SAFETY DATA SHEET

1. Identification

Product identifier LPS® Food Grade Chain Lubricant
Other means of identification
Part Number 06016
Recommended use A food grade chain lubricant for parts and equipment.
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer Company name LPS Laboratories, a division of Illinois Tool Works, Inc.
Address 4647 Hugh Howell Rd.
Tucker, GA 30084
Country (U.S.A.)
In Case of Emergency Tel: +1 770-243-8800
1-800-424-9300 (inside U.S.)
+001 703-527-3887 (outside U.S.)
Website www.lpslabs.com
E-mail sds@lpslabs.com

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1
Health hazards Skin corrosion/irritation Category 2
Reproductive toxicity (fertility) Category 2
OSHA hazard(s) Not classified.

Label elements

Signal word Danger
Hazard statement H222 - Extremely flammable aerosol.
H361 - Suspected of damaging fertility or the unborn child.
H315 - Causes skin irritation.

Precautionary statement

Prevention P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P211 - Do not spray on an open flame or other ignition source.
P251 - Pressurized container: Do not pierce or burn, even after use.
P280 - Wear protective gloves.
P264 - Wash thoroughly after handling.
P281 - Use personal protective equipment as required.
P273 - Avoid release to the environment.

Response P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P362 - Take off contaminated clothing and wash before reuse.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P321 - Specific treatment (see this label).
P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P391 - Collect spillage.

Storage P405 - Store locked up.
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Not classified.
3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Mineral Oil</td>
<td>8042-47-5</td>
<td>60 - &lt; 70</td>
<td></td>
</tr>
<tr>
<td>Petroleum Gases, Liquefied, Sweetened</td>
<td>68476-86-8</td>
<td>10 - &lt; 20</td>
<td></td>
</tr>
<tr>
<td>2-Methylpentane</td>
<td>107-83-5</td>
<td>1 - &lt; 3</td>
<td></td>
</tr>
<tr>
<td>2,2-Dimethylbutane</td>
<td>75-83-2</td>
<td>&lt; 1</td>
<td></td>
</tr>
<tr>
<td>2,3-Dimethylbutane</td>
<td>79-29-8</td>
<td>&lt; 1</td>
<td></td>
</tr>
<tr>
<td>3-Methylpentane</td>
<td>96-14-0</td>
<td>&lt; 1</td>
<td></td>
</tr>
<tr>
<td>N-hexane</td>
<td>110-54-3</td>
<td>0.2</td>
<td></td>
</tr>
</tbody>
</table>

Other components below reportable levels 20 - < 30

4. First-aid measures

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Get medical attention immediately.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

Eye contact
Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation develops and persists.

Ingestion
In the unlikely event of swallowing contact a physician or poison control center. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn’t get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance.

Most important symptoms/effects, acute and delayed
Irritant effects. Defatting of the skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Narcosis. Behavioral changes. Decrease in motor functions.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Symptoms of overexposure can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting, and are reversible if exposure is stopped. 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
Dry chemical powder. Carbon dioxide (CO2). Foam, water spray or fog.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
Contents under pressure. Pressurized container may explode when exposed to heat or flame.

Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Fire-fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Water runoff can cause environmental damage.

Specific methods
In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Move container from fire area if it can be done without risk. Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Local authorities should be advised if significant spillages cannot be contained. Consider initial downwind evacuation for at least 500 meters (1/3 mile). Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Ventilate closed spaces before entering them. Avoid inhalation of vapors and spray mists. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas.

Prevent further leakage or spillage if safe to do so. Contact local authorities in case of spillage to drain/aquatic environment. Avoid release to the environment.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not breathe dust/fume/gas/mist/vapors/spray. Use only in well-ventilated areas. Do not get in eyes, on skin, on clothing. Use personal protective equipment as required. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment.

Store locked up. Keep out of the reach of children. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Keep away from food, drink and animal feedingstuffs. Use care in handling/storage.

