1. Identification

Product identifier          LP™ 111 Flow Improver
Other means of identification None.
Recommended use of the chemical and restrictions on use
   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                       One BriarLake Plaza
                              2000 W Sam Houston Pkwy S
                              Suite 400
                              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
Singapore only               800-101-2201

2. Hazards identification

GHS classification
   Physical hazards          Not classified.
   Health hazards            Not classified.
   Environmental hazards     Not classified.

GHS label elements, including precautionary statements

Pictograms                  None.
Signal word                 None.
Hazard statements           None.
Precautionary statements
   Prevention                Observe good industrial hygiene practices.
   Response                  Wash hands after handling.
   Storage                   Store away from incompatible materials.
   Disposal                  Dispose of waste and residues in accordance with local authority requirements.
Other hazards which do not result in classification
   None known.
Supplemental information    None.

3. Composition/information on ingredients

Substance or mixture         Mixture
The components are not hazardous or are below required disclosure 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.
Treat symptomatically.

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.

Fire fighting equipment/instructions
- Move containers from fire area if you can do so without risk.

Special protective equipment and precautions for firefighters
- Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

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. For personal protection, see section 8 of the SDS.

Environmental precautions
- Avoid discharge into drains, water courses or onto the ground.

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.

7. Handling and storage

Precautions for safe handling
- Avoid prolonged exposure. Ensure adequate ventilation. 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

Control parameters/Occupational exposure limits
- No exposure limits noted for ingredient(s).

Exposure guidelines
- Follow standard monitoring procedures. No exposure standards allocated.

Appropriate engineering control measures
- Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment
- Risk of contact: Wear approved safety goggles.
- Skin protection
  - Use suitable protective gloves if risk of skin contact. Suitable gloves can be recommended by the glove supplier.
  - Other
  - If prolonged or repeated contact is likely, chemical resistant clothing is recommended.
- Respiratory protection
- In case of inadequate ventilation, use respiratory protection.
- Thermal hazards
- Wear appropriate thermal protective clothing, when necessary.
- 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. Discard contaminated clothing and footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance
- White liquid.

Physical state
- Liquid.

Form
- Liquid.

Color
- White.
**Odor**
Mild.

**Odor threshold**
Not available.

**pH**
10 - 12.3

**Melting point/freezing point**
32 °F (0 °C)

**Initial boiling point and boiling range**
212 °F (100 °C)

**Flash point**
Not applicable.

**Evaporation rate**
Same as water.

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

**Flammability limit - lower (%)**
Not applicable.

**Flammability limit - upper (%)**
Not applicable.

**Vapor pressure**
23.8 mmHg (25°C)

**Vapor density**
< 1 (Air=1)

**Relative density**
0.84 - 0.97 (15.6°C)

**Solubility (water)**
Disperses completely.

**Partition coefficient (n-octanol/water)**
Not available.

**Auto-ignition temperature**
Not available.

**Decomposition temperature**
Not available.

**Viscosity**
50 - 200 cP 511s-1 (Non-Newtonian) (25°C)

**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 oxidizing 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.

**Acute toxicity**
Not expected to be acutely toxic.

**Symptoms**
Direct contact with eyes may cause temporary irritation.

**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 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).
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
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).

Aspiration hazard
Not an aspiration hazard.

Chronic effects
None known.

Relevant negative data
No data available.

Other information
None known.

12. Ecological information
Ecotoxicity
The product is 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.

Persistence and degradability
No data available.

Bioaccumulative potential
No data available.

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 methods/information
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.

Special precautions
Dispose in accordance with all applicable regulations.

14. Transport information
ADR
Not regulated as dangerous goods.

RID
Not regulated as dangerous goods.

ADN
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 applicable.

15. Regulatory information
Safety, health and environmental regulations specific for the product in question
Controlled Narcotic Drugs (Misuse of Drugs Act, First Schedule, Part I, II & III)
Not regulated.

Controlled Specified Drugs (Misuse of Drugs Act, Fourth Schedule)
Not regulated.

Not regulated.

Chemical Weapons Prohibition (Act)
Not applicable.

Environmental Protection and Management (Hazardous Substances) Regulations
Not applicable.

Environmental Public Health Act
Not applicable.

International regulations
Montreal Protocol
Not applicable.
Stockholm Convention
Not applicable.
Rotterdam Convention
Not applicable.
Kyoto protocol
Not applicable.
Basel Convention
Not applicable.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A “Yes” indicates this product complies with the inventory requirements administered by the governing country(s).

16. Other information

References
Not available.

Issued by

Company name
LiquidPower Specialty Products Inc.

Address/Telephone
One BriarLake Plaza
2000 West Sam Houston Parkway S
Suite 400
Houston, TX 77042
United States
1.800.897.2774

Prepared by
Not available.

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.

Issue date
23-April-2014

Revision date
31-March-2020

Key/legend
Not applicable.