


 National Petrochemical Company(NPC)	Material Safety Data Sheet (MSDS) According to the Directives 91/155/CEE-2001/58/CE-ISO 11014-1	Page: 1 of 7
	Product Name: <p style="text-align: center;">TEG Tri Ethylene Glycol</p>	Revision Number: 1  Reactivity Flammability Health

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/ UNDERTAKING

Identification of the substance or preparation:	TEG TRIETHYLENE GLYCOL
Country of origin:	Iran (Islamic Republic of Iran)
CAS Number:	112-27-6
Synonyms:	Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-; triglycol; ethylene glycol dihydroxy-diethyl ether
Company/undertaking identification:	National Petrochemical Company Iran Petrochemical Commercial Company (IPCC)
Manufacturer subcontractor:	None
Emergency phone number:	00982188881735
Contact email:	msds@petrochem-ir.net
Fax:	00982188839511
Association/Organization:	None
Use of the substance/Preparation:	Applications; Food, Drug and Cosmetic Formulations; Antifreeze for potable water systems in recreational vehicles and seasonal homes; Antifreeze for fire sprinkler systems.



2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous substances:	HARMFUL IF SWALLOWED CAN CAUSE LIVER AND KIDNEY DAMAGE IF SWALLOWED MAY CAUSE DIZZINESS AND DROWSINESS THIS PRODUCT IS NOT TO BE USED IN FOOD, DRUG, COSMETIC OR POTABLE WATER APPLICATIONS
Hazardous label(s):	No data available
Toxicological characteristics:	Oral rat LD50: 17 gm/kg; investigated as a reproductive effectors.
Substances present at a concentration below the minimum danger:	A lethal dose for an adult is 1-2 ml per kilogram, or about 4 ounces (one-half cup).
Other component:	FOR ETHYLENE GLYCOL POISONING intravenous ethanol is a recognized antidotal treatment ; other antidotal treatments also exist for EG poisoning.

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3. IDENTIFICATION OF HAZARDS

Risk phrases:	The risk and danger of this is greater than the risk of
Skin contact:	Poisoning through absorption of this product. Brief contact is not irritating. Prolonged contact, as with clothing wetted with material, may cause defatting of skin or irritation, seen as local redness with possible mild discomfort. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact; see other effects, below, and Section 11 for information regarding potential long term effects.
Eye contact:	May cause minimal irritation, experienced as temporary discomfort.
Inhalation :	Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness. Inhalation may cause dizziness, drowsiness, euphoria, loss of coordination, disorientation, headache, nausea, and vomiting. In poorly ventilated areas or confined spaces, unconsciousness and asphyxiation may result. Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material.
If swallowed:	Contains ethylene glycol and/or diethylene glycol, which are toxic when swallowed. A lethal dose for an adult is 1-2 ml per kilogram, or about 4 ounces (one-half cup). Symptoms include headache, weakness, confusion, dizziness, staggering, slurred speech, loss of coordination, faintness, nausea and vomiting, increased heart rate, decreased blood pressure, difficulty breathing and seeing, pulmonary edema, unconsciousness, convulsions, collapse, and coma. Symptoms may be delayed. Decreased urine output and kidney failure may also occur. Severe poisoning may cause death.
Other information:	None

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Reactivity					
Flammability					
Health					

4. FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor
NEVER induce swallowing in an unconscious person.

Skin contact :

Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

In case of exposure by inhalation:

If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.

In case of splashes or contact with eyes:

Flush eyes with plenty of water for several minutes. Get medical attention if eye irritation persists.

In case of swallowing:

Note of physician:

If person is conscious and can swallow, immediately give two glasses of water (16 oz.). Induce vomiting as directed by a physician. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.

5. FIRE FIGHTING MEASURES

Flammable class:

Lower: Not Determined

Upper: Not Determined

Suitable extinguishing media:

Use water spray, dry chemical, foam, or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing. Use water spray, dry chemical, foam, or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing.



Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:

Special protective equipment for fire fighting :

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

Other information:

None

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible.
Environmental precautions:	Prevent entry into sewers and waterways.
Methods for cleaning up and disposal:	Wipe up or absorb on suitable material and shovel up.
Other information:	None



7. HANDLING AND STORAGE

The regulations relating to storage premises apply to workshop where the product is handled:

Handling:	Minimum feasible handling temperatures should be maintained.
Storage:	Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.
Other information:	None

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values:	None established for product.
Exposure controls:	None
Personal protective equipment:	None
Eye protection:	Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.
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 or MSHA 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 contaminant or oxygen content is unknown.
Hand protection:	glove

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Skin and body protection:

Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.

Health measures:

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Environmental exposure controls:

Local exhaust ventilation recommended if generating vapor, dust, or mist. If exhaust ventilation is not available or inadequate, use MSHA or NIOSH approved respirator as appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information:

None

Appearance (at 20°C):

Colorless liquid

Colour:

Clear , yellow

Odour:

Mild odor

PH (at 20°C):

7

Boiling point/range (°C):

287.8°C (550 °F)

Flash point (°C):

177°C (350 °F)

Flammability:

1

Auto-ignition temperature:

371°C (700 °F)

Explosive properties:

Above the flash point, explosive vapor-air mixtures may be formed.

Oxidising properties:

strong oxidizing agents and hydroxyl compounds

Vapour pressure (at 20°C):

< .1 mmHg at 20 °C (68 °F)

Density (at 20°C):

1.1255

Solubility (at 20°C):

water solubility: >10

solubility in fats: None

Viscosity (40°C) :

43 cSt at 20° C (68° F)

Evaporation rate:

NA

Other information:

None

10. STABILITY AND REACTIVITY

Stability:

Stable under ordinary conditions of use and storage. Hygroscopic.

Conditions to avoid:



Heat, flames, ignition sources and incompatibles.

Material to avoid:

Strong oxidizers.

Hazardous decomposition products:

Carbon dioxide and carbon monoxide may form when heated to decomposition.

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11. TOXICOLOGICAL INFORMATION



Acute toxicity:	- LD ₅₀ , oral, rat (mg.kg ⁻¹): 17 gm/kg; investigated as a reproductive effector.
	- LD ₅₀ , oral, mouse (mg.kg ⁻¹):
	- LD ₅₀ , dermal (mg.kg ⁻¹): LD50 Believed to be > 2.00 g/kg (rabbit) practically non-toxic
Sub chronic – chronic toxicity:	NA
Sensibilization:	NA
Carcinogenicity:	NA
Reproductive effects:	experimental; reproductive toxin in rodents at high doses; no effect known in humans
Human experience:	NA
Other information:	None

12. ECOLOGICAL INFORMATION

Ecotoxicity:	This material is expected to be slightly toxic to aquatic life. The LC50/96-hour values for fish are between 10 and 100 mg/l.
Bioaccumulative potential:	NA
Mobility:	Not determined.
Persistence and degradability:	Not determined.
Other adverse effects:	None

13. DISPOSAL CONSIDERATIONS

Disposal of product:	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 user 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.
Disposal of packaging:	

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14. TRANSPORT INFORMATION

Land transport:	Not regulated
ADR/RID:	Not regulated
Packaging group:	Not regulated
Maritime transport:	Not regulated
Air transport:	Not regulated

15. REGULATORY INFORMATION

Hazardous label(s):	Acute X Chronic X Fire Pressure Reactive N/A
Safety phrases:	NA
Risk phrases:	NA

16. OTHER INFORMATION

None

The contents and format of this MSDS are in accordance with EEC Commission Directive 2001/58/EC

Disclaimer of liability:

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