<table>
<thead>
<tr>
<th>Material name: LPS® Food Grade Chain Lubricant</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>648    Version #: 01    Issue date: 02-13-2013</td>
<td>SDS US</td>
</tr>
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</table>
**US. NIOSH: Pocket Guide to Chemical Hazards**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-hexane (CAS 110-54-3)</td>
<td>REL</td>
<td>180 mg/m3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 ppm</td>
<td></td>
</tr>
<tr>
<td>White Mineral Oil (CAS 8042-47-5)</td>
<td>REL</td>
<td>5 mg/m3</td>
<td>Mist.</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>10 mg/m3</td>
<td>Mist.</td>
</tr>
</tbody>
</table>

**Biological limit values**

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-hexane (CAS 110-54-3)</td>
<td>0.4 mg/l</td>
<td>2,5-Hexanediol without hydrolysis</td>
<td>Urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* - For sampling details, please see the source document.

**Exposure guidelines**

**US. ACGIH Threshold Limit Values**

N-hexane (CAS 110-54-3) Can be absorbed through the skin.

**US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants**

N-HEXANE (CAS 110-54-3) Can be absorbed through the skin.

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) 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**
  
  Avoid contact with eyes. Wear safety glasses with side shields (or goggles). Eye wash fountain and emergency showers are recommended.

- **Hand protection**
  
  Chemical resistant gloves are recommended.

- **Other**
  
  Avoid contact with the skin. Wear appropriate chemical resistant clothing. Chemical resistant gloves.

- **Respiratory protection**
  
  No personal respiratory protective equipment normally required. Avoid breathing dust/fume/gas/mist/vapors/spray. If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

- **Thermal hazards**
  
  Not available.

- **General hygiene considerations**
  
  When using, do not eat, drink or smoke. Do not get in eyes, on skin, on clothing. Wash hands after handling. Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties**

- **Appearance**
  
  Liquid.

- **Physical state**
  
  Gas.

- **Form**
  
  Aerosol.

- **Color**
  
  Clear, Colorless.

- **Odor**
  
  Mild. Hydrocarbon-like.

- **Odor threshold**
  
  Not established

- **pH**
  
  Not applicable

- **Melting point/freezing point**
  
  Not established

- **Initial boiling point and boiling range**
  
  345.2 °F (174 °C)

- **Flash point**
  
  -20.02 °F (-28.90 °C) Tag Closed Cup (dispensed liquid)

- **Evaporation rate**
  
  ~8.1

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

- **Upper/lower flammability or explosive limits**
  
  - **Flammability limit - lower (%)**
    
    1 % (estimated)

  - **Flammability limit - upper (%)**
    
    9.5 % (estimated)

  - **Explosive limit - lower (%)**
    
    Not available.

  - **Explosive limit - upper (%)**
    
    Not available.

- **Vapor pressure**
  
  2782 mm Hg @ 20°C
Vapor density: ~3 (air=1)
Relative density: Not available.
Solubility(ies): Not soluble in water
Partition coefficient (n-octanol/water): Not established
Auto-ignition temperature: > 509 °F (> 265 °C)
Decomposition temperature: Not established
Viscosity: 164 cP @ 25°C
Other information:
- Heat of combustion: > 30 kJ/g
- Percent volatile: 15 - 20 %
- Specific gravity: 0.85 - 0.87 @ 20°C
- VOC (Weight %): 19 % per State and Federal Consumer Product Regulations

10. Stability and reactivity

Reactivity: Strong oxidizing agents.
Chemical stability: Risk of ignition.
Possibility of hazardous reactions: Hazardous polymerization does not occur.
Conditions to avoid: Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: Carbon oxides.

11. Toxicological information

Information on likely routes of exposure:
- Ingestion: May be harmful if swallowed. May be fatal if swallowed and enters airways.
- Inhalation: Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
- Skin contact: Causes skin irritation.
- Eye contact: May be irritating to eyes.

Symptoms related to the physical, chemical and toxicological characteristics:
- Irritant effects. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Discomfort in the chest. Shortness of breath. Coughing. Behavioral changes. Decrease in motor functions. Defatting of the skin.

Information on toxicological effects:
- Acute toxicity: Based on available data, the classification criteria are not met.
- Skin corrosion/irritation: Irritating to skin.
- Serious eye damage/eye irritation: May be irritating to eyes.
- Respiratory sensitization: Based on available data, the classification criteria are not met.
- Skin sensitization: Based on available data, the classification criteria are not met.
- Germ cell mutagenicity: Based on available data, the classification criteria are not met.
- Carcinogenicity: Based on available data, the classification criteria are not met.

IARC Monographs. Overall Evaluation of Carcinogenicity
- White Mineral Oil (CAS 8042-47-5): 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure: Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.
Chronic effects: Prolonged exposure may cause chronic effects.
Further information: Symptoms may be delayed.

