MATERIAL SAFETY DATA SHEET
LPS Dry Film PTFE Lubricant

Revision Date: 1/11/08 **Supercedes: 01/31/03**

Section 1 • Product and Company Identification

Manufacturer's Name: LPS Laboratories

Trade Name: LPS Dry Film PTFE Lubricant

Part Numbers: 02616, C02616

Address:
4647 Hugh Howell Road
Tucker, GA USA 30085-5052

Chemical Family: Ether/Alcohol/HFC mixture

Telephone Number: 770-243-8800

Emergency Telephone Number:
1-800-424-9300 Chemtrec;
Outside U.S.: (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

While LPS Dry Film PTFE Lubricant is considered non-flammable in its presented form, it exhibits 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.

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: WARNING: Contents under pressure. Use only as directed. Intentional misuse by deliberately concentrating and inhaling contents can be harmful or fatal. Do not use near fire, flame or while smoking. Do not puncture, incinerate or store container above 120°F (49°C). Overexposure to vapor may cause irritation to the nose and throat and may also cause dizziness, drowsiness and other effects of the central nervous system. Use with adequate ventilation and avoid prolonged or repeated breathing of vapors and spray mist. Avoid contact with eyes. Liquid and vapor may cause eye irritation. In case of eye contact, flush eyes with water and call physician. Direct contact to skin with liquefied propellant may cause frostbite. If swallowed do not induce vomiting, call a physician immediately. Keep out of reach of children.

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: Harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.

Potential Chronic Health Effects:

Carcinogenic Effects: NTP: No **IARC:** No **OSHA:** No

Mutagenic Effects: None

Teratogenic Effects: 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	Percent by Weight
Tetrafluoroethane	811-97-2	40 - 50
Dimethyl Ether	115-10-6	40 - 50
Isopropyl Alcohol	67-63-0	10 - 15
Non-hazardous ingredients	---	1 - 5

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 victimÕs 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 and carbon dioxide.

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, autoignition or explosions.

Sensitivity to Impact: None
Sensitivity to Static Discharge: Yes. See sections 6, 7, 8 and 15.

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 Contain and recover spilled liquid when possible.

Clean-Up Procedures **Small Spill and Leak:** Absorb with an inert material and dispose of properly.
Large Spill and Leak: For large spills, 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, ñkitty litteròor other inert non-combustible absorbent materials. Place into appropriate waste containers for later 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.

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.

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

Ingredients	CASRN	OSHA PEL-TWA	ACGIH-TLV	Other Limits
Tetrafluoroethane	811-97-2	Not Established	Not Established	TWA: 1000 ppm (Supplier Recommendation) OEL-RUSSIA: STEL 3000 mg/m3
Dimethyl Ether	115-10-6	Not Established	Not Established	OEL-UNITED KINGDOM: TWA 400 ppm; STEL 500 ppm,
Isopropyl Alcohol	67-63-0	400 ppm	200 ppm	ACGIH TLV 400 ppm

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.

Personal Protection:

Eyes: Safety glasses.

Respiratory: Use an organic vapor phase cartridge-style respirator if ventilation is inadequate.

Hands: Use nitrile gloves.

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

Section 9 • Physical and Chemical Properties

Appearance:	Pressurized Spray	**Color:**	White (when dry)
Odor:	Ethereal	**Vapor Pressure:**	630 kPa (25°C)
Solubility Description:	57% (water soluble/miscible)	**Evaporation Rate:**	>1 (Butyl Acetate =1)
Boiling Point (°C):	Not Established	**Flash Point:**	Not Established*
Specific Gravity (Water=1):	0.842 @ 25°C	**Flash Point Method:**	TCC
Vapour Density (air=1):	>1	**Auto Ignition Temperature (°C):**	Not Established
V.O.C. Content:	57% per CARB	**Partition Coefficient (octanol/water):**	<1
Flammable limits (estimated):	LOWER: Not Established UPPER: Not Established	**Viscosity (of fluid):**	<2 centistokes @ 25ºC
pH:	Not Applicable		

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

Section 10 • Stability and Reactivity

Stability and Reactivity: The product is stable.

Incompatibility with Various Substances: Extremely reactive or incompatible with oxidizing agents.

Hazardous decomposition products: These products are carbon oxides (CO, CO2)

Hazardous polymerization: Will not occur.

Section 11 • Toxicological Information

Acute and Chronic Toxicity

A: General Product Information

Following exposure to vapors, this material can produce central nervous system depression. High atmospheric concentrations can result in eye, nasal and respiratory tract irritation. However, if handled in accordance with good industrial hygiene practice, this product will not present a significant hazard in the workplace.

Ingredients	CASRN	LC-50	LD-50
Tetrafluoroethane	811-97-2	1,500 gm/m^3 Inhalation/rat / 4H	Not applicable
Dimethyl Ether	115-10-6	93 g/m^3/15M Inhalation/mouse	Not applicable
Isopropyl Alcohol	67-63-0	16,000 ppm Inhalation/rat//8H	3,600 mg/kg Oral/mouse/

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.

Ecotoxicology

Effect on Organisms	Component	CASRN	Test	Species	Results
Acute Toxicity on Fishes	Tetrafluoroethane	811-97-2	No Data Available		
	Dimethyl Ether	115-10-6			
	Isopropyl Alcohol	67-63-0	96 hour LC_{50}	Pimephales promelas	11,130,000 εg/L
Acute Toxicity on Daphnia	No Data Available				
Bacterial inhibition					
Growth inhibition of algae					
Bioaccumulation in fish					

Section 13 • Disposal Considerations

Waste Status: Non-empty aerosols (per EPA definition) are a RCRA hazardous waste carrying waste code D003.

Disposal: Waste must be disposed of in accordance with federal, state 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

Mode	Shipping Name	Hazard Class	Subclass	UN Number	Technical Name	Hazard Label	Packing Group	Emergency Response Guide
D.O.T. Ground	Consumer Commodity	ORM-D	NA	NA	NA	ORM-D	NA	126
IATA	AEROSOLS, non-flammable	2.2	NA	1950	NA	Non-flammable Gas	NA	NA
IMDG	Dangerous Goods in Limited Quantities of Class 2	NA	NA	1950	NA	NA	NA	2 - 13

Section 15 – Regulatory Information

U.S. Federal Regulations

RCRA Hazardous Waste No.: D003 (non-empty aerosol)

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA)
Reportable Quantities: 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 (aerosols only), Immediate (Acute) Health Hazard

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372): None

Section 112 Hazardous Air Pollutants (HAPs): Dimethyl Ether 115-10-6 (threshold quantity 10,000 pounds)

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.

New Jersey Right to Know:

Dimethyl Ether	115-10-6
1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2
Isopropanol	67-63-0
Polytetrafluoroethylene(PTFE)	9002-84-0
alpha-(difluoromethylene)	65530-85-0

International Regulations

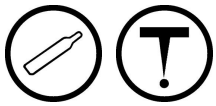
Canadian Environmental Protection Act: All of the components of this product are included on the Canadian Domestic Substances list (DSL).

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 D Division 2B



Other Regulations

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

Section 16 • Other Information

	HMIS 1996		HMIS III		NFPA
MSDS# 12616 **Responsible Name:** **Clea Johnson** **Regulatory Affairs Coordinator**	Health:	1	Health:	1	Flammability Health 1 2 0 0 Reactivity
	Flammability:	3	Flammability:	2	
	Reactivity	0	Physical Hazard:	2	

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

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