



MATERIAL SAFETY DATA SHEET

LPS ChainMate Chain & Wire Rope Lubricant (Aerosol)

Revision 3

Revision Date: 03/14/2008

Supersedes: 12/27/2005

Section 1 – Identification

Product Name:	LPS ChainMate Chain & Wire Rope Lubricant (Aerosol)
Part Number:	02416,C02416
Chemical Name:	Aliphatic and Oxygenated Hydrocarbon mixture
Product Use:	A spray lubricant designed to penetrate chains and wire ropes, displace moisture and provide long lasting lubrication under high loads and humid conditions.
Manufacturer Information:	LPS Laboratories, 4647 Hugh Howell Rd., Tucker, GA, USA 30084
TEL:	1 770-243-8880
Emergency Telephone Number:	1-800-424-9300 Chemtrec; Outside U.S.: (703) 527-3887
FAX:	1 770-243-8899
Website:	http://www.lpslabs.com

PLAIN LANGUAGE HAZARD SUMMARY

Material Safety Data Sheets can be confusing. Federal and State laws require us to include a great deal of technical information that probably won't help the non-professional. LPS includes this "PLAIN LANGUAGE HAZARD SUMMARY" to address the questions and concerns of the average worker. If you have additional health, safety or product questions, don't hesitate to call us at 800/241-8334.

Worker Toxicity

LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT is a moly-fortified lubricant designed to penetrate chains and wire ropes, displace moisture and provide long lasting lubrication under high loads and humid conditions. It contains isohexane and isopropyl alcohol which can be irritating to skin at a minimum and if handled improperly can be dangerous. We suggest you wear gloves and avoid extended exposure to unprotected skin. Don't get it in your eyes (it stings), or breath large amounts of the vapor, (it will dry out your nasal passages and if you breathe large amounts in poorly ventilated areas it can make you dizzy and even sick). Don't spray LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT for extended periods without adequate ventilation. If you're going to perform work involving a lot of product in a poorly ventilated area, use of a respirator or even a self-contained breathing apparatus may be necessary. For more exposure and first aid information, refer to MSDS Sections 2, 8 and 11.

Flammability

LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT is extremely flammable, having a flash point below (-11°C). Do not spray onto live electrical equipment or in or around ignition sources. Store product away from heat sources. Also, don't spray the product onto red-hot metal surfaces.

Disposal

LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT normally cannot be spilled, but if the aerosol can is dropped from several feet or crushed it may discharge its contents. A single aerosol can of LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT contains less than one pint of material and much of this will evaporate quickly. If a spill occurs, the two greatest concerns are flammability of the fast drying vapors and slipperiness of walking surfaces in the affected area. Notify the proper environmental and safety personnel at your company right away. Absorb spilled material with a suitable solid like sand or "kitty litter" and place into an appropriate waste container. If an aerosol can of LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT does not spray and has more than an inch of material inside, it will be considered a flammable hazardous waste under U.S. EPA guidelines. See section 13 for more details.



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Section 2 – Hazards identification

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Emergency Overview:

Aerosol: DANGER: Extremely Flammable. Aerosol contents under pressure. Harmful or Fatal if Swallowed.

Primary route(s) of entry: Skin and Eye contact. Inhalation.

Potential Acute Health Effects:

Eyes: Irritating to eyes

Skin: Repeated exposure may cause skin dryness or cracking.

Inhalation: Excessive inhalation of vapors can cause irritation of the respiratory tract, nausea, dizziness or headache.

Ingestion: Product has a low order of acute oral toxicity, but ingestion of large quantities may cause nausea, vomiting, and gastrointestinal irritation. May cause injury if aspirated into lungs.

Potential Chronic Health Effects:

Carcinogenic Effects: NTP: No OSHA: No ACGIH: No

Mutagenic Effects: None

Teratogenic Effects: This material (or component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

Target Organs:

Prolonged and repeated exposure to n-hexane may cause peripheral neuropathy by damaging peripheral nerve tissue (that of the arms and legs) and result in muscular weakness and loss of sensation. Prolonged and repeated inhalation of high levels of mixed isomers of hexane resulted in kidney damage in male rats. The effects observed are the same as those seen in male rats exposed to other hydrocarbons. The mechanism by which these chemicals cause the characteristic kidney toxicity is unique to the male rat and the kidney effects are not expected to occur in man. Breathing isopropanol vapors has caused damage to the lining of the middle ear in experimental animals. The relevance of this finding to humans is uncertain. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: liver abnormalities, kidney damage.

