



SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

American Torch Tip Company Phone: 800-342-8477 **Emergency Phone Numbers**

 6212 29th Street East
 Phone: 941-753-7557
 Company 941-753-7557 Normal Business Hours

 Bradenton, FL 34203
 Fax: 941-753-6917
 USA Chemtrec 800-424-9300 24 Hours

 U.S.A.
 www.americantorchtip.com
 International Chemtrec 703-527-3887

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Product From: Substance

Substance Name: ETHYLENE GLYCOL INDUSTRIAL

CAS No: 107-21-1 **Formula:** C2H6O2

Synonyms: 1,2-dihydroxyethane / 1,2-ethanediol / 1,2-ethylene glycol / 2-hydroxyethanol / antifreeze / COREXIT 2920 / dihydroxyethane

/ DOWTHERM SR1 / ECA6969 / EG (=ethylene glycol) / ethane-1,2-diol / ethylene alcohol / ethylene dihydrate / FRIDEX / glycohol alcohol / glycol alcohol / LUTROL-9 / MACROGOL 400BPC / MEG (=monoethylene glycol) / monoethylene

glycol / NA1142 / NORKOOL / RAMP / TESCOL / thermofluide UCAR17 / UCAR17 / ZEREX

BIG no: 14248

RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Use of the substance/mixture: Industrial Use.

Use of the substance/mixture: Solvent Fuel: additive Oil: additive Chemical raw material Anti-freezing agent

SECTION 2 - HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE: GHS-US classification

Acute Tox. 4 (Oral) H302 - Harmful if swallowed Eye Irrit. 2B H320 - Causes eye irritation

STOT SE 2 H371 - May cause damage to organs (central nervous system, kidneys)

STOT RE 2 H373 - May cause damage to organs (central nervous system, kidneys, liver) through prolonged or repeated exposure

Full text of H-phrases: see section 16

2.2 LABEL ELEMENTS: GHS-US Labeling

Hazard pictograms (GHS-US)



GHS08

Signal word (GHS-US) Warning

Hazard statements (GHS-US) H302 - Harmful if swallowed

H320 - Causes eye irritation H371 - May cause damage to organs (central nervous system, kidneys)

H373 - May cause damage to organs (central nervous system, kidneys, liver) through prolonged or

repeated exposure

Precautionary statements (GHS-US) P260 - Do not breathe mist, vapors

P264 - Wash hands thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301+P312 - If swallowed: Call a POISON CENTER or doctor/physician if you feel unwell

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

P330 - Rinse mouth

P337+P313 - If eye irritation persists: Get medical advice/attention

P405 - Store locked up

P501 - Dispose of contents/container in accordance with local, regional, national, and/or

international regulations.

SECTION 2 - HAZARDS IDENTIFICATION continued

2.3 OTHER HAZARDS

Other hazards not contributing to the classification

No additional information available.

2.4 UNKNOWN ACUTE TOXICITY (GHS US)

Not applicable

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 SUBSTANCE

Name	Product Identifier	%	GHS-US classification
Ethylene Glycol (Main constituent)	(CAS No) 107-21-1	<= 100	Acute Tox. 4 (Oral), H302 Eye Irrit. 2B, H320 STOT SE 2, H371 STOT RE 2, H373

Full text of H-phrases: see section 16

3.2 MIXTURE

Not applicable

SECTION 4 - FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/ aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation....... Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact Rinse with water. Soap may be used. Remove clothing before washing. Take victim to a doctor if irritation persists.

First-aid measures after eye contact Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion......... Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Victim is fully conscious: immediately induce vomiting. Induce vomiting by giving a 0.9 % saline solution. Give activated charcoal. Consult a doctor/medical service if you feel unwell. Call Poison Center. Ingestion of large quantities: immediately.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Symptoms/injuries after inhalation....... EXPOSURE TO HIGH CONCENTRATIONS: Irritation of the respiratory tract. Dry/sore throat. Irritation of the nasal mucous membranes.

Symptoms/injuries after eye contact ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue. Redness of the eye

tissue. Lacrimation.

Symptoms/injuries after ingestion........ AFTER ABSORPTION OF HIGH QUANTITIES: Feeling of weakness. Central nervous system depression.

