

MATERIAL SAFETY DATA SHEET

LPS Dry Film PTFE Lubricant

Revision Date: January 21, 2011

Supersedes: January 12, 2011

Section 1 • Product and Company Identification

Product Name: LPS[®] Dry Film PTFE Lubricant

Part Number: 02616, C02616

Chemical Name: Ether/Alcohol/HFC mixture

Product Use: A dry film industrial lubricant for rubber, plastic and metal parts.

Manufacturer Information: LPS Laboratories, 4647 Hugh Howell Rd., Tucker, GA, USA 30084

TEL: USA & Canada: 1 800 241-8334
Outside USA and Canada 1 770-243-8800

FAX: USA & Canada: 1 800 543-1563
Outside USA and Canada 1 770-243-8899

Emergency Telephone Number: Chemtrec: USA&Canada 1-800-424-9300
Outside USA and Canada: +1 (703) 527-3887

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 800/243-8800.

Worker Toxicity

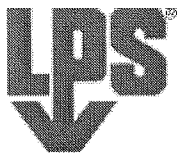
LPS Dry Film PTFE Lubricant is an industrial lubricant and mold release agent. It contains isopropanol, so it can irritate your skin. We suggest you wear gloves and avoid extended exposure to unprotected skin. Don't get it in your eyes (it stings), or breath large amounts of the vapor, (it will dry out 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 Dry Film PTFE 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 Dry Film PTFE Lubricant exhibits a strong "residual" flammability and should be used with caution around ignition sources. High heat will cause explosive rupture of aerosol containers.

Disposal

In the United States, pressurized aerosol containers are classified as hazardous waste. However, per 40 CFR 261.7 if an aerosol container is depressurized and contains less than 1 inch (2.5 cm) of fluid, it is no longer classified as hazardous. Always dispose of waste in accordance with national, state and local regulations. Please refer to Section 13 for more information.



MATERIAL SAFETY DATA SHEET

LPS Dry Film PTFE Lubricant

Revision Date: January 21, 2011

Supercedes: January 12, 2011

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: Contents under pressure. Harmful or fatal if swallowed

Bulk: Not Applicable

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 IARC: No OSHA: No ACGIH: No

Mutagenic Effects: None

Teratogenic Effects: None

Target Organ: None

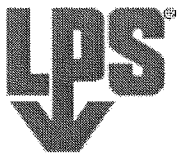
Medical conditions aggravated by exposure: Persons with pre-existing central nervous system (CNS) disease, neurological conditions, skin disorders, chronic respiratory diseases, or impaired liver or kidney function should avoid exposure.

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.

Section 3 • Composition / Information on Ingredients

Component	CASRN	Weight Percent
Dimethyl Ether	115-10-6	40 - 50
1,1,1,2-Tetrafluoroethane	811-97-2	40 - 50
Isopropanol	67-63-0	10 - 15



MATERIAL SAFETY DATA SHEET

LPS Dry Film PTFE Lubricant

Revision Date: January 21, 2011

Supersedes: January 12, 2011

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

Products of Combustion: Carbon monoxide, carbon dioxide, and hydrogen fluoride.

General Fire Hazards: High heat will cause product to boil, evolving vapor that could cause explosive rupture of closed containers.

Firefighting media: SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use CO₂, water spray, fog or foam. Cool containing vessels with water to prevent pressure build-up, auto ignition or explosions.

Sensitivity to Impact: None **Sensitivity to Static Discharge:** Yes

Protection Clothing (Fire): Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles.

Special Remarks on Explosion Hazards: Aerosols may explode upon heating, spread fire and overcome sprinkler systems.

Section 6 • Accidental Release Measures

- | | | |
|-------------------------------|------------------------------|--|
| Containment Procedures | Small Spill and Leak: | Eliminate ignition sources. Absorb with an inert material and dispose of properly. |
| | Large Spill and Leak: | 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 | | Recover free product and place in suitable container for disposal. |
| 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. |



MATERIAL SAFETY DATA SHEET

LPS Dry Film PTFE Lubricant

Revision Date: January 21, 2011

Supercedes: January 12, 2011

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 in a cool, well-ventilated area. Avoid all sources of ignition (spark or flame). Store below 120°F (49°C).

