attention.
- Eye contact* : Flush eyes with water for at least 20 minutes. Immediately call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed

- : Causes serious eye damage. Symptoms may include severe pain, tearing, redness, swelling and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. Symptoms may include redness, itching and swelling. May cause respiratory irritation. Symptoms may include upper respiratory irritation, coughing and breathing difficulties. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Suspected of causing cancer. May cause damage to the blood system, the liver and the kidneys through prolonged or repeated exposure.

Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

Triethanolamine 85%

SDS Revision Date (mm/dd/yyyy): 03/20/2024

Page 3 of 10

SAFETY DATA SHEET

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Burning may produce irritating, toxic and obnoxious fumes.

Flammability classification (OSHA 29 CFR 1910.106)

- : Not flammable.

Hazardous combustion products

- : Carbon oxides

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Do not enter without wearing specialized protective equipment suitable for the situation. Firefighter's normal protective clothing (Bunker Gear) will not provide adequate protection. A full-body encapsulating chemical protective suit with positive pressure self-contained breathing apparatus (NIOSH approved or equivalent) may be necessary.

Special fire-fighting procedures

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear suitable protective equipment. Refer to protective measures listed in sections 7 and 8. Restrict access to area until completion of clean-up.

Environmental precautions

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Methods and material for containment and cleaning up

- : Ventilate area of release. Stop spill or leak at source if safely possible. Dike for water control. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13).

Special spill response procedures

- : In Canada: For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC).
US CERCLA Reportable quantity (RQ): Diethanolamine (100 lbs / 45.4 kg)

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Use only in well-ventilated areas. Wear personal protective equipment. Avoid breathing vapours or mists. Avoid contact with eyes, skin and clothing. Keep away from extreme heat and flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

Triethanolamine 85%

SDS Revision Date (mm/dd/yyyy): 03/20/2024

Page 4 of 10

SAFETY DATA SHEET

- Conditions for safe storage** : Store in a cool, dry, well-ventilated area. Store away from incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.
- Incompatible materials** : Oxidizing agents; Acids; Nitrating agents; Halogenating agents; Alkali metals; Carbon dioxide . .

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Triethanolamine	5 mg/m ³	N/Av	N/Av	N/Av
Diethanolamine	1 mg/m ³ (inhalable fraction and vapor) (skin)	N/Av	3 ppm (final rule limit)	N/Av

Exposure controls

Ventilation and engineering measures

- : Use in a well-ventilated area. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection

- : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Advice should be sought from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection

- : Wear protective gloves/clothing. Advice should be sought from glove suppliers.

Eye / face protection

- : Wear eye protection/face protection. Wear safety glasses with side shields (or goggles).

Other protective equipment

- : Wear sufficient clothing to prevent skin contact. Depending on conditions of use, an impervious apron should be worn. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations

- : Do not breathe mist or vapor. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical State** : Liquid
- Colour** : Light yellow.
- Odour** : Mild ammonia.
- Odour threshold** : Not available.
- pH** : Not available.
- Melting Point/Freezing point** : 12°C
- Initial boiling point and boiling range** : 117.8°C
- Flash point** : Not flammable

Triethanolamine 85%

SDS Revision Date (mm/dd/yyyy): 03/20/2024

Page 5 of 10

SAFETY DATA SHEET

Flashpoint (Method) : ASTM D92
Evaporation rate (BuAe = 1) : 0.7
Flammability : Not applicable.
Lower explosion or flammability limit (% by vol.) : Not available.
Upper explosion or flammability limit (% by vol.) : Not available.
Oxidizing properties : None known.
Explosive properties : Not explosive
Vapour pressure : 0.96 kPa
Relative vapour density : 2.4 calculated
Relative density / Specific gravity : 1.119
Solubility in water : Soluble (100%)
Other solubility(ies) : Soluble in most organic solvents.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution : N/Av
Auto-ignition temperature : 324°C (615.2°F)
Decomposition temperature : Not available.
Viscosity : Not available.
Particle characteristics : Not applicable.
Volatiles (% by weight) : Not available.
Volatile organic Compounds (VOC's) : N/Av
Absolute pressure of container : N/Av
Flame projection length : N/Av
Other physical/chemical comments : None known or reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.
Chemical stability : Material is stable under normal conditions.
Possibility of hazardous reactions : Hazardous polymerization does not occur.
Conditions to avoid : Avoid excessive heat, sparks and open flame. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials : Strong oxidizing agents; Strong acids; Strong alkalis
Hazardous decomposition products : None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption : NO

Triethanolamine 85%

SDS Revision Date (mm/dd/yyyy): 03/20/2024

Page 6 of 10

SAFETY DATA SHEET

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

- : If product is heated or mists are formed, inhalation may cause irritation to the nose, throat and respiratory tract.

Sign and symptoms ingestion

- : Ingestion may irritate digestive tract and cause nausea, vomiting and diarrhea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Sign and symptoms skin

- : Causes skin irritation. Symptoms may include redness, itching and swelling.

Sign and symptoms eyes

- : Causes serious eye damage. Symptoms may include severe pain, tearing, redness, swelling and blurred vision.

Potential Chronic Health Effects

- : Prolonged or repeated contact may cause drying, cracking and defatting of the skin.

Mutagenicity

- : Not expected to be mutagenic in humans.

Carcinogenicity

- : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Suspected of causing cancer. Contains: Diethanolamine.

Reproductive effects & Teratogenicity

- : Not expected to cause reproductive effects.

