

## 1. Identification

**Product identifier** EP™ 2000 Flow Improver  
**Other means of identification** None.  
**Recommended use** Flow Improver.  
**Recommended restrictions** Other uses are not recommended unless an assessment demonstrates potential exposures will be controlled.

### Manufacturer/Importer/Supplier/Distributor information

**Manufacturer** LiquidPower Specialty Products Inc.  
**Address** 2103 CityWest Blvd.  
 Suite 1400  
 Houston, TX 77042  
**Telephone** 1.713.339.8703 or 1.800.897.2774  
**e-mail** SDS@LiquidPower.com  
**Website** www.LiquidPower.com  
**Emergency telephone** +1 703.527.3887  
 +1 800.424.9300

## 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Specific target organ toxicity, repeated exposure Category 2 (kidneys)  
**Environmental hazards** Hazardous to the aquatic environment, long-term hazard Category 3  
**OSHA defined hazards** Not classified.  
**Label elements**



**Signal word** Warning  
**Hazard statement** May cause damage to organs (kidneys) through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.  
**Precautionary statement**  
**Prevention** Do not breathe mist or vapor. Avoid release to the environment.  
**Response** Get medical advice/attention if you feel unwell.  
**Storage** Store away from incompatible materials.  
**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.  
**Hazard(s) not otherwise classified (HNOC)** None known.  
**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	CAS number	%
Ethylene glycol	107-21-1	10 - 30
C11-C15 Hydrocarbon Solvent*	Proprietary*	<10

## Surfactant

Chemical name	Common name and synonyms	CAS number	%
Alcohols, C12 - C14 secondary, ethoxylated		84133-50-6	1- 5
Alcohol Ethoxylate*		Proprietary*	1- 5

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

**Composition comments** Total alcohol ethoxylate concentration <6%.  
All concentrations are in percent by weight. Components not listed are either non-hazardous or are below reportable limits.

## 4. First-aid measures

**Inhalation** Get medical attention if discomfort persists.  
**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.  
**Eye contact** Flush thoroughly with water. If irritation occurs, get medical assistance.  
**Ingestion** Rinse mouth. Get medical attention if symptoms occur.  
**Most important symptoms/effects, acute and delayed** Direct contact with eyes may cause temporary irritation. Prolonged exposure may cause chronic effects.  
**Indication of immediate medical attention and special treatment needed** Treat symptomatically. Symptoms may be delayed.  
**General information** If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

**Suitable extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).  
**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.  
**Specific hazards arising from the chemical** During fire, gases hazardous to health may be formed.  
**Special protective equipment and precautions for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.  
**Fire fighting equipment/instructions** Move containers from fire area if you can do so without risk.  
**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.  
**General fire hazards** No unusual fire or explosion hazards noted.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.  
**Methods and materials for containment and cleaning up** Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.  
Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.  
Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.  
**Environmental precautions** Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling** Do not breathe mist or vapor. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities** Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
C11-C15 Hydrocarbon Solvent*	TWA	200 mg/m <sup>3</sup>	Non-aerosol.
Ethylene glycol (CAS 107-21-1)	STEL	10 mg/m <sup>3</sup>	Aerosol, inhalable.
		50 ppm	Vapor fraction
	TWA	25 ppm	Vapor fraction

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
C11-C15 Hydrocarbon Solvent*	TWA	100 mg/m <sup>3</sup>

**Biological limit values** No biological exposure limits noted for the ingredient(s).

### Exposure guidelines

#### US ACGIH Threshold Limit Values: Skin designation

C11-C15 Hydrocarbon Solvent\* (CAS Proprietary\*) Danger of cutaneous absorption

**Appropriate engineering controls** Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields (or goggles).

#### Skin protection

**Hand protection** Wear appropriate chemical resistant gloves.

#### Skin protection

**Other** Normal work clothing (long sleeved shirts and long pants) is recommended.

**Respiratory protection** In case of accident and/or inadequate ventilation, use respiratory protection with organic vapor cartridge.

**Thermal hazards** Not applicable.

**General hygiene considerations** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

**Physical state** Liquid.

**Form** Liquid.

**Color** White.

**Odor** Mild petroleum odor.

**Odor threshold** No data available.

**pH** 6 - 9

**Melting point/freezing point** -9 °F (-22.78 °C)

**Initial boiling point and boiling range** 222 °F (105.56 °C)

**Flash point** > 200 °F (> 93.33 °C) Pensky-Martens Closed Cup ASTM D93, EPA 1010

**Evaporation rate** Same as water.

**Flammability (solid, gas)** Not applicable.

### Upper/lower flammability or explosive limits

**Explosive limit - lower (%)** No data available.

<b>Explosive limit - upper (%)</b>	No data available.
<b>Vapor pressure</b>	24 mm Hg @ 100°F / 37.8°C (estimate)
<b>Vapor density</b>	< 1
<b>Relative density</b>	0.97 - 1.03 (25°C / 77°F)
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Disperses completely.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	No data available.
<b>Decomposition temperature</b>	No data available.
<b>Viscosity</b>	85 cP @ 511s-1 @ 77°F (Non-newtonian).
<b>Other information</b>	
<b>Bulk density</b>	Not determined.
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>Particle size</b>	Not applicable.
<b>Percent volatile</b>	No data available.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	No adverse effects due to inhalation are expected.
<b>Skin contact</b>	Prolonged skin contact may cause temporary irritation.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	Under normal conditions of intended use, this material does not pose a risk to health. However: Ingestion of ethylene glycol may result in nausea, vomiting, abdominal cramps, blindness, liver damage, irritation, reproductive effects, nerve damage, convulsions, edema of the lung, cardiopulmonary effects (metabolic acidosis), pneumonia and kidney failure which could result in death. The single lethal dose of ethylene glycol for humans is about 100 ml. Inhalation of high levels of vapors or mists for prolonged periods of time may also result in toxic effects.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation.