Precautions to be taken in handling and storage: Store aerosols as Level 1 Aerosol (NFPA 30B). Store all materials in dry, well-ventilated area. Avoid breathing vapors.

Section 8 • Exposure Controls / Personal Protection

Component	CASRN	OSHA TWA-PEL	OSHA STEL	ACGIH-TLV	ACGIH-STEEL	NIOSH
Dimethyl ether	115-10-6	1000 ppm*	Not Established	Not Established	Not Established	OEL-UNITED KINGDOM: TWA 400 ppm; STEL 500 ppm,
1,1,1,2-Tetrafluoroethane	811-97-2	Not Established	Not Established	Not Established	Not Established	OEL-UNITED KINGDOM: TWA 1000 ppm;
Isopropanol	67-63-0	400 ppm	Not Established	200 ppm	400 ppm	400 ppm TWA 500 ppm STEL

*Supplier Recommendation

Engineering Controls: Provide general and/or local exhaust ventilation to keep exposures below the exposure guidelines listed above.

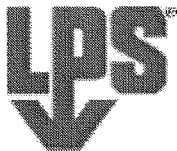
Personal Protection:

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 chemical resistant gloves conforming to appropriate regulations. Please observe the instructions regarding permeability and breakthrough time that are provided by the supplier of the gloves.

Respiratory protection Typical use of this product under normal conditions does not require the use of respiratory protection. If airborne concentrations are above the applicable exposure limits (listed above), use NIOSH approved respiratory protection (i.e., organic vapor cartridge).

General Hygiene Considerations Wash thoroughly after handling. Have eye-wash facilities immediately available.



MATERIAL SAFETY DATA SHEET

LPS Dry Film PTFE Lubricant

Revision Date: January 21, 2011

Supercedes: January 12, 2011

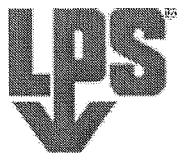
Section 9 • Physical and Chemical Properties

Appearance:	Liquid	Color:	White
Odor:	Ethereal	Evaporation Rate:	>1 (BuAc=1)
Solubility Description:	5% in water	Flash Point:	Not Established*
Boiling Point:	Not Established	Flash Point Method:	TCC
Specific Gravity (H2O=1):	0.79 – 0.81 @ 20°C	Decomposition Temperature:	Not Established
Vapor Density (air = 1):	>1	Auto Ignition Temperature:	Not Established
Vapor Pressure:	3700 – 3800 mmHg @ 20°C	Flammable limits (estimated):	LOWER: NE UPPER: NE
V.O.C. Content:	Aerosol: 57% , 459 g/L, 3.8#/gal per CARB, OTC, and EPA definition Bulk: Not Applicable	Partition Coefficient (octanol/water):	<1
Rule 1171 PPc:	Not Applicable	Odor Threshold:	Not Established
Melting Point:	Not Established	Viscosity:	Not Established
pH:	Not Applicable	Volatiles:	96-99%
Heat of combustion:	Aerosol: 15.5 kJ/g Bulk: Not Applicable		

*This material does not exhibit a flame extension and does not readily lend itself to flash point determination using a Tag closed cup device, but is expected to exhibit a vigorous flash point below room temperature under open cup conditions. This item exhibits strong "residual" flammability and should be used with caution around ignition sources.

Section 10 • Stability and Reactivity

Chemical Stability:	Product is stable under recommended storage conditions.
Conditions to Avoid:	Keep away from heat and ignition sources.
Incompatibility:	Reactive or incompatible with oxidizing agents.
Hazardous Decomposition:	These products are carbon oxides (CO, CO2) and hydrogen fluoride.
Hazardous Polymerization:	Will not occur.



MATERIAL SAFETY DATA SHEET

LPS Dry Film PTFE Lubricant

Revision Date: January 21, 2011

Supersedes: January 12, 2011

Section 11 • Toxicological Information

Acute and Chronic Toxicity

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.