Medical conditions aggravated by exposure:

Persons with pre-existing central nervous system (CNS) disease, neurological conditions, skin disorders, chronic respiratory diseases, or impaired liver or kidney function should avoid exposure.

Signs and Symptoms:

Stinging in eyes. Repeated or prolonged skin contact can cause redness, irritation, and scaling of the skin (dermatitis). Breathing of high vapor concentrations may cause headaches, stupor, irritation of throat and eyes, and kidney effects.



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Section 3 – Composition / Information on Ingredients

INGREDIENT NAME	CASRN	Weight Percent
Petroleum Oil	64742-01-4	40 - 50%
Propane/Isobutane Blend	68476-85-7	15 - 20%
2-methylpentane	107-83-5	10 - 20%
3-methylpentane	96-14-0	5 - 10%
2,3-dimethylbutane	79-29-8	5 - 10%
2,2-dimethylbutane	75-83-2	1 - 5%
Isopropanol	67-63-0	1 - 5%
n-hexane	110-54-3	1 - 2%
Petroleum Oil	64741-88-4	1 - 2%

Section 4 – First Aid Measures

- Eyes:** Check for and remove contact lenses. If irritation or redness develops, flush eyes with cool, clean, low pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. Do not use eye ointment. Seek medical attention immediately.
- Skin:** Remove contaminated shoes and clothing. Clean affected area thoroughly with mild soap and water. Do not use ointments. Seek medical attention if irritation persists.
- Inhalation:** Immediately move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, seek medical attention immediately.
- Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Do not leave victim unattended. Seek medical attention immediately.

Section 5 – Fire Fighting Measures

Flash point: TCC CLOSED CUP: < -17°C (-0°F) bulk liquid

Flammable limits: LOWER: 0.6% UPPER: 7.0% **Auto ignition Temperature:** 306°C (582.8°F)

Products of Combustion: carbon monoxide and carbon dioxide.

General Fire Hazards: This item is a highly flammable aerosol. High heat will cause explosive rupture of containers and the rapid spread of fire.

Firefighting media: SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Cool containing vessels with water jet in order to prevent pressure build-up, auto ignition or explosions.

Sensitivity to Impact: None.

Sensitivity to Static Discharge: See sections 6,7,8 and 15.

Protection Clothing (Fire): wear protective clothing and equipment suitable for the surrounding fire, including helmet, face mask, and self-contained breathing apparatus.



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Section 6 – Accidental Release Measures

Containment Procedures	Small Spill and Leak: Large Spill and Leak:	Eliminate ignition sources. Absorb with an inert material and dispose of properly. Eliminate ignition sources, secure the area and control access. Dike far ahead of a liquid spill to ensure complete collection. Pick up free liquid for disposal using absorbent pads, sand, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal.
Clean-Up Procedures	Wear appropriate personal protective equipment (respiratory protection, solvent resistant gloves). Absorb spill with an inert material such as clay, vermiculite or diatomaceous earth. Place slurry in an approved chemical waste container for disposal. Wash spill area with detergent and water. Before discharging rinse water to sanitary sewer system, consult local regulations.	
Evacuation Procedures	Ventilate area of leak or spill. Keep unnecessary and unprotected people away.	
Special Procedures	Remove all sources of ignition. Ventilate area. Wear appropriate protective equipment during cleanup.	

Section 7 – Handling and Storage

Handling: DO NOT spray into or around ignition sources. After handling, always wash hands thoroughly with soap and water. Use only with adequate ventilation. Avoid breathing vapors or spray mists.

Storage: Keep container closed and in a cool, well-ventilated area. Avoid all sources of ignition (spark or flame). Store below 120°F. Store aerosols as Level 3 Aerosol (NFPA 30B).

Precautions to be taken in handling and storage: Store all materials in dry, well-ventilated area. Avoid breathing vapors. Ground and bond containers before transferring materials.

