MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product identifier	**LPS® ChainMate**
Version #	03
Issue date	09-18-2013
Revision date	06-29-2014
Supersedes date	11-06-2013
CAS #	Mixture
Part Number	02416, C02416
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, a division of Illinois Tool Works 4647 Hugh Howell Rd Tucker, Georgia 30084 United States www.lpslabs.com 1-800-241-8334/ 770-243-8800 Chemtrec 1-800-424-9300
Supplier	Not available.

2. Hazards Identification

Emergency overview

DANGER

Flammable. Aerosol. CONTENTS UNDER PRESSURE.
Pressurized container may explode when exposed to heat or flame.

Causes skin and eye irritation. Vapors may cause drowsiness and dizziness.

Potential health effects

Routes of exposure	Eye contact. Skin contact. Ingestion. Inhalation.
Eyes	Avoid contact with eyes. May cause eye irritation.
Skin	Avoid contact with the skin. May cause skin irritation.
Inhalation	Avoid breathing dust/fume/gas/mist/vapors/spray. Prolonged inhalation may be harmful.
Ingestion	Exposure by ingestion of an aerosol is unlikely. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Do not ingest.
Target organs	Central nervous system.
Chronic effects	May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.
Signs and symptoms	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Decrease in motor functions. Narcosis. Behavioral changes. Symptoms are prostration, gasping, pallor, and uncoordinated movements. Prolonged exposure may cause chronic effects.
Potential environmental effects	Ecological injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

Hazardous components	**CAS #**	**Percent**
ACETONE	67-64-1	< 10
Non-hazardous components	**CAS #**	**Percent**
residual oils, petroleum, solvent refined	64742-01-4	60 - 70
Petroleum Gases, Liquefied, Sweetened	68476-86-8	20 - 30
Distillates Petroleum, Hydroteated Light	64742-47-8	1 - 5
Petroleum Oil	64741-88-4	1 - 5

4. First Aid Measures

First aid procedures

Eye contact	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if irritation develops and persists.
Skin contact	Wash off with soap and plenty of water. Get medical attention if irritation develops and persists.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.
Ingestion	Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Notes to physician	Provide general supportive measures and treat symptomatically.
General advice	In the case of accident or if you feel unwell, seek medical advice immediately (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

Flammable properties	Flammable by WHMIS criteria. Heat may cause the containers to explode. Ruptured cylinders may rocket.
Extinguishing media	
Suitable extinguishing media	Powder. Water. Foam. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Protection of firefighters	
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. Fire may produce irritating, corrosive and/or toxic gases.
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Fire fighting equipment/instructions	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Containers should be cooled with water to prevent vapor pressure build up.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
Explosion data	
Sensitivity to static discharge	Yes
Sensitivity to mechanical impact	None known.
Hazardous combustion products	May include oxides of carbon.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for containment	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. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Keep out of low areas. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	Should not be released into the environment. Stop the flow of material, if this is without risk. Isolate area until gas has dispersed. Following product recovery, flush area with water. Clean up in accordance with all applicable regulations. For waste disposal, see section 13 of the MSDS.
Other information	Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not re-use empty containers. Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid prolonged exposure. Do not get this material on clothing. Do not use in areas without adequate ventilation. Wash thoroughly after handling. Avoid release to the environment.

Storage

Keep locked up. Contents under pressure. The pressure in sealed containers can increase under the influence of heat. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS). Keep away from food, drink and animal feedingstuffs. Keep in an area equipped with sprinklers.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components	Type	Value	Form
Distillates Petroleum, Hydroteated Light (CAS 64742-47-8)	TWA	5 mg/m3	Oil mist

US. ACGIH Threshold Limit Values

Components	Type	Value
ACETONE (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
ACETONE (CAS 67-64-1)	STEL	1800 mg/m3
		750 ppm
	TWA	1200 mg/m3
		500 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
ACETONE (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Distillates Petroleum, Hydroteated Light (CAS 64742-47-8)	TWA	200 mg/m3	Non-aerosol.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
ACETONE (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
ACETONE (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
ACETONE (CAS 67-64-1)	STEL	2380 mg/m3
		1000 ppm
	TWA	1190 mg/m3
		500 ppm

U.S. - OSHA

Components	Type	Value	Form
Distillates Petroleum, Hydroteated Light (CAS 64742-47-8)	PEL	5 mg/m3	Oil mist

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

Components	Type	Value
ACETONE (CAS 67-64-1)	PEL	2400 mg/m3 1000 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
ACETONE (CAS 67-64-1)	50 mg/l	Acetone	Urine	*

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

Exposure guidelines

Canada - British Columbia OELs: Skin designation

Distillates Petroleum, Hydroteated Light (CAS 64742-47-8) — Can be absorbed through the skin.