Nausea. Vomiting. Gastrointestinal complaints. Difficulty in swallowing. Headache. Dizziness. Narcosis. Drunkenness. Disturbed tactile sensibility. Disturbed motor response. Visual disturbances. Disturbances of consciousness. Brain affection. Accelerated heart action. Low arterial pressure. Change in the haemogramme/blood composition. Rapid respiration. Cramps/uncontrolled muscular contractions. FOLLOWING SYMPTOMS MAY APPEAR LATER: Blue/grey discoloration of the skin. Decreased renal

function. Change in urine composition. Change in urine output.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically.

SECTION 5 - FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

Unsuitable extinguishing media................ Container may slop over if solid jet (water/foam) is applied.

SECTION 5 - FIREFIGHTING MEASURES continued		
5.2 SPECIAL HAZARDS ARISIN	NG FROM THE SUBSTANCE OR MIXTURE	
Fire hazard	DIRECT FIRE HAZARD. Combustible. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard. Reactions involving a fire hazard: see "Reactivity Hazard".	
Explosion hazard	INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".	
Reactivity	Reacts on exposure to water and heat with (some) metals. Reacts on exposure to temperature rise with (some) bases. Upon combustion: CO and CO2 are formed. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.	
5.3 ADVICE FOR FIREFIGHTER	RS	
Precautionary measures fire	Exposure to fire/heat: keep upwind. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighborhood close doors and windows.	
Firefighting instructions		
Protection during firefighting	Heat/fire exposure: compressed air/oxygen apparatus.	

	SECTION 6 - ACCIDENTAL RELEASE MEASURES
6.1 PERSONAL PRECAUTIONS, PF	ROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES
General measures	Avoid all eye and skin contact and do not breathe vapour and mist.
6.1.1 FOR NON-EMERGENCY PERSONI	NEL
Protective equipment	Gloves. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus. See "Material-Handling" to select protective clothing.
Emergency procedures	Mark the danger area. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation.
6.1.2 FOR EMERGENCY RESPONDERS	
Protective equipment	Do not attempt to take action without suitable protective equipment. Wear suitable gloves. For further information refer to section 8 Exposure controls/personal protection" ".
Emergency procedures	Stop leak if safe to do so. Ventilate area.
6.2 ENVIRONMENTAL PRECAUTIO	NS
Avoid release to the environment.	
6.3 METHODS AND MATERIAL FO	R CONTAINMENT AND CLEANING UP
For containment	Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply.
Methods for cleaning up	Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite or powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
Other information	Dispose of materials or solid residues at an authorized site.

	SECTION 7 - HANDLING AND STORAGE		
7.1 PRECAUTIONS FOR SAFE HAN	IDLING		
Precautions for safe handling	Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Use earthed equipment. Keep away from naked flames/heat. Finely divided: spark- and explosion-proof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.		
Hygiene measures	Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work Do not eat, drink or smoke when using this product. Always wash hands after handling the product.		
7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES			
Storage conditions	Do not store near food, foodstuffs, drugs, or potable water supplies. Store locked up. Store in a well-ventilated place. Keep cool.		

6.4 REFERENCE TO OTHER SECTIONS

For further information refer to section 8 : Exposure-controls/personal protection"".

Incompatible products...... Strong bases. strong acids. Strong oxidizers.

	SECTION 7 - HANDLING AND STORAGE continued	
7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES		
Heat-ignition	KEEP SUBSTANCE AWAY FROM: heat sources.	
Prohibitions on mixed storage	KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) acids. (strong) bases. water/moisture.	
Storage area	Store in a dry area. Ventilation at floor level. Fireproof storeroom. Keep locked up. Under a shelter/in the open. Underground. May be stored under nitrogen. Meet the legal requirements.	
Special rules on packaging	SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packaging in solid containers.	
Packaging materials	SUITABLE MATERIAL: stainless steel, carbon steel, steel with plastic inner lining, glass.	

SECTION 8 - COMPOSITION/INFORMATION ON INGREDIENTS

8.1 CONTROL PARAMETERS

Ethylene Glycol (107-21-1)				
ACGIH	ACGIH TWA (mg/m³)	10 mg/m ³		
ACGIH	ACGIH Ceiling (mg/m³)	100 mg/m³ (Ethylene glycol; USA; Momentary value; TLV - Adopted Value)		
ACGIH	ACGIH Ceiling (ppm)	39.4 ppm		
ACGIH	Remark (ACGIH)	URT & eye irr		
OSHA	Remark (OSHA)	Not applicable		

8.2 EXPOSURE CONTROLS

Appropriate engineering controls........... Avoid creating mist or spray. Either local exhaust or general room ventilation is usually required. Ensure good ventilation of the work station. Personal protective equipment...... Avoid all unnecessary exposure.