Section 8 – Exposure Controls / Personal Protection

Ingredients	CASRN	OSHA TWA-PEL	OSHA STEL	ACGIH-TLV	ACGIH-STEEL	NIOSH REL
Petroleum Oil	64742-01-4	Not Established	Not Established	Not Established	Not Established	Not Established
Propane/Isobutane Blend	68476-85-7	1000 ppm	Not Established	1000 ppm	Not Established	350 mg/m ³
2-methylpentane*	107-83-5	500 ppm	1000 ppm	500 ppm	1000 ppm	100 ppm
3-Methylpentane*	96-14-0	500 ppm	1000 ppm	500 ppm	1000 ppm	100 ppm
2,3-Dimethylbutane*	79-29-8	500 ppm	1000 ppm	500 ppm	1000 ppm	100 ppm
2,2-Dimethylbutane*	75-83-2	500 ppm	1000 ppm	500 ppm	1000 ppm	100 ppm
Isopropanol*	67-63-0	400 ppm	Not Established	200 ppm	1000 ppm	400 ppm
n-Hexane*	110-54-3	500 ppm	Not Established	50 ppm	Not Established	50 ppm
Petroleum Oil	64741-88-4	Not Established	Not Established	Not Established	Not Established	Not Established

*Note: Exposure guidelines provided by supplier.



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Engineering measures	Provide local exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.
Personal protective equipment	
Eye protection	Safety glasses with side shields conforming to appropriate regulations. Eye wash fountain and emergency shower facilities are recommended.
Hand protection	Normally no hand protection is required; however, if product will be sprayed for an extended period, "overspray" onto skin may occur. If so, use protective gloves conforming to appropriate regulations. Please observe the instructions regarding permeability and breakthrough time that are provided by the supplier of the gloves. Take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion and the contact time.
Respiratory protection	If airborne concentrations are above the applicable exposure limits (listed above), use NIOSH approved respiratory protection.

Section 9 – Physical and Chemical Properties

Appearance:	Liquid.	Colour:	Dark gray / black
Odour/Taste:	Characteristic	Evaporation Rate:	<1(Ethyl Ether =1)
Solubility Description:	<5% by weight.	Flash Point (°C):	<-17°C
Odour Threshold:	Not Determined.	Decomposition Temperature:	Not Determined.
Boiling Point (°C):	60.5 @ 101 kPa	Flash Point Method:	TCC
Specific Gravity (Water=1):	0.74-0.76 @ 20 °C	Auto Ignition Temperature (°C):	306°C.
Vapour Density (air=1):	~3.0	Partition Coefficient (octanol/water):	<1
Vapour Pressure:	47 kPa @ 38 °C	Volatiles:	55%
pH:	Not applicable	Viscosity:	<14 mm ² /sec. @ 25°C
Flammable limits (estimated):	LOWER: 0.6% UPPER: 7%	Melting Point (°C):	Not Applicable
V.O.C. content	45%, 338 g/L,		

Section 10 – Chemical Stability and Reactivity

Chemical Stability:	Product is stable under recommended storage conditions.
Conditions to Avoid:	Keep away from heat and ignition sources. Exposure to direct sunlight for extended periods. Temperatures in excess of 50°C.
Incompatibility:	Extremely reactive or incompatible with oxidizing agents.
Hazardous Decomposition:	Combustion will generate smoke, possibly thick and choking, resulting in zero visibility and combustion products include carbon monoxide and carbon dioxide.
Hazardous Polymerization:	Will not occur.



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Section 11 – Toxicological Information

A: General Product Information

An acute toxicity study of this product has not been conducted. Information given in this section relates only to individual constituents contained in this preparation.

Ingredients	CASRN	LC-50	LD-50
Petroleum Oil	64742-01-4	Not established	Not established
Propane/Isobutane Blend	68476-85-7	> 3125 ppm / 4 hours/rat	Not Established
2-methylpentane*	107-83-5	3125 ppm inhalation/rat/4H*	Not Available
3-Methylpentane*	96-14-0	Not available	Not Available
2,3-Dimethylbutane*	79-29-8	Not Available	Not Available
2,2-Dimethylbutane*	75-83-2	Not Available	Not Available
Isopropanol*	67-63-0	16000 ppm inhalation/rat/4H*	5045 mg/kg oral/rat* 5030 – 7900 mg/kg dermal/rabbit*
n-Hexane*	110-54-3	48000 ppm* inhalation/rat/4H*	25 g/kg oral/rat* 1.3 g/kg dermal/rabbit*
Petroleum Oil	64741-88-4	Not established	Not established

Section 12 – Ecological Information

Ecological studies have not been conducted for this product. The following information is available for component(s) of this product.

