

**Section 1: Identification**


**PRODUCT IDENTIFIER:** Ethylene Glycol + Citric Acid

**CHEMICAL FAMILY:** Lubricant

**EMERGENCY PHONE:** CHEMTREC 800-424-9300 (US) Day or night  
Customer No. 16568

**MANUFACTURER:** PACE Technologies  
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Tucson, Arizona USA  
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**Section 2: Hazard(s) Identification**

<b>GHS CLASIFICATION:</b>	Acute Oral Toxicity (Category 4) – H302 Serious eye damage/eye irritation (Category 2A) – H319 Specific target organ toxicity - repeated exposure, Oral (Category 2) – H373
<b>PICTOGRAM(s):</b>	
<b>SIGNAL WORD:</b>	Warning
<b>HAZARD STATEMENTS:</b>	<b>Hazard Statement(s):</b> H302- Harmful if swallowed H319- Causes serious eye irritation H373- Causes damage to organs through prolonged or repeated exposure
<b>PRECAUTIONARY STATEMENTS:</b>	<b>Precautionary Statement(s):</b> <b>Preventions:</b> P260- Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. P264- Wash skin thoroughly after handling. P270- Do not eat, drink or smoke when using this product. P280- Wear protective gloves/protective clothing/eye protection/face protection.  <b>Response:</b> P301+312- 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.

<b>Storage:</b> No storage statements.
<b>Disposal:</b> P501- Dispose of contents/container to Federal, State and Local Regulations.

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### Section 3: Composition/Information on Ingredients

#### HAZARD INGREDIENTS

CHEMICAL	CAS NUMBER	% PRESENT
PRODUCT COMPOSITION PROPRIETARY		
Ethylene glycol	107-21-1	95-99%
Citric acid	77-92-9	0.1-1%

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### Section 4: First-Aid Measures

**General Advice:**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**Inhalation:**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

Wash off with soap and plenty of water. Consult a physician.

**Eye Contact:**

Flush eyes with water as a precaution..

**If Swallowed:**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

**Indication of any immediate medical attention and special treatment needed**

No data available

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## Section 5: Fire-Fighting Measures

### Fire Extinguishing Media:

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

#### Special hazards arising from the substance or mixture

Carbon oxides

#### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### Further information

No data available

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## Section 6: Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## Section 7: Handling and Storage

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

### Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Hygroscopic.

Storage class (TRGS 510): Combustible liquids

### Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

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## Section 8: Exposure Controls/ Personal Protection

### Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL): 50 ppm Ceiling -ACGIH Threshold Limit Value (TLV): 50 ppm Ceiling (vapor)

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## Section 9: Physical and Chemical Properties

<b>BOILING POINT:</b>	> 195°C (est)
<b>MELTING POINT:</b>	< 0°C
<b>SPECIFIC GRAVITY (H2O = 1)</b>	1.1-1.2
<b>% VOLATILES BY VOLUME</b>	80-90%
<b>APPEARANCE AND ODOR</b>	Clear, colorless liquid, mild odor.
<b>SOLUBILITY IN WATER (% BY VOLUME)</b>	Soluble
<b>EVAPORATION RATE (BUTYL ACETATE = 1)</b>	<1
<b>VAPOR PRESSURE @ 20 C</b>	0.05 mmHg (ethylene glycol)
<b>VAPOR DENSITY</b>	2.14 (ethylene glycol)
<b>pH (concentration, unless specified)</b>	8-10

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## Section 10: Stability and Reactivity

### Reactivity

No data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

No data available

### Incompatible materials

Strong acids, Strong oxidizing agents, Strong bases, Aldehydes, Aluminum

### Hazardous decomposition products

In the event of fire: see section 5

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## Section 11: Toxicological Information

### Information on toxicological effects

#### Ethylene Glycol

##### Acute toxicity

LD50 Oral - Rat - 4,700 mg/kg

Inhalation: No data available

LD50 Dermal - Rabbit - 10,626 mg/kg

No data available

**Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Mild eye irritation - 24 h

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

This product is or contains a component that is probably not carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

Laboratory experiments have shown teratogenic effects. Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

Oral - May cause damage to organs through prolonged or repeated exposure. – Kidney

**Aspiration hazard**

No data available

**Additional Information**

RTECS: KW2975000

When ingested early symptoms mimic alcohol inebriation and are followed by nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular collapse, pulmonary edema, hypocalcemic tetany, and severe metabolic acidosis. Without treatment, death may occur in 8 to 24 hours. Victims who survive the initial toxicity period usually develop renal failure along with brain and liver damage., Exposure to and/or consumption of alcohol may increase toxic effects.