PVC. tetrafluoroethylene. viton. polyethylene/ethylene vinyl alcohol. GIVE GOOD RESISTANCE:

chlorinated polyethylene. polyurethane. PVA.

Hand protection......Gloves.

Skin and body protection...... Protective clothing.

Environmental exposure controls...... Avoid release to the environment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical state	. Liquid
Appearance	. Liquid.
Color	. Colourless
Odor	. Almost odourless
Odor threshold	No data available
pH	. 9
Melting point	13 °C
Freezing point	11.2 °C
Boiling point	. 197 °C
Critical temperature	.372 °C
Flash point	.111 °C
Relative evaporation rate (butyl acetate=1)	0.01
Flammability (solid, gas)	. No data available

Explosion limits..... 3 - 15 vol % Explosive properties...... No data available

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES continued

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Oxidizing propertiesNo data availableVapor pressure0.07 hPa (20 °C)Vapor pressure at 50 °C1.1 hPa (50 °C)Relative density1.1

Relative vapor density at 20 °C2.1

Soluble in pyridine. Water: Complete Ethanol: Complete Acetone: Complete

Log Pow-1.34 (Experimental value)

9.2 OTHER INFORMATION

SECTION 10 - STABILITY AND REACTIVITY

10.1 REACTIVITY

Reacts on exposure to water and heat with (some) metals. Reacts on exposure to temperature rise with (some) bases. Upon combustion: CO and CO2 are formed. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids.

10.2 CHEMICAL STABILITY

Hygroscopic.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous polymerization will not occur.

10.4 CONDITIONS TO AVOID

Heat.

10.5 INCOMPATIBLE MATERIALS

Strong bases. Strong acids, and oxidizers.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Aldehydes. Organic acids. Ketones.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity Oral: Harmful if swallowed.

Ethylene Glycol (107-21-1)		
LD50 oral rat	>5000 mg/kg (Rat; Literature study)	
LD50 dermal rat	>mg/kg	
ATE US (oral)	500.000 mg/kg body weight	

SECTION 11 - TOXICOLOGICAL INFORMATION continued		
Skin corrosion/irritation Not classified		
pH: 9		
Serious eye damage/irritation Causes eye irritation.		
pH: 9		
Respiratory or skin sensitization Not classified		
Germ cell mutagenicity Not classified		
CarcinogenicityNot classified		
Reproductive toxicity Not classified		
Specific target organ toxicity (single exposure)		
Specific target organ toxicity (repeated exposure) May cause damage to organs (central nervous system, kidneys, liver) through prolonged or		
repeated exposure (oral).		
Aspiration hazard Not classified		
Symptoms/injuries after inhalation EXPOSURE TO HIGH CONCENTRATIONS: Irritation of the respiratory tract. Dry/sore throat. Irritation of the nasal mucous membranes.		
Symptoms/injuries after eye contact ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue. Redness of the eye tissue. Lacrimation.		
Symptoms/injuries after ingestion AFTER ABSORPTION OF HIGH QUANTITIES: Feeling of weakness. Central nervous system depression. Nausea. Vomiting. Gastrointestinal complaints. Difficulty in swallowing. Headache. Dizziness. Narcosis. Drunkenness. Disturbed tactile sensibility. Disturbed motor response. Visual disturbances. Disturbances of consciousness. Brain affection. Accelerated heart action. Low arterial pressure. Change in the haemogramme/blood composition. Rapid respiration. Cramps/uncontrolled muscular contractions. FOLLOWING SYMPTOMS MAY APPEAR LATER: Blue/grey discoloration of the skin. Decreased renal function. Change in urine composition. Change in urine output.		

SECTION 12 - ECOLOGICAL INFORMATION

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Ecology - general Classification concerning the environment: not applicable.

mg/l). Not harmful to invertebrates (Daphnia) (EC50 > 1000 mg/l). Not harmful to algae(EC50 > 1000 mg/l). Not harmful to bacteria (EC50 > 1000 mg/l). Inhibition of activated sludge.