Ecotoxicity:

Effect on Organisms	Component	CASRN	Test	Species	Results
Acute Toxicity on Fishes	n-hexane	110-54-3	48-hr LC ₁₀₀	Leuciscus idus melanotus	260,000 µg/L
	Isopropanol	67-63-0	24-hr LC ₅₀	Carassius auratus	5,000,000 µg/L
	2-Methylpentane	107-83-5	48-hour EC ₅₀	Daphnia magna	2.1 mg/L
Acute Toxicity on Daphnia	n-hexane	110-54-3	24-hr LC ₅₀	Daphnia magna	50,000 µg/L
	Isopropanol	67-63-0	24-hr LC ₅₀	Daphnia magna	10,000,000 µg/L
Bacterial inhibition	No Data Available				
Growth inhibition of algae	n-hexane	110-54-3	EC ₅₀	Anabaena inaequalis	1.70%
	Isopropanol	67-63-0	48-hour EC ₅₀	Scenedesmus quadricauda	1,800,000 µg/L
Bioaccumulation in fish	No Data Available				



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Mobility:	Semi-volatile. Readily absorbed into soil.	Persistence and degradability:	Only slightly biodegradable.
Bioaccumulative potential:	Minimal bioaccumulation potential	Other adverse effects:	None known.

Section 13 – Disposal Considerations

Waste Status: Aerosol products, if depressurized and emptied to less than 2.5 cm of fluid contents are classified as non-hazardous waste under 40 CFR 261.7 (U.S.). If disposed of in its received form, this item carries waste codes D001 and D003. (U.S.)

Disposal: Waste must be disposed of in accordance with national, regional and local environmental control regulations.

Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information inaccurate, incomplete, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive than federal laws and regulations.

Section 14 • Transport Information

D.O.T. Ground	Shipping Name:	Consumer Commodity	UN Number:	NA
	Hazard Class:	ORM-D	Technical Name:	NA
	Subclass:	NA	Hazard Label:	ORM-D

Road/Rail - ADR/RID :	UN no:	1950	ADR Class:	2
	Classification code:	5F	Shipping name:	AEROSOLS, flammable
	Labelling:	2.2	Packing Group:	NA

IMDG-IMO	UN no:	1950	Class:	2
	Shipping Name:	AEROSOLS	Packing Group:	NA
	EmS:	F-D, S-U	Packing Instructions:	P003

IATA-ICAO:	UN no:	1950	Class:	2.1
	Proper Shipping Name:	Aerosols, flammable	Labeling:	Flammable Gas



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Section 15 – Regulatory Information

U.S. Federal Regulations

RCRA Hazardous Waste No.: D001, D003

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA): n-hexane- 5000 pounds

Toxic Substances Control Act (TSCA):

All components of this product are TSCA inventory listed and/or are exempt.

Superfund Amendments and Reauthorization Act (SARA) Title III

SARA Section 311/312 (40 CFR 370) Hazard Categories:

Sudden Release of Pressure, Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard.

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372):

Component	CAS Number	Maximum %
n-hexane	110-54-3	2%

Section 112 Hazardous Air Pollutants (HAPs): n-hexane

State Regulations

California: This product contains chemical(s) known to the State of California to cause cancer, birth defects or reproductive harm.

California and OTC States: This product conforms to consumer regulations.

New Jersey Right to Know:

Petroleum Oil 64742-01-4 • 2-Methylpentane 107-83-5 • Propane/Isobutane Blend 68476-85-7 • 3-Methylpentane 96-14-0 • 2, 3-Dimethylbutane 79-29-8 • n-hexane 110-54-3

International Regulations

Canadian Environmental Protection Act: All of the components of this product are included on the Canadian Domestic Substances list (DSL).

Canadian Workplace Hazardous Materials Information System WHMIS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification: Class A, Class B5, Class D2A, Class D2B



Other Regulations

Montreal Protocol listed ingredients: None.
Stockholm Convention listed ingredients: None.
Rotterdam Convention listed ingredients: None.
RoHS Compliant: Yes.



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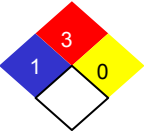
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Section 16 • Other Information

MSDS#13116 Responsible Name: Clea Johnson Regulatory Affairs Coordinator	HMIS 1996		HMIS III		NFPA Flammability	
	Health:	1	Health:	*1		Reactivity
	Flammability:	3	Flammability:	4		
	Reactivity:	0	Physical Hazard:	0		

Notice to Reader:

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Clea L Johnson, Regulatory Affairs Coordinator
LPS Laboratories
A division of Illinois Tool Works