



# MATERIAL SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Material name** LPS® ChainMate  
**Recommended use** A spray lubricant designed to penetrate chains and wire ropes, displace moisture and provide long lasting lubrication under high loads and humid conditions.  
**Version #** 02  
**CAS #** Mixture  
**Part Number** 02416  
**Supplier Name** MRO Chem Pty Ltd  
**Address** Level 19, 644 Chapel Street,  
South Yarra, Vic 3141, Australia.  
Tel: +61 (3)9823 6273  
Website: <http://www.mrochem.com.au>  
**In Case of Emergency** (Australia) +61 (4)3448 1129 (US) +1 703-527-3887  
**Manufacturer**  
**Company name** LPS Laboratories, a division of Illinois Tool Works, Inc.  
**Address** 4647 Hugh Howell Rd., Tucker, GA 30084 (U.S.A.)  
**Website** <http://www.lpslabs.com>  
**E-mail** [sds@lpslabs.com](mailto:sds@lpslabs.com)

## 2. HAZARDS IDENTIFICATION

**Classification** F+;R12, Xi;R36/37/38, R67, N;R50/53  
**Risk phrase(s)** R12 Extremely flammable.  
R36/37/38 Irritating to eyes, respiratory system and skin.  
R67 Vapors may cause drowsiness and dizziness.  
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
**Safety phrase(s)** S1/2 Keep locked up and out of the reach of children.  
S7/9 Keep container tightly closed and in a well-ventilated place.  
S16 Keep away from sources of ignition - No smoking.  
S23 Do not breathe gas/fumes/vapor/spray.  
S24/25 Avoid contact with skin and eyes.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S60 This material and its container must be disposed of as hazardous waste.  
S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS #	Percent
Heptane	142-82-5	10 - < 30
Petroleum Gases, Liquified, Sweetened	68476-86-8	10 - < 30
Acetone	67-64-1	< 10
Other components below reportable levels		> 60

## 4. FIRST AID MEASURES

**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.  
**Skin contact** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing 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** 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.  
**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.

**Notes to physician** Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim under observation. Symptoms may be delayed.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media** Powder. Water. Foam. Carbon dioxide (CO<sub>2</sub>).

**Extinguishing media which must not be used for safety reasons** Do not use a solid water stream as it may scatter and spread fire.

**Unusual fire & explosion hazards** Heat may cause the containers to explode.

**Specific hazards** Fire may produce irritating, corrosive and/or toxic gases.

**Special protective equipment for fire-fighters** Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Structural firefighters protective clothing will only provide limited protection.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes.

**HAZCHEM code** None.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions** Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.

**Environmental precautions** Avoid release to the environment. Refer to special instructions/safety data sheets. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

**Containment procedures** Refer to attached safety data sheets and/or instructions for use. 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. Prevent entry into waterways, sewer, basements or confined areas.

**Methods for cleaning up** Should not be released into the environment. Prevent product from entering drains. Stop the flow of material, if this is without risk. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Isolate area until gas has dispersed. Following product recovery, flush area with water. This material and its container must be disposed of as hazardous waste. For waste disposal, see section 13 of the MSDS.

## 7. HANDLING AND STORAGE

**Handling** May be ignited by open flame. 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. Avoid exposure - obtain special instructions before use. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. Use appropriate container to avoid environmental contamination. Do not empty into drains.

**Storage** Contents under pressure. 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. Use appropriate container to avoid environmental contamination. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS).

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm

#### Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	2375 mg/m <sup>3</sup>
		1000 ppm

**Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)**

Components	Type	Value
Heptane (CAS 142-82-5)	TWA	1185 mg/m3 500 ppm
	STEL	2050 mg/m3 500 ppm
	TWA	1640 mg/m3 400 ppm

**Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)**

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	2375 mg/m3 1000 ppm
	TWA	1185 mg/m3 500 ppm
Heptane (CAS 142-82-5)	STEL	2050 mg/m3 500 ppm
	TWA	1640 mg/m3 400 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.

**Recommended monitoring procedures**

**Additional exposure data** Not available.

**Engineering measures to reduce exposure** 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.

**Personal protective equipment**

**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.

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

**Eye protection** Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended.

**Skin and body protection** Avoid contact with clothing. Wear suitable protective clothing. Chemical resistant gloves.

**General** Use personal protective equipment as required.

**Environmental exposure controls** Environmental manager must be informed of all major releases.

**Hygiene measures** When using do not smoke. 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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance**

<b>Physical state</b>	Gas.
<b>Form</b>	Aerosol.
<b>Color</b>	Dark grey. Black.
<b>Odor</b>	Slight petroleum odor
<b>Odor threshold</b>	Not established
<b>pH</b>	Not applicable
<b>Vapor pressure</b>	Not established
<b>Vapor density</b>	> 1
<b>Boiling point</b>	Not established
<b>Melting point/Freezing point</b>	Not established
<b>Solubility (water)</b>	Insoluble
<b>Specific gravity</b>	0.85 @ 20°C