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection Wear suitable protective clothing. Chemical resistant gloves.

Respiratory protection No personal respiratory protective equipment normally required. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

9. Physical & Chemical Properties

Appearance

Physical state Gas.

Form Aerosol.

Color Dark grey. Black.

Odor Slight petroleum odor

Odor threshold Not established

pH Not applicable

Vapor pressure 35 psi @ 75° F

Vapor density > 1

Boiling point Not established

Melting point/Freezing point Not established

Solubility (water) 16 % (Soluble)

Specific gravity 0.88 @ 20ºC

Relative density Not available.

Flash point < -4.0 °F (< -20.0 °C) Tag Closed Cup

Flammability limits in air, upper, % by volume Not established

Flammability limits in air, lower, % by volume Not established

Auto-ignition temperature Not established

VOC 22.33 % per US State and Federal Consumer Prodcut Regulations

Evaporation rate Not established

Viscosity 150 cP @ 75° F / 23.9° C

Percent volatile 17 %

Percent volatile temperature	110 °F (43.33 °C)
Partition coefficient (n-octanol/water)	Not established

Other data

Decomposition temperature	Not established
Density	7.32
Heat of combustion	> 30 kJ/g

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of explosion.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong acids.
Hazardous decomposition products	Upon decomposition this product emits acrid dense smoke with carbon dioxide, carbon monoxide, water and other products of combustion.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
ACETONE (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	> 15800 mg/kg
		20 ml/kg
Inhalation		
LC50	Rat	55700 ppm
		76 mg/l, 4 Hours
		50.1 mg/l
		50.1 mg/l, 8 Hours
Oral		
LD50	Mouse	3000 mg/kg
	Rabbit	5340 mg/kg
	Rat	5800 mg/kg
		2.2 ml/kg
Other		
LD50	Mouse	1297 mg/kg
	Rat	5500 mg/kg
Distillates Petroleum, Hydroteated Light (CAS 64742-47-8)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Cat	> 6.4 mg/l
	Rat	> 0.1 mg/l
Oral		
LD50	Rat	> 5000 mg/kg
Petroleum Oil (CAS 64741-88-4)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg

Components	Species	Test Results
Inhalation		
LC50	Rat	> 2.5 mg/l
Oral		
LD50	Rat	> 2000 mg/kg

Acute effects Based on available data, the classification criteria are not met.

Sensitization Based on available data, the classification criteria are not met.

Local effects Irritating to skin. Irritating to eyes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic effects Prolonged inhalation may be harmful.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

ACGIH Carcinogens

ACETONE (CAS 67-64-1) A4 Not classifiable as a human carcinogen.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/irritation Direct contact with eyes may cause temporary irritation.

Mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive effects Based on available data, the classification criteria are not met.

Teratogenicity Not available.

Symptoms and target organs Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Synergistic materials Not available.

Further information None known.

12. Ecological Information

Ecotoxicological data

Components		Species	Test Results
ACETONE (CAS 67-64-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	10294 - 17704 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
Distillates Petroleum, Hydroteated Light (CAS 64742-47-8)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2.9 mg/l, 96 hours

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.

Environmental effects Not classified as an environmental hazard.

Aquatic toxicity 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 Not inherently biodegradable.

Partition coefficient

LPS® ChainMate	> 1
ACETONE	-0.24

Mobility in environmental media The product is immiscible with water and will spread on the water surface.

Other adverse effects None known.

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. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

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).
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

TDG

UN number	UN1950
UN proper shipping name	AEROSOLS, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, flammable
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA; IMDG; TDG

15. Regulatory Information

Canadian regulations	This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.
WHMIS status	Controlled
WHMIS classification	A - Compressed Gas B5 - Flammable Aerosols D2B - Other Toxic Effects-TOXIC

WHMIS labeling

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 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

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Prepared by

Not available.

This data sheet contains changes from the previous version in section(s):

Composition / Information on Ingredients: Ingredients
Fire Fighting Measures: Hazardous combustion products
Physical & Chemical Properties: Multiple Properties
Transport Information: Material Transportation Information
Transport Information: General information
Regulatory Information: United States
HazReg Data: North America
GHS: Classification