Ethylene Glycol (107-21-1)		
LC50 fish 1	Pimephales promelas	
EC50 Daphnia 1	>10000 mg/l (EC50; 24 h)	
LC50 fish 2	40761 mg/l (LC50; 96 h; Salmo gairdneri)	
NOEC (chronic)	15380 mg/l chronic fish / Pimephales promelas	
NOEC chronic crustacea	8590 mg/l	
NOEC (additional information)	8590 mg/l chronic crustacea / Ceriodaphnia sp.	

12.2 PERSISTENCE AND DEGRADABILITY

Ethylene Glycol (107-21-1)	
Persistence and degradabilit	Readily biodegradable in water. Biodegradable in the soil.
Biochemical oxygen demand (BOD)	0.47 g O ₂ /g substance
Chemical oxygen demand (COD)	1.24 g O ₂ /g substance
ThOD	1.29 g O ₂ /g substance
BOD (% of ThOD)	0.36

12.3 BIOACCUMULATIVE POTENTIAL

Ethylene Glycol (107-21-1)		
BCF fish 1	10 (BCF; 72 h)	
BCF other aquatic organisms 1	0.21 - 0.6 (BCF)	
BCF other aquatic organisms 2	190 (BCF; 24 h)	
Log Pow	-1.34 (Experimental value)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).	

SECTION 12 - ECOLOGICAL INFORMATION continued

12.4 MOBILITY IN SOIL

Ethylene Glycol (107-21-1)

0.048 N/m (20 °C) Surface tension

12.5 OTHER ADVERSE EFFECTS

No additional information available

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Sewage disposal recommendations Do not dispose of waste into sewer.

Waste disposal recommendations Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be

mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Do not discharge into surface water. Obtain the consent of pollution control authorities before discharging to

wastewater treatment plants.

Additional informationLWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC.

SECTION 14 - TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (DOT)

In accordance with DOT

Transport document description UN3082 Environmentally hazardous substances, liquid, n.o.s.(ethylene glycol), 9, III

UN-No.(DOT) UN3082

Proper Shipping Name (DOT) Environmentally hazardous substances, liquid, n.o.s. (ethylene glycol)



Packing group (DOT)..... III - Minor Danger

DOT Packaging Non Bulk (49 CFR 173.xxx)... 203

DOT Packaging Bulk (49 CFR 173.xxx).......... 241

DOT Special Provisions (49 CFR 172.102)......8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies. 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination. 173 - An appropriate generic entry may be used for this material. 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP29 - A portable tank having a minimum test pressure of 1.5 bar (150.0 kPa) may be used provided the calculated test pressure is 1.5 bar or less based on the MAWP of the hazardous materials, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

SECTION 14 - TRANSPORT INFORMATION continued

DEPARTMENT OF TRANSPORTATION (DOT)

DOT Packaging Exceptions (49 CFR 173.xxx)......155.

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)......No limit

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)No limit

DOT Vessel Stowage LocationA - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

TDG

No additional information available

TRANSPORT BY SEA

No additional information available

AIR TRANSPORT

No additional information available

SECTION 15 - REGULATORY INFORMATION

15.1 US FEDERAL REGULATIONS

Ethylene Glycol (107-21-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)

EPA TSCA Regulatory Flag T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.

RQ (Reportable quantity, section 304 of EPA's List of Lists) 5000 lb

15.2 INTERNATIONAL REGULATIONS

CANADA

No additional information available

EU-REGULATIONS

No additional information available

NATIONAL REGULATIONS

No additional information available

15.3 US STATE REGULATIONS

Ethylene Glycol (107-21-1)	
State or local regulations	U.S Massachusetts - Right To Know List U.S New Jersey - Right to Know Hazardous Substance List U.S Pennsylvania - RTK (Right to Know) List

SECTION 16 - OTHER INFORMATION

Revision Date10/15/2015

Full text of H-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4	
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B	
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2	
STOT SE 2	Specific target organ toxicity (single exposure) Category 2	
H302	Harmful if swallowed	
H320	Causes eye irritation	
H371	May cause damage to organs	
H373	May cause damage to organs through prolonged or repeated exposure	

SECTION 16 - OTHER INFORMATION continued			
NFPA health hazard2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.			
NFPA fire hazard1 - Must be preheated before ignition can occur.			
NFPA reactivity	0 0		