

1. Identification

Product identifier	EP™ 2500 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 identification

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

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 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.	
Supplemental information	None.	
Other hazards	None known.	

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Ethylene glycol		107-21-1	10 - <20
C11-C15 hydrocarbon solvent 1*		Proprietary	7 - 13
C11-C15 hydrocarbon solvent 2*		Proprietary	7 - 13
Sodium lauryl sulfate		151-21-3	0.5 - 1.5

Surfactant

Chemical name	Common name and synonyms	CAS number	%
Alcohol ethoxylate 1*		Proprietary	1 - 5
Alcohol ethoxylate 2*		Proprietary	1 - 5
C12-C14 secondary alcohol ethoxylate*		84133-50-6	1 - 5

* See Section 15 for HMIRA status.

Composition comments

Total hydrocarbon solvents concentration <13%.
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

Move to fresh air. 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

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. Alcohol resistant foam. 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 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

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. 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 1*	TWA	200 mg/m3	Non-aerosol.
Ethylene glycol (CAS 107-21-1)	STEL	10 mg/m3	Aerosol, inhalable.
		50 ppm	Vapor fraction
	TWA	25 ppm	Vapor fraction

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

Components	Type	Value	Form
C11-C15 hydrocarbon solvent 1*	TWA	200 mg/m3	Vapour.
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m3	

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 1*	TWA	200 mg/m3	Non-aerosol.
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol
		50 ppm	Vapour.
	STEL	20 mg/m3	Particulate.
	TWA	10 mg/m3	Particulate.

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

Components	Type	Value	Form
C11-C15 hydrocarbon solvent 1*	TWA	200 mg/m3	Non-aerosol.
Ethylene glycol (CAS 107-21-1)	STEL	10 mg/m3	Aerosol, inhalable.
		50 ppm	Vapor fraction
	TWA	25 ppm	Vapor fraction

Canada. New Brunswick OELs: Threshold Limit Values (TLVs) Based on the 1991 and 1997 ACGIH TLVs and BEIs Publication (New Brunswick Regulation 91-191)

Components	Type	Value	Form
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol

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

Components	Type	Value	Form
C11-C15 hydrocarbon solvent 1*	TWA	200 mg/m3	Non-aerosol.
Ethylene glycol (CAS 107-21-1)	STEL	10 mg/m3	Aerosol, inhalable.

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value	Form
Ethylene glycol (CAS 107-21-1)	Ceiling	127 mg/m3	Vapor and mist.
		50 ppm	Vapor and mist.

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

Components	Type	Value	Form
C11-C15 hydrocarbon solvent 1*	15 minute	250 mg/m3	Vapour.
	8 hour	200 mg/m3	Vapour.
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol

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

Exposure guidelines**Canada - Alberta OELs: Skin designation**

C11-C15 hydrocarbon solvent 1* (CAS Proprietary) Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

C11-C15 hydrocarbon solvent 1* (CAS Proprietary) Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

C11-C15 hydrocarbon solvent 1* (CAS Proprietary) Danger of cutaneous absorption

Canada - Ontario OELs: Skin designation

C11-C15 hydrocarbon solvent 1* (CAS Proprietary) Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

C11-C15 hydrocarbon solvent 1* (CAS Proprietary) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

C11-C15 hydrocarbon solvent 1* (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). 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.

Odour threshold Not available.

pH 6 - 9

Melting point/freezing point -23 °C (-9.4 °F)

Initial boiling point and boiling range 106 °C (222.8 °F)

Flash point >200 °F / >93.4 °C

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit – upper (%)	Not available.
Vapour pressure	24 mmHg @ 25 °C
Vapour density	< 1
Relative density	0.96 - 1.02 (25°C / 77°F)
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	110 cP 511 s-1 (Non-Newtonian) @ 25 °C / @ 77 °F
Other information	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

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	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	Prolonged inhalation may be harmful.
Skin contact	Prolonged skin contact may cause temporary irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	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. Prolonged exposure may cause chronic effects.
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Information on toxicological effects

Acute toxicity	May be harmful if swallowed.
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Components	Species	Test Results
Ethylene glycol (CAS 107-21-1)		
Acute		
Dermal		
LD50	Rabbit	9530 mg/kg
Oral		
LD50	Rat	5.89 g/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 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 1* (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 1* (CAS Proprietary)

Confirmed animal carcinogen with unknown relevance to humans.

Ethylene glycol (CAS 107-21-1)

Not classifiable as a human carcinogen.

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, 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
Sodium lauryl sulfate (CAS 151-21-3)		
Aquatic		
<i>Acute</i>		
Crustacea	LC50 Water flea (<i>Daphnia magna</i>)	8.4 - 11 mg/l, 48 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

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 No data available.

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 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 11771 WHMIS Trade Secret Registration Filing Date: 2017-09-06 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)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes

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

Issue date 27-December-2021

Revision date -

Version No. 01

List of abbreviations LC50: Lethal Concentration, 50%.
LD50: Lethal Dose, 50%.

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