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.)

Tel: +1 770-243-8800

In Case of Emergency 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

Hazardous components

Chemical name	CAS number	%
White Mineral Oil	8042-47-5	60 - < 70
Petroleum Gases, Liquefied, Sweetened	68476-86-8	10 - < 20
2-Methylpentane	107-83-5	1 - < 3
2,2-Dimethylbutane	75-83-2	< 1
2,3-Dimethylbutane	79-29-8	< 1
3-Methylpentane	96-14-0	< 1
N-hexane	110-54-3	< 0.2
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).

Methods and materials for containment and cleaning up

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.

Environmental precautions

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.

7. Handling and storage

Precautions for safe handling

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.

Conditions for safe storage, including any incompatibilities

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.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
N-hexane (CAS 110-54-3)	PEL	1800 mg/m3	
		500 ppm	
White Mineral Oil (CAS 8042-47-5)	PEL	5 mg/m3	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
2,2-Dimethylbutane (CAS 75-83-2)	STEL	1000 ppm	
	TWA	500 ppm	
2,3-Dimethylbutane (CAS 79-29-8)	STEL	1000 ppm	
	TWA	500 ppm	
2-Methylpentane (CAS 107-83-5)	STEL	1000 ppm	
	TWA	500 ppm	
3-Methylpentane (CAS 96-14-0)	STEL	1000 ppm	
	TWA	500 ppm	
N-hexane (CAS 110-54-3)	TWA	50 ppm	
White Mineral Oil (CAS 8042-47-5)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
2,2-Dimethylbutane (CAS 75-83-2)	Ceiling	1800 mg/m3	
		510 ppm	
	REL	350 mg/m3	
		100 ppm	
2,3-Dimethylbutane (CAS 79-29-8)	Ceiling	1800 mg/m3	
		510 ppm	
	REL	350 mg/m3	
		100 ppm	
2-Methylpentane (CAS 107-83-5)	Ceiling	1800 mg/m3	
		510 ppm	
	REL	350 mg/m3	
		100 ppm	
3-Methylpentane (CAS 96-14-0)	Ceiling	1800 mg/m3	
		510 ppm	
	REL	350 mg/m3	
		100 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
N-hexane (CAS 110-54-3)	REL	180 mg/m3 50 ppm	
White Mineral Oil (CAS 8042-47-5)	REL	5 mg/m3	Mist.
	STEL	10 mg/m3	Mist.

Biological limit values

US. ACGIH. BEIs. Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
N-hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion without hydrolysis	Urine	*

* - 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.

Skin protection

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 @ 20ºC

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 @ 25ºC
Other information	
Heat of combustion	> 30 kJ/g
Percent volatile	15 - 20 %
Specific gravity	0.85 - 0.87 @ 20ºC
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
Subsidary 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
Subsidary 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
Subsidary class(es)	-
Packaging group	Not available.
Environmental hazards	
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.

DOT

IATA; IMDG

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

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
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)

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