Sensitization to material

- : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

- : Target Organs: Eyes, skin, respiratory system, digestive system, central nervous system.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). May cause damage to the blood system, the liver and the kidneys through prolonged or repeated exposure. Not classified as a specific target organ toxicity - single exposure.

Medical conditions aggravated by overexposure

- : None known.

Synergistic materials

- : Not available.

Toxicological data

- : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh. rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Triethanolamine	N/Av	6110 mg/kg	> 19 870 mg/kg
Diethanolamine	N/Av	680 mg/kg	8180 mg/kg

Other important toxicological hazards

- : None known.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

- : Not expected to be harmful to aquatic organisms. Do not allow material to contaminate ground water system. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. See the following tables for individual ingredient ecotoxicity data.

Triethanolamine 85%

SDS Revision Date (mm/dd/yyyy): 03/20/2024

Page 7 of 10

SAFETY DATA SHEET

Ecotoxicity data:

<u>Ingredients</u>	CAS #	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Triethanolamine	102-71-6	11 800 mg/L (Fathead minnow)	N/Av	None.
Diethanolamine	111-42-2	1370 mg/L (Fathead minnow)	N/Av	None.

<u>Ingredients</u>	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Triethanolamine	102-71-6	1386 mg/L/24hr (Daphnia magna)	16 mg/L	None.
Diethanolamine	111-42-2	55 mg/L (Daphnia magna)	0.78 mg/L	None.

<u>Ingredients</u>	CAS #	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Triethanolamine	102-71-6	169 mg/L/96hr (Green algae)	N/Av	None.
Diethanolamine	111-42-2	2.2 mg/L/96hr (Green algae)	N/Av	None.

Persistence and degradability

: Readily biodegradable.

Bioaccumulation potential

: No information available.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Triethanolamine (CAS 102-71-6)	-1.59	<3.9
Diethanolamine (CAS 111-42-2)	-2.18 at 25 °C	no significant bioconcentration

Mobility in soil : No information available.

Other Adverse Environmental effects

: No information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: Handle waste according to recommendations in Section 7.

Methods of Disposal

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.



Comet Chemical Company Ltd.
3463 Thomas Street
Innisfill, ON, Canada, L9S 3W4
Telephone: (705) 436 5580

Triethanolamine 85%

SDS Revision Date (mm/dd/yyyy): 03/20/2024

Page 8 of 10

SAFETY DATA SHEET

SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	Not regulated	none	
TDG Additional information	None.				

Special precautions for user : None known or reported by the manufacturer.

Environmental hazards : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de Minimis Concentration
Triethanolamine	102-71-6	Yes	N/Ap	N/Ap	No	No
Diethanolamine	111-42-2	Yes	100 lb/ 45.4 kg	None.	Yes	No

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Health hazards: Skin irritation ;Eye irritation, Carcinogenicity, Specific target organ toxicity, repeated exposure .

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Triethanolamine	102-71-6	No	N/Ap	No	Yes	Yes	Yes	Yes	Yes
Diethanolamine	111-42-2	Yes	Carcinogen	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

All ingredients are present on the DSL.

Triethanolamine 85%

SDS Revision Date (mm/dd/yyyy): 03/20/2024

Page 9 of 10

SAFETY DATA SHEET

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECs</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>NewZealand IOC</u>
Triethanolamine	102-71-6	203-049-8	Present	Present	(2)-308	KE-25940	Present	HSR002785
Diethanolamine	111-42-2	203-868-0	Present	Present	(2)-354; (2)-302	KE-20959	Present (11481)	HSR002962

SECTION 16. OTHER INFORMATION

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CNS: Central Nervous System
COC: Cleveland Open Cup
CSA: Canadian Standards Association
DOT: Department of Transportation
EPA: Environmental Protection Agency
IARC: International Agency for Research on Cancer
LC: Lethal Concentration
LD: Lethal Dose
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TLV: Threshold Limit Values
TWA: Time Weighted Average

References

: 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices
2. ECHA - European Chemical Agency
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases
4. Safety Data Sheets from manufacturer
5. US EPA Title III List of Lists
6. California Proposition 65 List
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

Preparation Date (mm/dd/yyyy)

: 04/26/2018

Reviewed Date SDS (dd/mm/yyyy)

: 20/03/2024

Revision No.

: 3

Revision Information

: 1. IDENTIFICATION 5. FIRE-FIGHTING MEASURES 9. PHYSICAL AND CHEMICAL PROPERTIES 15. REGULATORY INFORMATION

Other special considerations for handling

: Provide adequate information, instruction and training for operators.



Comet Chemical Company Ltd.
3463 Thomas Street
Innisfill, ON, Canada, L9S 3W4
Telephone: (705) 436 5580

Triethanolamine 85%

SDS Revision Date (mm/dd/yyyy): 03/20/2024

Page 10 of 10

SAFETY DATA SHEET

<u>Prepared for:</u> Comet Chemical Company Ltd. 3463 Thomas Street Innisfill, ON L9S 3W4 Information (M-F 8:00-5:00): 705-436-5580 www.cometchemical.com	The logo for Comet Chemical Company Ltd. features a red circle with a white horizontal band across the middle. To the right of the circle, the word "COMET" is written in a large, bold, black sans-serif font. Below "COMET", the words "COMET CHEMICAL" and "COMPANY LTD." are stacked in a smaller, bold, black sans-serif font.
<u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	The logo for ICC The Compliance Center Inc. features a stylized "icc" in white lowercase letters inside a blue circle. To the right of the circle, the words "ComplianceCenter" are written in a bold, blue sans-serif font.

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Comet Chemical Company Ltd. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Comet Chemical Company Ltd. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Comet Chemical Company Ltd.

END OF DOCUMENT