

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

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2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Specific target organ toxicity following repeated exposure Category 2 (Kidney)
Environmental hazards Hazardous to the aquatic environment, long-term hazard Category 3

Label elements



Signal word Warning
Hazard statement May cause damage to organs (Kidney) through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.
Precautionary statements
Prevention Do not breathe mist or vapour. 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.
Other hazards 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 1*	Proprietary*	3-7
C11-C15 Hydrocarbon Solvent 2*	Proprietary*	3-7

Sodium lauryl sulfate	151-21-3	0.5-1.5
Alcohols, C12 - C14 secondary, ethoxylated	84133-50-6	1-5
Alcohol Ethoxylate 1*	Proprietary*	1-5
Alcohol Ethoxylate 2*	Proprietary*	1-5

Composition comments

Total hydrocarbon solvents concentration <7%.
Total alcohol ethoxylates concentration <6%.

All concentrations are in percent by weight. Components not listed are either non-hazardous or are below reportable limits. *See Section 15 for HMIRA status.

4. First-aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

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

Provide general supportive measures and treat symptomatically. Keep victim under observation. 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 (CO2).

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 the mist or vapour. 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

This product is miscible in water. Prevent product from entering drains.

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 vapour. 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 (CAS Proprietary)	TWA	200 mg/m ³	Non-aerosol.
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m ³	Aerosol

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
C11-C15 Hydrocarbon Solvent (CAS Proprietary)	TWA	200 mg/m ³	Vapour.
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m ³	

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
C11-C15 Hydrocarbon Solvent (CAS Proprietary)	TWA	200 mg/m ³	Non-aerosol.
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m ³	Aerosol
	STEL	50 ppm	Vapour.
	TWA	20 mg/m ³	Particulate.
	TWA	10 mg/m ³	Particulate.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
C11-C15 Hydrocarbon Solvent (CAS Proprietary)	TWA	200 mg/m ³	Non-aerosol.
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m ³	Aerosol

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
C11-C15 Hydrocarbon Solvent (CAS Proprietary)	TWA	200 mg/m ³	Non-aerosol.
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m ³	Aerosol

Canada. Quebec OELs. (Ministry of Labour - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Ethylene glycol (CAS 107-21-1)	Ceiling	127 mg/m ³	Vapor and mist.
		50 ppm	Vapor and mist.

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value	Form
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m ³	Aerosol

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

Exposure guidelines

Canada - Alberta OELs: Skin designation

C11-C15 Hydrocarbon Solvent (CAS Proprietary) Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

C11-C15 Hydrocarbon Solvent (CAS Proprietary) Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

C11-C15 Hydrocarbon Solvent (CAS Proprietary)

Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

C11-C15 Hydrocarbon Solvent (CAS Proprietary)

Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

C11-C15 Hydrocarbon Solvent (CAS Proprietary)

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

C11-C15 Hydrocarbon Solvent (CAS Proprietary)

Can be absorbed through the skin.

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). Wear face shield if there is risk of splashes.

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves.

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 vapour 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.

Colour

White.

Odour

Mild petroleum odour.

Odour threshold

No data available.

pH

6 - 8

Melting point/freezing point

-22.78 °C (-9 °F)

Initial boiling point and boiling range

105.56 °C (222 °F)

Flash point

> 93.3 °C (> 200.0 °F) Pensky-Martens Closed Cup ASTM D93, EPA 1010

Evaporation rate

Same as water.

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits**Flammability limit - lower (%)**

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

No data available.

Explosive limit - upper (%)

No data available.

Vapour pressure

24 mm Hg @ 100°F / 37.8°C (estimate)

Vapour density

< 1

Relative density

1 - 1.02 @ 68°F (20°C)

Solubility(ies)**Solubility (water)**

Disperses completely.

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

No data available.

Decomposition temperature	No data available.
Viscosity	85 cP @ 511s-1 @ 77°F (Non-newtonian).
Other information	
Bulk density	Not determined.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Particle size	Not applicable.
Percent volatile	No data available.

10. Stability and reactivity

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

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Oedema. Prolonged exposure may cause chronic effects.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test results
Ethylene glycol (CAS 107-21-1)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	9530 mg/kg
Sodium lauryl sulfate (CAS 151-21-3)		
<u>Acute</u>		
Oral		
LD50	Rat	1200 mg/kg

Skin corrosion/irritation 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).

Serious eye damage/eye irritation 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).

Respiratory or skin sensitisation

Canada - Alberta OELs: Irritant

Ethylene glycol (CAS 107-21-1) Irritant

Respiratory sensitisation 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 sensitisation 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).
ACGIH Carcinogens	
C11-C15 Hydrocarbon Solvent (CAS Proprietary)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Ethylene glycol (CAS 107-21-1)	A4 Not classifiable as a human carcinogen.
Canada - Manitoba OELs: carcinogenicity	
C11-C15 Hydrocarbon Solvent (CAS Proprietary)	Confirmed animal carcinogen with unknown relevance to humans.
Ethylene glycol (CAS 107-21-1)	Not classifiable as a human carcinogen.
Reproductive toxicity	Several studies have shown that Ethylene glycol has caused fetal malformations and fetotoxicity at doses producing no maternal toxicity.
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 (Kidney) through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	May cause damage to organs through prolonged or repeated exposure.
Further information	Ingestion of ethylene glycol may result in nausea, vomiting, abdominal cramps, blindness, liver damage, irritation, reproductive effects, nerve damage, convulsions, oedema 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 vapour 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)			
Aquatic			
<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
Sodium lauryl sulfate (CAS 151-21-3)			
Aquatic			
<i>Acute</i>			
Algae	EC50	Scenedesmus subspicatus	36.5 mg/l, 72 Hours
Crustacea	EC50	Ceriodaphnia dubia	5.55 mg/l, 48 Hours
Fish	LC50	Lepomis macrochirus	4.5 mg/l, 96 Hours

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
Sodium lauryl sulfate (CAS 151-21-3)	1.6

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

Disposal instructions	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.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of 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).
Contaminated packaging	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

TDG	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

15. Regulatory information

Canadian regulations	This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR. HMIRA Registry Number 12272 WHMIS Trade Secret Registration Filing Date: 2018-10-24 WHMIS Trade Secret Decision Granted Date: YYYY-MM-DD
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Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
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Australia

Australian Inventory of Chemical Substances (AICS)

Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
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)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies 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

Issue date 25-April-2017

Revision date 24-June-2020

Version No. 04

List of abbreviations

LD50: Lethal Dose, 50%.
LC50: Lethal Concentration, 50%.
EC50: Effective Concentration, 50%.
NOEC: No observed effect concentration.
PBT: Persistent, bioaccumulative, toxic.
vPvB: very Persistent, very Bioaccumulative.
TWA : time weighed average.
STEL: Short term exposure limit.

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.