



MATERIAL SAFETY DATA SHEET

LPS CFC-Free Electro Contact Cleaner

Section 1 • Product and Company Identification

Manufacturer's Name: LPS Laboratories

Trade Name: LPS CFC Free Electro Contact Cleaner

Part Numbers: 03116 (aerosol), 03101, 03105, 03155

Address:

4647 Hugh Howell Road
Tucker, GA USA 30085-5052

Chemical Family: 2-methylpentane / Isopropanol

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 800/241-8334.

Worker Toxicity

LPS CFC FREE ELECTRO CONTACT CLEANER is designed for the removal of dirt, moisture, dust, flux, and oxides from the internal components of electronic or precision equipment such as circuit boards, and the internal components of electronic devices, including but not limited to, radios, compact disc (CD) players, digital video disc (DVD) players, and computers. It contains isohexane and isopropyl alcohol which can be irritating to skin at a minimum and if handled improperly can be dangerous. 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 CFC FREE ELECTRO CONTACT CLEANER 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 CFC FREE ELECTRO CONTACT CLEANER is extremely flammable, having a flash point below 32°F (0°C). Do not spray onto live electrical equipment or in or around ignition sources. Store product away from heat sources.

Disposal

If you spill LPS CFC FREE ELECTRO CONTACT CLEANER, notify the proper environmental or safety department at your company right away. If LPS CFC FREE ELECTRO CONTACT CLEANER becomes contaminated with another substance and is rendered unusable for cleaning, the resulting mixture will fall under at least one hazardous classification. See section 13 for more details.



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Section 2 • Hazards Identification

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency Overview: DANGER: Extremely Flammable. Aerosol contents under pressure. Harmful or Fatal if Swallowed.

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

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
2-methylpentane	107-83-5	70-90%
Isopropanol	67-63-0	5-20%
Carbon dioxide (aerosol only)	124-38-9	2-4%

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.



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- 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 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:** None.

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

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, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal.

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 3 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
2-methylpentane	107-83-5	500 ppm	500 ppm	1000 ppm STEL (ACGIH)
Isopropanol	67-63-0	400 ppm	400 ppm	500 ppm STEL (ACGIH)
Carbon Dioxide (aerosol only)	124-38-9	5,000 ppm	5,000 ppm	30,000 STEL (ACGIH)



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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 appropriate respirator if ventilation is inadequate.

Hands: Use solvent resistant gloves.

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

Section 9 • Physical and Chemical Properties

Appearance:	Liquid.	Color:	Colorless / water-white
Odour/Taste:	Characteristic.	Vapour Pressure:	352 mmHg @ 38 °C
Solubility Description:	<10% by weight.	Evaporation Rate:	<1(Ethyl Ether =1)
Boiling Point (°C):	60.5 @ 760mmHg	Flash Point (°C):	<-17°C (< 0°F)
Specific Gravity (Water=1):	0.65-0.68 @ 20 °C	Flash Point Method:	Tag-Closed Cup.
Vapour Density (air=1):	~3.0	Auto Ignition Temperature (°C):	306°C (582.8°F)
V.O.C. Content:	100%, 665 g/L, 5.55 #/gal.	Partition Coefficient (octanol/water):	<1
Flammable limits (estimated):	LOWER: 0.6% UPPER: 7%	Viscosity:	<3 cSt @ 25°C

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.



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Ingredients	CASRN	LC-50	LD-50
2-methylpentane	107-83-5	> 3125 ppm / 4 hours/rat	Not available
Isopropanol	67-63-0	13 g/kg	6 g/kg acute oral/ rat
Carbon Dioxide (aerosol only)	124-38-9	Not available	Not appropriate

Section 12 • Ecological Information

Component Data: Acute Aquatic Toxicity

Component	CASRN	Test	Species	Results
2-methylpentane	107-83-5	48-hour EC ₅₀	Daphnia magna	2.1 mg/L
		96-hour EC ₅₀	Microcystis pyrifera	10 mg/L
Isopropanol	67-63-0	24-hour EC ₅₀	Daphnia magna	> 10,000 mg/L
		Toxicity Threshold	Chilomonas paramecium	104 mg/L

Section 13 • Disposal Considerations

Waste Status: In its purchased form, this material is a RCRA hazardous waste carrying waste codes D001 and D003 (aerosols only)

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

Aerosols Only

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	1950	NA	ORM-D	NA	NA
IATA (US)	Consumer Commodity	9	NA	8000	NA	Miscellaneous	NA	NA
IATA (non-US)	AEROSOLS, flammable	2.1	NA	1950	NA	Flammable Gas	NA	NA
IMDG (Regular)	AEROSOL	2.1	NA	1950	NA	Flammable Gas	NA	F-D, S-U
IMDG (Special)	Dangerous Goods in Limited quantities of Class 2	NA	NA	1950	NA	NA	NA	F-D, S-U



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1-Gallon Containers

Mode	Shipping Name	Hazard Class	Subclass	UN Number	Technical Name	Hazard Label	Packing Group	Emergency Response Guide
D.O.T. Ground	Flammable liquid, n.o.s.	3	NA	1993	Hexanes, Isopropanol	Flammable Liquid	II	NA
IATA (US)	Flammable liquid, n.o.s.	3	NA	1993	Hexanes, Isopropanol	Flammable Liquid	II	NA
IATA (non-US)	Flammable liquid, n.o.s.	3	NA	1993	Hexanes, Isopropanol	Flammable Liquid	II	NA
IMDG (Regular)	Flammable liquid, n.o.s.	3	NA	1993	Hexanes, Isopropanol	Flammable Liquid	II	F-E, <u>S-E</u>

5 gallon containers must be shipped via "cargo aircraft only" for air transport.
55 gallon drums CANNOT be shipped by air !

Section 15 • Regulatory information

U.S. Federal Regulations:

TSCA 8(b) inventory: All of the ingredients are listed on the TSCA inventory or are exempt.

RCRA Hazardous Waste No.: D003 (aerosols only), D001.

CERCLA Sections 102a/103 Hazardous Substances (40 CFR part 370) Reportable Quantity: none

SARA TITLE III Sections 311/312 hazardous Categorization (40 CFR part 370): Sudden Release of Pressure (aerosol only), Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard.

SARA TITLE III Section 313: No individual section 313 component is present at or above 1%.

State Regulations:

New Jersey RTK: 2-methylpentane (CASRN: 107-83-5), Isopropanol (CASRN: 67-63-0), Carbon Dioxide aerosol propellant (CASRN: 124-38-9), 3-methylpentane (CASRN: 96-14-0)*, 2,3-dimethylbutane (CASRN: 79-29-8)*, 2,2 dimethylbutane (CASRN: 75-83-2)*

**Denotes items at less than 0.5% in final preparation*

California Proposition 65: None.

California and OTC States: This product conforms to current consumer regulations.



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Section 16 • Other Information

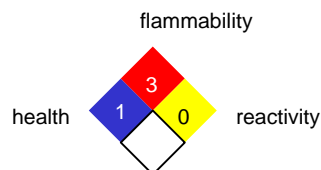
MSDS#13116

Responsible Name: Ed Williams
Technical Manager

HMIS-III

Health: [] 1
Flammability: 3
Physical Hazard: 2 (aerosol)
0 (other)

NFPA



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.

Ed Williams, Technical Manager
LPS Laboratories
A division of Illinois Tool Works

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