### Information on toxicological effects

**Acute toxicity** May be harmful if swallowed.

<b>Components</b>	<b>Species</b>	<b>Test Results</b>
-------------------	----------------	---------------------

Ethylene glycol (CAS 107-21-1)

#### Acute

#### **Dermal**

LD50	Rabbit	9530 mg/kg
------	--------	------------

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

## Respiratory or skin sensitization

**Respiratory sensitization** No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).

**Skin sensitization** No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).

**Germ cell mutagenicity** No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).

**Carcinogenicity** No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).

### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

### NTP Report on Carcinogens

Not listed.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

**Reproductive toxicity** No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).

**Specific target organ toxicity - single exposure** No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).

**Specific target organ toxicity - repeated exposure** May cause damage to organs (kidneys) through prolonged or repeated exposure.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged exposure may cause chronic effects.

**Further information** Ingestion of ethylene glycol may result in nausea, vomiting, abdominal cramps, blindness, liver damage, irritation, reproductive effects, nerve damage, convulsions, edema of the lung, cardiopulmonary effects (metabolic acidosis), pneumonia and kidney failure which could result in death. The single lethal dose for humans is about 100 ml. Inhalation of high levels of vapors or mists for prolonged periods of time may also result in toxic effects.

## 12. Ecological information

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
Ethylene glycol (CAS 107-21-1)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Ceriodaphnia dubia	10000 mg/l, 48 Hours
Fish	LC50	Oncorhynchus mykiss	24591 mg/l, 96 Hours
<i>Chronic</i>			
Crustacea	NOEC	Ceriodaphnia dubia	3469 mg/l, 7 days
Fish	NOEC	Oncorhynchus mykiss	14692 mg/l, 12 days

**Persistence and degradability** Not expected to persist in the environment if spilled or released.

**Bioaccumulative potential** The product is not expected to bioaccumulate.

### Partition coefficient n-octanol / water (log Kow)

Ethylene glycol (CAS 107-21-1) -1.36

**Mobility in soil** Expected to have low mobility in soil and sediments with adsorption being the predominant physical process.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. Waste material from this product should not be exposed to waste streams or sumps containing any concentration of hydrocarbon. This will cause formation of gelled substances that may plug pipes.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

<b>DOT</b>	Not regulated as dangerous goods.
<b>DOT BULK</b>	
<b>BULK</b>	
<b>UN number</b>	NA3082
<b>UN proper shipping name</b>	Other regulated substances, liquid, n.o.s. (Ethylene glycol RQ = 5000 lbs)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Label(s)</b>	9
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Special provisions</b>	IB3, T2, TP1
<b>Packaging exceptions</b>	155
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	241
<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	Not regulated as dangerous goods.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not established.

### 15. Regulatory information

<b>US federal regulations</b>	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
<b>TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)</b>	Not regulated.
<b>CERCLA Hazardous Substance List (40 CFR 302.4)</b>	
C11-C15 Hydrocarbon Solvent* (CAS Proprietary*)	Listed.
Ethylene glycol (CAS 107-21-1)	Listed.
<b>SARA 304 Emergency release notification</b>	Not regulated.
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b>	Not listed.
<b>Toxic Substances Control Act (TSCA)</b>	All components are listed on or exempt from the U.S. EPA TSCA Inventory List.

## Superfund Amendments and Reauthorization Act of 1986 (SARA)

### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Specific target organ toxicity (single or repeated exposure)

### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Ethylene glycol	107-21-1	10 - 30

## Other federal regulations

### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Ethylene glycol (CAS 107-21-1)

### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

## US state regulations

### US. Massachusetts RTK - Substance List

C11-C15 Hydrocarbon Solvent\* (CAS Proprietary\*)

Ethylene glycol (CAS 107-21-1)

### US. New Jersey Worker and Community Right-to-Know Act

C11-C15 Hydrocarbon Solvent\* (CAS Proprietary\*)

Ethylene glycol (CAS 107-21-1)

### US. Pennsylvania Worker and Community Right-to-Know Law

C11-C15 Hydrocarbon Solvent\* (CAS Proprietary\*)

Ethylene glycol (CAS 107-21-1)

### US. Rhode Island RTK

C11-C15 Hydrocarbon Solvent\* (CAS Proprietary\*)

Ethylene glycol (CAS 107-21-1)

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

<b>Issue date</b>	25-April-2017
<b>Revision date</b>	29-March-2023
<b>Version #</b>	10
<b>Further information</b>	NFPA Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**NFPA ratings****List of abbreviations**

LD50: Lethal Dose, 50%.  
LC50: Lethal Concentration, 50%.  
EC50: Effective Concentration, 50%.  
NOEC: No observed effect concentration.

**References**

HSDB® - Hazardous Substances Data Bank  
IARC Monographs. Overall Evaluation of Carcinogenicity

**Disclaimer**

LiquidPower Specialty Products Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.