Central nervous system - Irregularities - Based on Human Evidence

Central nervous system - Irregularities - Based on Human Evidence

**Citric Acid**

**Acute toxicity**

LD50 Oral - Rat - 5,400 mg/kg  
(OECD Test Guideline 401)

Inhalation: No data available

LD50 Dermal - Rat - > 2,000 mg/kg  
(OECD Test Guideline 402)  
No data available

**Skin corrosion/irritation**

Skin - Rabbit  
Result: Mild skin irritation  
(OECD Test Guideline 404)

**Serious eye damage/eye irritation**

Eyes - Rabbit  
Result: Irritating to eyes.  
(OECD Test Guideline 405)

**Respiratory or skin sensitisation**

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

No data available  
No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: GE7350000

Vomiting, Diarrhoea, Damage to tooth enamel., Dermatitis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Section 12: Ecological Information**

<b>Toxicity:</b> (ethylene glycol) Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 18,500 mg/l - 96 h LC50 - Leuciscus idus (Golden orfe) - > 10,000 mg/l - 48 h
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	NOEC - Pimephales promelas (fathead minnow) - 32,000 mg/l - 7 d NOEC - Pimephales promelas (fathead minnow) - 39,140 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates (ethylene glycol)	EC50 - Daphnia magna (Water flea) - 74,000 mg/l - 24 h NOEC - Daphnia (water flea) - 24,000 mg/l - 48 h LC50 - Daphnia magna (Water flea) - 41,000 mg/l - 48 h
<b>Toxicity:</b> (citric acid) Toxicity to fish	mortality LC50 - Leuciscus idus melanotus - 440 mg/l - 48 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates (citric acid)	static test - Daphnia magna (Water flea) - 1,535 mg/l - 24 h

**Persistence and degradability**

No data available  
Ratio BOD/ThBOD 0.78 %

**Bioaccumulative potential**

Does not bioaccumulate.  
Bioaccumulation other fish - 61 d - 50 mg/l  
Bioconcentration factor (BCF): 0.60

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects**

No data available

**Section 13: Disposal Considerations**

**Waste treatment methods**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

**Section 14: Transportation Information**

**DOT (CFR49):**

NOT REGULATED.



**IATA (air):** NOT REGULATED.

**IMDG (ocean):** NOT REGULATED.

**HAZARD CLASSIFICATION:** NON-HAZARDOUS.

**PACKING GROUP:** NOT REGULATED.

**UN/NA CODE:** NOT REGULATED.

## Section 15: Regulatory Information

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

### Federal Regulatory Status

#### Notification Status

AICS	Listed.	
DSL	Listed	
INV (CN)	Listed.	
ENCS (JP)	Listed.	(2)-230
TSCA	Listed.	
EINECS	Listed	203-473-3
KECI (KR)	Listed	KE-13169
PICCS (PH)	Listed	

#### Comprehensive Environmental Release, Compensation & Liability Act (CERCLA)

EG industrial grade (107-21-1)	Reportable quantity: 5,000 lbs
Ethylene Glycol (107-21-1)	Reportable quantity: 5,000 lbs

#### SARA Hazard Categories (311/312)

Immediate (Acute) Health Hazard.

#### SARA Toxic Release Inventory (TRI) (313)

Ethylene Glycol (107-21-1)	95%
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### State Regulatory Status

#### California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

#### New Jersey Right-To-Know Chemical List

Ethylene Glycol (107-21-1) 100%	Listed.
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**Pennsylvania Right-To-Know Chemical List**

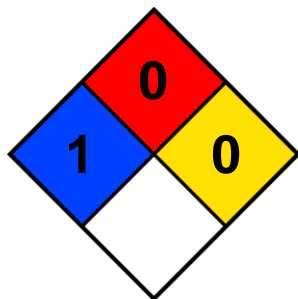
Ethylene Glycol (107-21-1) 95%  
Diethylene Glycol (111-46-6) 1.00%

Environmental hazard.  
Listed.  
Listed.

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**Section 16: Other Information**

**16.1 NFPA 704**



**Top, Flammability: 0 – Minimal Hazard**

**Left, Health Hazard: 1 – Slight Hazard**

**Right, Reactivity: 0 – Minimal Hazard**

**Bottom, Special Notice: N/A**

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