

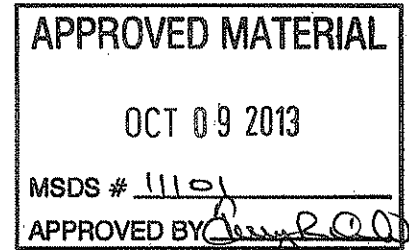


MATERIAL SAFETY DATA SHEET

(11101)

1. Product and Company Identification

Material name White Lithium
Version # 01
Issue date 04-22-2013
Supersedes date 04-22-2013
CAS # Mixture
Part Number 03816, C03816
Product use A white lithium based grease formulated with PTFE additives to provide superior lubrication.
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



2. Hazards Identification

Emergency overview DANGER

Flammable aerosol. CONTENTS UNDER PRESSURE.
Pressurized container may explode when exposed to heat or flame. Will be easily ignited by heat, spark or flames.

HARMFUL OR FATAL IF SWALLOWED.
Causes skin irritation. Causes serious eye irritation. Vapors may cause drowsiness and dizziness. Possible reproductive hazard. Prolonged exposure may cause chronic effects. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential health effects

Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.
Eyes Avoid contact with eyes. Causes eye irritation.
Skin Avoid contact with the skin. May be harmful if absorbed through skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Inhalation Do not breathe vapors, aerosols. Irritating to respiratory system. Intentional misuse by concentrating and inhaling the product can be harmful or fatal.
Ingestion Exposure by ingestion of an aerosol is unlikely. Harmful: may cause lung damage if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Do not ingest.

Target organs Eyes. Skin. Respiratory system. Central nervous system.

Chronic effects Conjunctiva. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Pregnant women or women of child-bearing age should not be exposed to this product. May cause harm to the unborn child. May be harmful if absorbed through skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Signs and symptoms Irritation of eyes and mucous membranes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Rash. Narcosis. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Behavioral changes. Decrease in motor functions. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Potential environmental effects Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Hazardous components	CAS #	Percent
Petroleum Gases, Liquefied, Sweetened	68476-86-8	15 - 40
2-METHYLPENTANE	107-83-5	10 - 30

Hazardous components	CAS #	Percent
ACETONE	67-64-1	10 - 30
2,3-DIMETHYLBUTANE	79-29-8	5 - 10
3-Methylpentane	96-14-0	5 - 10
NEOHEXANE	75-83-2	3 - 7
N-HEXANE	110-54-3	0.5 - 1.5
Titanium Dioxide	13463-67-7	0.1 - 1
Non-hazardous components	CAS #	Percent
OIL, MINERAL	64742-52-5	15 - 40
Other components below reportable levels		3 - 7

4. First Aid Measures

First aid procedures

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.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and 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. Get medical attention if symptoms persist.
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. Do not use mouth-to-mouth method if victim ingested the substance.

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.

General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

5. Fire Fighting Measures

Flammable properties Flammable by WHMIS criteria. Heat may cause the containers to explode. Ruptured cylinders may rocket. Vapors may travel considerable distance to a source of ignition and flash back.

Extinguishing media

Suitable extinguishing media Powder, Alcohol resistant 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.

Protective equipment for firefighters Firefighters should wear full protective clothing including self contained breathing apparatus. Structural firefighters protective clothing will only provide limited protection. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

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. Do not direct water at source of leak or safety devices as icing may occur. 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. Some of these materials, if spilled, may evaporate leaving a flammable residue.

Explosion data

Sensitivity to static discharge Yes

Sensitivity to mechanical impact None known.

6. Accidental Release Measures

Personal precautions	Consider initial downwind evacuation for at least 500 meters (1/3 mile). Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Pay attention to flashback. 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. If possible, turn leaking containers so that gas escapes rather than liquid. 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	Ventilate the area. 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	<p>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. All equipment used when handling the product must be grounded. Do not re-use empty containers.</p> <p>Do not breathe dust/fume/gas/mist/vapors/spray. Avoid prolonged exposure. Do not use in areas without adequate ventilation. Wear personal protective equipment. Wash thoroughly after handling.</p>
Storage	Level 3 Aerosol.