12. Ecological information

Ecotoxicity: Toxic to aquatic life with long lasting effects.
Persistence and degradability: Not inherently biodegradable.
Bioaccumulative potential: Not available.

Partition coefficient n-octanol / water (log Kow)
- 2,3-Dimethylbutane: 3.42
- 3-Methylpentane: 3.6
- 2-Methylpentane: 3.74
- 2,2-Dimethylbutane: 3.82
- N-hexane: 3.9

Mobility in soil: Not available.

Other adverse effects: Not available.

13. Disposal considerations

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Incinerate the material under controlled conditions in an approved incinerator. Dispose in accordance with all applicable regulations.

Local disposal regulations: None known.

Hazardous waste code: D001: Waste Flammable material with a flash point <140 F
D003: Waste Reactive material

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). Avoid discharge into water courses or onto the ground.

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

DOT
- UN number: UN1950
- UN proper shipping name: Aerosols, flammable
- Transport hazard class(es): 2.1
- Subsidiary class(es): Not available.
- Packing group: Not available.
- Special precautions for user: Not available.
- Labels required: 2.1
- Special provisions: N82
- Packaging exceptions: 306
- Packaging bulk: None

IATA
- UN number: UN1950
- UN proper shipping name: Aerosols, flammable
- Transport hazard class(es): 2.1
- Subsidiary class(es): -
- Packaging group: Not available.
- Environmental hazards: No
- Labels required: Not available.
- ERG Code: 10L
- Special precautions for user: Not available.

IMDG
- UN number: UN1950
- UN proper shipping name: AEROSOLS
- Transport hazard class(es): 2
- Subsidiary class(es): -
- Packaging group: Not available.
- Environmental hazards: No
- Marine pollutant: No
- Labels required: Not available.
- EmS: F-D, S-U
- Special precautions for user: Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: No information available.
15. Regulatory information

US federal regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)
- 2,2-Dimethylbutane (CAS 75-83-2) LISTED
- 2,3-Dimethylbutane (CAS 79-29-8) LISTED
- 2-Methylpentane (CAS 107-83-5) LISTED
- 3-Methylpentane (CAS 96-14-0) LISTED
- N-hexane (CAS 110-54-3) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)
- Hazard categories
  - Immediate Hazard - Yes
  - Delayed Hazard - Yes
  - Fire Hazard - Yes
  - Pressure Hazard - Yes
  - Reactivity Hazard - No
- SARA 302 Extremely hazardous substance
  No
- SARA 311/312 Hazardous chemical
  No

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
- N-hexane (CAS 110-54-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number
Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))
Not regulated.

DEA Exempt Chemical Mixtures Code Number
Not regulated.

Food and Drug Administration (FDA)
Not regulated.

US state regulations
US. Massachusetts RTK - Substance List
- 2,2-Dimethylbutane (CAS 75-83-2)
2,3-Dimethylbutane (CAS 79-29-8)
2-Methylpentane (CAS 107-83-5)
3-Methylpentane (CAS 96-14-0)
N-hexane (CAS 110-54-3)
White Mineral Oil (CAS 8042-47-5)

US. New Jersey Worker and Community Right-to-Know Act
N-hexane (CAS 110-54-3) 500 LBS

US. Pennsylvania RTK - Hazardous Substances
2,2-Dimethylbutane (CAS 75-83-2)
2,3-Dimethylbutane (CAS 79-29-8)
2-Methylpentane (CAS 107-83-5)
3-Methylpentane (CAS 96-14-0)
N-hexane (CAS 110-54-3)
White Mineral Oil (CAS 8042-47-5)

US. Rhode Island RTK
N-hexane (CAS 110-54-3)
White Mineral Oil (CAS 8042-47-5)

US. California Proposition 65
US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
Not listed.

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>No</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>No</td>
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<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
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<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
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<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
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<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
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<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
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<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, including date of preparation or last revision

Issue date                      02-13-2013
Version #                       01
Further information             Not available.
Disclaimer                      The information in the sheet was written based on the best knowledge and experience currently available.
Revision Information
Product and Company Identification: Product Uses
Hazards Identification: EU Hazard Classifications
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Transport Information: Material Transportation Information
Regulatory Information: United States
HazReg Data: International Inventories
GHS: Classification