B: Component Analysis

Component	CASRN	LC-50	LD-50
Dimethyl Ether	115-10-6	93 g/m ³ /mouse/15min	Not Appropriate
1,1,1,2-Tetrafluoroethane	811-97-2	1,500 gm/m ³ /rat/4hr	Not Appropriate
Isopropanol	67-63-0	16,000 ppm/rat/4hr*	3,600 mg/kg/oral/mouse

*Supplier data

Section 12 • Ecological Information

Mobility: Semi-volatile. Readily absorbed into soil. **Persistence and degradability:** Only slightly biodegradable.

Bioaccumulative potential: Minimal bioaccumulation potential. **Other adverse effects:** None known.

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	Isopropanol	67-63-0	96 hour LC ₅₀	Pimephales promelas	11,130,000 µg/L
Acute Toxicity on Daphnia	No Data Available				
Bacterial inhibition					
Growth inhibition of algae					
Bioaccumulation in fish					

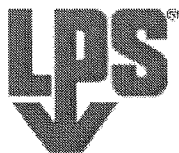
*Supplier data

Section 13 • Disposal Considerations

Waste Status: Aerosol cans, if depressurized and emptied to less than 2.5 cm (1 inch) of fluid contents are classified as non-hazardous waste under 40 CFR 261.7 (U.S.). If disposed of in its received form, this product carries waste codes D001 and D003. (U.S.)

Disposal: Waste must be disposed of in accordance with national, regional, provincial, 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.



MATERIAL SAFETY DATA SHEET

LPS Dry Film PTFE Lubricant

Revision Date: January 21, 2011

Supersedes: January 12, 2011

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 Already on box
	Packing Group:	NA		
Road/Rail - ADR/RID	UN no:	1950	ADR Class:	2
	Packing group:	NA	Classification code:	5A
	Name and Description:	Aerosols, asphyxiant	Hazard ID no:	NA
	Labeling:	2.2	Technical Name:	NA
IMDG-IMO	UN no:	1950	Class:	2.2
	Shipping Name:	Aerosols	Subsidiary Risk:	NA
	Labeling:	2	Packing group:	NA
	Packing Instruction:	P003, LP02	EmS:	F-D, S-U
	Marine pollutant:	No	Technical Name:	NA
IATA-ICAO	UN no:	1950	Class:	2.2
	Shipping Name:	Aerosols, non-flammable	Subclass:	NA
	Packing instructions:	203, Y203 (Ltd. Qty.)	Packing group:	NA
	Labeling:	Non-flammable Gas	Technical Name:	NA

Section 15 – Regulatory Information

U.S. Federal Regulations

RCRA Hazardous Waste No.: D001, D003

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA): None

Toxic Substances Control Act (TSCA):

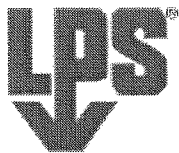
All components of this product are TSCA inventory listed and/or are exempt.

Superfund Amendments and Reauthorization Act (SARA) Title III

SARA Section 311/312 (40 CFR 370) Hazard Categories: Sudden Release of Pressure, 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): No individual section 313 component is present at or above 1%.

Section 112 Hazardous Air Pollutants (HAPs): None



MATERIAL SAFETY DATA SHEET

LPS Dry Film PTFE Lubricant

Revision Date: January 21, 2011

Supersedes: January 12, 2011

State Regulations

California: This product does **not** contain chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm.

California and OTC States: This product is not regulated by consumer regulations.

New Jersey Right to Know: Dimethyl Ether 115-10-6 • 1,1,1,2-Tetrafluoroethane 811-97-2 • Isopropanol 67-63-0 • alpha-(difluoromethylene) 65530-85-0 • Polytetrafluoroethylene 9002-84-0

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:

Aerosol: Class A, Class D2B



Other Regulations

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

Section 16 • Other Information

MSDS# 12616 MSDS Preparation Responsible Name: Clea George Regulatory Affairs Coordinator Telephone: +1 770 243-8800	HMIS 1996		HMIS III		NFPA
	Health:	1	Health:	[/]1	
	Flammability:	3	Flammability: aerosol	2	
			Flammability: bulk	NA	
	Reactivity	0	Physical Hazard: aerosol	2	
Physical Hazard: bulk			NA		

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. George, Regulatory Affairs Coordinator
 LPS Laboratories, A division of Illinois Tool Works