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. Keep in an area equipped with sprinklers.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH Biological Exposure Indices Components

Components	Type	Value
Acetone (CAS 67-64-1)	BEI	50 mg/l
N-hexane (CAS 110-54-3)	BEI	0.4 mg/l

US. ACGIH Threshold Limit Values Components

Components	Type	Value	Form
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	
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
2,2-Dimethylbutane (CAS 75-83-2)	STEL	1000 ppm	
	TWA	500 ppm	
N-hexane (CAS 110-54-3)	TWA	500 ppm	
	TWA	50 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Heavy Hydrotreated Naphthenic Distillates (petroleum) (CAS 64742-52-5)	TWA	5 mg/m ³	Inhalable fraction.
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m ³	

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

Components	Type	Value	Form
2-Methylpentane (CAS 107-83-5)	STEL	3500 mg/m ³	
	TWA	1000 ppm 1760 mg/m ³	
3-Methylpentane (CAS 96-14-0)	STEL	500 ppm 3500 mg/m ³	
	TWA	1000 ppm 1760 mg/m ³	
Acetone (CAS 67-64-1)	STEL	500 ppm 1800 mg/m ³	
	TWA	750 ppm 1200 mg/m ³	
N-hexane (CAS 110-54-3)	TWA	500 ppm 176 mg/m ³	
	STEL	50 ppm 10 mg/m ³	Mist.
Heavy Hydrotreated Naphthenic Distillates (petroleum) (CAS 64742-52-5)	TWA	5 mg/m ³	Mist.
	TWA	10 mg/m ³	

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	
N-hexane (CAS 110-54-3)	TWA	20 ppm	
Titanium Dioxide (CAS 13463-67-7)	TWA	3 mg/m ³	Respirable fraction.
		10 mg/m ³	Total dust.

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

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
N-hexane (CAS 110-54-3)	TWA	50 ppm	
Heavy Hydrotreated Naphthenic Distillates (petroleum) (CAS 64742-52-5)	STEL	10 mg/m ³	Mist.
	TWA	5 mg/m ³	Mist.
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m ³	

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

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	2380 mg/m ³	

Material name: White Lithium

694 Version #: 01 Issue date: 04-22-2013

MSDS CANADA

4 / 9

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

Components	Type	Value	Form
		1000 ppm	
	TWA	1190 mg/m3	
N-hexane (CAS 110-54-3)	TWA	500 ppm	
		176 mg/m3	
Heavy Hydrotreated Naphthenic Distillates (petroleum) (CAS 64742-52-5)	STEL	50 ppm	Mist.
		10 mg/m3	
Titanium Dioxide (CAS 13463-67-7)	TWA	5 mg/m3	Mist.
	TWA	10 mg/m3	Total dust.

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

Components	Type	Value	Form
Acetone (CAS 67-64-1)	PEL	2400 mg/m3	
		1000 ppm	
N-hexane (CAS 110-54-3)	PEL	1800 mg/m3	
		500 ppm	
Heavy Hydrotreated Naphthenic Distillates (petroleum) (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
Titanium Dioxide (CAS 13463-67-7)	PEL	500 ppm	Total dust.
		15 mg/m3	

Exposure guidelines

Canada - Alberta OELs: Skin designation

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

Canada - British Columbia OELs: Skin designation

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

Canada - Manitoba OELs: Skin designation

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

Canada - Ontario OELs: Skin designation

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

Canada - Quebec OELs: Skin designation

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

Canada - Saskatchewan OELs: Skin designation

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

US ACGIH Threshold Limit Values: Skin designation

N-HEXANE (CAS 110-54-3) 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). Eye wash fountain is recommended.

