

Section 1: Identification


PRODUCT IDENTIFIER: Ethylene Glycol + Citric Acid

CHEMICAL FAMILY: Lubricant

EMERGENCY PHONE: CHEMTREC 800-424-9300 (US) Day or night International call collect CHEMTREC 202-483-7616 Customer No. 16568

MANUFACTURER: PACE Technologies
3601 E. 34th St., Tucson, AZ 85718
Tucson, Arizona USA
Phone: +1 520-882-6598
FAX: +1 520-882-6598

Section 2: Hazard(s) Identification

GHS CLASIFICATION:	Acute Oral Toxicity (Category 4) – H302 Serious eye damage/eye irritation (Category 2A) – H319 Specific target organ toxicity - repeated exposure, Oral (Category 2) – H373
PICTOGRAM(s):	
SIGNAL WORD:	Warning
HAZARD STATEMENTS:	Hazard Statement(s): H302- Harmful if swallowed H319- Causes serious eye irritation H373- Causes damage to organs through prolonged or repeated exposure
PRECAUTIONARY STATEMENTS:	Precautionary Statement(s): Preventions: 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. Response: 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.

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

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%

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

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

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.

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

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.

Section 9: Physical and Chemical Properties

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

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

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

Toxicity: (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
Toxicity: (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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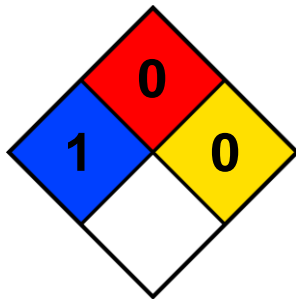
Pennsylvania Right-To-Know Chemical List

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

Environmental hazard.
Listed.
Listed.

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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