

1. Identification

Product identifier LP™ 200W Flow Improver
Other means of identification None.
Recommended use Flow Improver.
Recommended restrictions Other uses are not recommended unless an assessment is completed, prior to commencement of that use, which demonstrates that the use will be controlled.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer LiquidPower Specialty Products Inc.
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2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Specific target organ toxicity, repeated exposure Category 2 (kidneys)
OSHA defined hazards Not classified.
Label elements



Signal word Warning
Hazard statement May cause damage to organs (kidneys) through prolonged or repeated exposure.
Precautionary statement
Prevention Do not breathe vapor/spray.
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 - 15

Composition comments 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. 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	Treat symptomatically. Symptoms may be delayed.
General information	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 spray. 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	Closed containers can burst violently when heated, due to excess pressure build-up.
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 it 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	Use personal protection recommended in Section 8 of the SDS. Avoid contact with skin and eyes. Keep unnecessary personnel away. In case of spills, beware of slippery floors and surfaces. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	Use water spray to reduce vapors or divert vapor cloud drift. 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. Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Environmental precautions	

7. Handling and storage

Precautions for safe handling	Avoid contact with skin and eyes. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash thoroughly after handling. Change contaminated clothing. Handle in accordance with good industrial hygiene and safety practice.
Conditions for safe storage, including any incompatibilities	Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Store away from incompatible materials. Protect against physical damage.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Ethylene glycol (CAS 107-21-1)	STEL	10 mg/m3	Aerosol, inhalable.
		50 ppm	Vapor fraction
	TWA	25 ppm	Vapor fraction

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

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. Suitable gloves can be recommended by the glove supplier.
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.
Odor threshold	Not available.
pH	8 - 12
Melting point/freezing point	14 °F (-10 °C)
Initial boiling point and boiling range	221 °F (105 °C)
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not applicable.
Explosive limit - upper (%)	Not applicable.
Vapor pressure	23.9 mmHg (25°C)
Vapor density	< 1 (Air=1)
Relative density	0.84 - 0.99 (25°C / 77°F)
Solubility(ies)	
Solubility (water)	Disperses completely.
Partition coefficient (n-octanol/water)	Property has not been measured.
Auto-ignition temperature	Property has not been measured.
Decomposition temperature	Property has not been measured.
Viscosity	160 cP 511s-1 (Non-Newtonian) (25°C)
Other information	
Explosive properties	Not explosive.
Kinematic viscosity	Property has not been measured.
Oxidizing properties	Not oxidizing.
Particle size	Not applicable.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
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Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Excessive heat. Contact with incompatible materials.
Incompatible materials	Strong oxidizing 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.

Information on toxicological effects

Acute toxicity May be harmful if swallowed.

Components	Species	Test Results
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Ethylene glycol (CAS 107-21-1)

Acute

Dermal

LD50	Mouse	> 3500 mg/kg
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Inhalation

Aerosol

LC50	Rat	> 2.5 mg/l, 6 Hours
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Oral

LD50	Rat	7712 mg/kg
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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 Not classified.

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	None known.

12. Ecological information

Ecotoxicity The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

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

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

Mobility in soil This product is water soluble and may disperse in soil.

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 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. Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

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

DOT

Not regulated as dangerous goods.

DOT BULK

BULK

UN number NA3082

UN proper shipping name Other regulated substances, liquid, n.o.s. (Ethylene glycol RQ = 5000 lbs)

Transport hazard class(es)**Class** 9**Label(s)** 9**Packing group** III**Environmental hazards****Marine pollutant** No**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**Special provisions** IB3, T2, TP1**Packaging exceptions** 155**Packaging non bulk** 241**Packaging bulk** 203**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****US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethylene glycol (CAS 107-21-1) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA)

All components of the mixture on the TSCA 8(b) inventory are designated "active".

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 - 15

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**

Ethylene glycol (CAS 107-21-1)

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

Ethylene glycol (CAS 107-21-1)

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

Ethylene glycol (CAS 107-21-1)

US. Rhode Island RTK

Ethylene glycol (CAS 107-21-1)

International Inventories

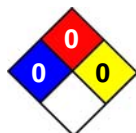
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	Yes
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

Issue date	11-May-2017
Revision date	21-April-2022
Version #	10
Further information	NFPA Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe
NFPA ratings	



List of abbreviations	EC50: Effective Concentration, 50%. LC50: Lethal Concentration, 50%. LD50: Lethal Dose, 50%. NOEC: No observed effect concentration. STEL: Short term exposure limit. TWA: Time weighted average.
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References	HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity
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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.
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