Skin protection

Avoid contact with clothing. 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	Liquid.
Physical state	Gas.
Form	Aerosol.
Color	White.
Odor	Slight petroleum odor

Odor threshold	Not available.
pH	Not available.
Vapor pressure	2200 - 2700 mm Hg @ 20 °C
Vapor density	3 (air =1)
Boiling point	158 °F (70 °C)
Melting point/Freezing point	Not applicable
Solubility (water)	Not soluble in water
Specific gravity	0.74 - 0.78 @ 20 °C (water =1)
Relative density	Not available.
Flash point	< 1.40 °F (< -17.00 °C) Tag Closed Cup
Flammability limits in air, upper, % by volume	9.5 % Estimated
Flammability limits in air, lower, % by volume	1.8 % Estimated
Auto-ignition temperature	Not available.
VOC	51.3 % per U.S. State and Federal Consumer Product Regulations
Evaporation rate	< 1 (Ethyl Ether =1)
Viscosity	700 - 1600 cP
Percent volatile	85 - 90 %
Partition coefficient (n-octanol/water)	< 1

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of explosion.
Conditions to avoid	Aerosol containers are unstable at temperatures above 49°C. Avoid temperatures exceeding the flash point. Heat, flames and sparks.
Incompatible materials	Acids. Strong oxidizing agents.
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		
<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 5.2 g/kg
	Rabbit	5340 mg/kg
	Rat	5800 mg/kg
<i>Other</i>		
LD50	Mouse	1297 mg/kg

Material name: White Lithium

694 Version #: 01 Issue date: 04-22-2013

MSDS CANADA

6 / 9

Components	Species	Test Results	
N-HEXANE (CAS 110-54-3)	Rat	5500 mg/kg	
	Acute		
	<i>Inhalation</i>		
	LC50	Mouse	48000 mg/l, 4 Hours
	<i>Oral</i>		
LD50	Rat	24 mg/kg	
	Wistar rat	49 mg/kg	

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

Acute effects	Based on available data, the classification criteria are not met.
Local effects	Components of the product may be absorbed into the body through the skin. Contact may irritate or burn eyes. Harmful by inhalation and in contact with skin. Harmful if swallowed.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. May be harmful if absorbed through skin.
Carcinogenicity	Based on available data, the classification criteria are not met.
ACGIH Carcinogens	
ACETONE (CAS 67-64-1)	A4 Not classifiable as a human carcinogen.
Titanium Dioxide (CAS 13463-67-7)	A4 Not classifiable as a human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Titanium Dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.
Mutagenicity	Based on available data, the classification criteria are not met.
Reproductive effects	Suspected of damaging fertility. Suspected of damaging the unborn child.
Symptoms and target organs	Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Defatting of the skin. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Behavioral changes. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Further information	Symptoms may be delayed.

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
N-HEXANE (CAS 110-54-3)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	2.101 - 2.981 mg/l, 96 hours
Titanium Dioxide (CAS 13463-67-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/l, 96 hours

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

Ecotoxicity	Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the environment.
Environmental effects	Toxic to aquatic organisms.
Aquatic toxicity	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
Persistence and degradability	Not inherently biodegradable.

Partition coefficient	
White Lithium	< 1
2,3-DIMETHYLBUTANE	3.42
2-METHYLPENTANE	3.74
3-Methylpentane	3.6
ACETONE	-0.24
NEOHEXANE	3.82
N-HEXANE	3.9

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

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. Dispose in accordance with all applicable regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport Information

TDG

UN number UN1950
UN proper shipping name AEROSOLS, flammable
Hazard class 2.1
Special provisions 80
Labels required 2.1

IATA

UN number UN1950
UN proper shipping name Aerosols, flammable
Transport hazard class(es) 2.1
Labels required 2.1
Special precautions for user Read safety instructions, MSDS and emergency procedures before handling.

IMDG

UN number UN1950
UN proper shipping name AEROSOLS, flammable
Transport hazard class(es) 2.1
Labels required 2.1
EmS F-D, S-U
Special precautions for user 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.

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
 D2A - Other Toxic Effects-VERY TOXIC
 D2B - Other Toxic Effects-TOXIC

WHMIS labeling



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)	Yes
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).

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

HMIS® ratings

Health: 1*
Flammability: 4
Physical hazard: 2

NFPA ratings

Health: 1
Flammability: 3
Instability: 0

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.