<b>Flash point</b>	< -0.4 °F (< -18.0 °C) Tag Closed Cup
<b>Flammability limits in air, upper, % by volume</b>	Not established
<b>Flammability limits in air, lower, % by volume</b>	Not established
<b>Auto-ignition temperature</b>	Not established
<b>VOC</b>	24.5 % per US State and Federal Consumer Product Regulations
<b>Evaporation rate</b>	Not established
<b>Viscosity</b>	31 cP
<b>Percent volatile</b>	32.5 %
<b>Partition coefficient (n-octanol/water)</b>	Not established
<b>Other data</b>	
<b>Decomposition temperature</b>	Not established
<b>Density</b>	7.09
<b>Heat of combustion</b>	> 30 kJ/g

## 10. STABILITY AND REACTIVITY

<b>Chemical stability</b>	Risk of ignition.
<b>Conditions to avoid</b>	Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Materials to avoid</b>	Strong oxidizing agents. Strong acids.
<b>Hazardous decomposition products</b>	Upon decomposition this product emits acrid dense smoke with carbon dioxide, carbon monoxide, water and other products of combustion.

## 11. TOXICOLOGICAL INFORMATION

### Toxicological data

Components	Species	Test Results
Acetone (CAS 67-64-1)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	20000 mg/kg 20 ml/kg
<i>Inhalation</i>		
LC50	Rat	76 mg/l, 4 Hours 50.1 mg/l, 8 Hours
<i>Oral</i>		
LD50	Mouse	3000 mg/kg
	Rabbit	5340 mg/kg
	Rat	5800 mg/kg
<i>Other</i>		
LD50	Mouse	1297 mg/kg
	Rat	5500 mg/kg
Heptane (CAS 142-82-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 29.29 mg/l 103 mg/l, 4 Hours
LD50	Mouse	75 mg/l, 2 Hours
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
<i>Other</i>		
LD50	Mouse	222 mg/kg

Components	Species	Test Results
White Mineral Oil (CAS 8042-47-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 4.5 mg/l
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Acute toxicity</b>	Based on available data, the classification criteria are not met.
<b>Routes of exposure</b>	Eye contact. Skin contact. Ingestion. Inhalation.
<b>Chronic toxicity</b>	Prolonged inhalation may be harmful.
<b>Sensitization</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.
<b>Mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Reproductivity</b>	Based on available data, the classification criteria are not met.
<b>Epidemiology</b>	No epidemiological data is available for this product.
<b>Local effects</b>	Irritating to skin. Irritating to eyes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
<b>Symptoms and target organs</b>	Skin irritation. Causes serious eye irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

## 12. ECOLOGICAL INFORMATION

Ecotoxicological data			
Components	Species	Test Results	
Acetone (CAS 67-64-1)			
<b>Aquatic</b>			
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
Heptane (CAS 142-82-5)			
<b>Aquatic</b>			
Fish	LC50	Mozambique tilapia (Tilapia mossambica)	375 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

<b>Ecotoxicity</b>	Very toxic to aquatic life with long lasting effects.
<b>Persistence and degradability</b>	Not inherently biodegradable.
<b>Mobility</b>	The product is immiscible with water and will spread on the water surface.
<b>Bioaccumulation</b>	
<b>Bioaccumulative potential</b>	
<b>Octanol/water partition coefficient log Kow</b>	
LPS® ChainMate	> 1
Acetone	-0.24
Heptane	4.66
<b>Environmental effects</b>	Very toxic to aquatic life with long lasting effects.
<b>Aquatic toxicity</b>	Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
<b>Other adverse effects</b>	None known.

### 13. DISPOSAL CONSIDERATIONS

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose in accordance with all applicable regulations.
<b>Waste from residues / unused products</b>	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.
<b>Contaminated packaging</b>	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

#### ADG

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	AEROSOLS, flammable
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	Not available.
<b>Hazchem code</b>	2YE
<b>Special precautions for user</b>	Read safety instructions, MSDS and emergency procedures before handling.

#### IATA

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

#### IMDG

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	AEROSOLS, flammable (Heptane), MARINE POLLUTANT
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-D, S-U
<b>Special precautions for user</b>	Read safety instructions, MSDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not applicable.

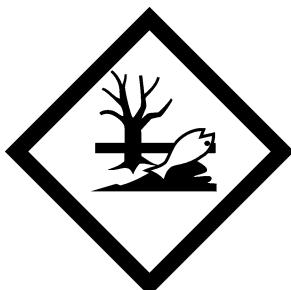
#### ADG



IATA; IMDG



Marine pollutant



## 15. REGULATORY INFORMATION

### National regulations

This Material Safety Data Sheet was prepared in accordance with the Australia National Code of Practice for the Preparation of Material Safety Data Sheets (NOHSC: 2011.)

#### Australia HVIC: Listed substance

Acetone (CAS 67-64-1)	Listed.
Heptane (CAS 142-82-5)	Listed.
Mineral Oil (CAS 64742-65-0)	Listed.
Petroleum Oil (CAS 64741-88-4)	Listed.
White Mineral Oil (CAS 8042-47-5)	Listed.

#### Australia Medicines & Poisons Schedule 5: Use/Concentration/Exceptions

Acetone (CAS 67-64-1)	Exception was applied to data.
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### Inventory status

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.

### Issue date

09-18-2013

### Revision date

11-05-2013

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

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