



SAFETY DATA SHEET

LPS CFC Free Aerosol Spray Can

Revision 9

Revision Date 29/5/07

Supersedes: 2/2/07

Section 1 – Identity of the Substance/Preparation and Company/Undertaking

Product Name: LPS CFC FREE (AEROSOL SPRAY CAN)

Part Numbers: M31400

Product Use: A spray cleaner designed to remove grease, oil, dirt and other residues from electrical contacts on printed circuit boards and other electrical devices.

Supplier: Geocel Limited, Western Wood Way, Langage Science Park, Plympton, Plymouth, PL7 5BG United Kingdom

TEL: +44 (0)1752 202060

FAX: +44 (0)1752 334384

In Case of Emergency: +001 703-527-3887

Manufacturer: LPS Laboratories, 4647 Hugh Howell Rd., Tucker, GA 30085 (U.S.A.)
<http://www.lpslabs.com>

Section 2 – Hazards Identification

Human and Environmental Hazards

This preparation is considered hazardous according to European Union Directives 67/548/EEC and 1999/45/EC. This product will combust when subjected to ignition sources. Do not spray on a naked flame or any incandescent material.

Highly flammable. Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Vapours may cause drowsiness and dizziness.

Remark: The classification for aspiration hazards (R65), does not apply for products placed on the market in aerosol containers. (EU-Directive 67/548 Annex VI 9.4). Inhalation of concentrated petroleum distillate mist or vapours can cause central nervous system (CNS) depression.

Section 3 – Composition / Information on Ingredients

INGREDIENT NAME	EC No.	CASRN	Classification	Weight Percent
2-methylpentane	203-523-4	107-83-5	[F] R11; [Xi] R38; [N] R50/53; [Xn] R65; R67	35 - 45%
3-methylpentane	202-481-4	96-14-0	NC	15 - 25%
2,3-dimethylbutane	201-193-6	79-29-8	NC	10 - 20%
2,2-dimethylbutane	200-906-8	75-83-2	NC	10 - 20%
Isopropanol	200-661-7	67-63-0	[F] R11; [Xi] R3, R37	5 - 15%
Carbon Dioxide	204-696-9	124-38-9	NC	2 - 4%



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Section 4 – First Aid Measures

- Eyes:** Liquid contact may cause irritation. Flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention if irritation persists.
- Skin:** Wash with soap and water. Get medical attention if irritation persists.
- Inhalation:** If inhaled, remove to fresh air. If breathing is difficult, give oxygen and get medical attention. If not breathing, give artificial respiration and get medical attention.
- 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.

General Fire Hazards: While this material is not considered flammable, high heat will cause product to boil, evolving vapour that could cause explosive rupture of closed containers.

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: See sections 6,7,8 and 15.

Protection Clothing (Fire): wear protective clothing and equipment suitable for the surrounding fire, including helmet, face mask, and self-contained breathing apparatus.

Section 6 – Accidental Release Measures

Precautions to protect environment: Do not allow entry into drains or watercourses. If this occurs inform the local authorities at once.

Spill Cleanup methods: This product is a hermetically sealed pressurised aerosol unit and accidental spillage is unlikely. If can is ruptured, allow contents to discharge in situ, whilst removing all ignition sources from the area and ensuring maximum ventilation. Use an absorbent material, eg sand, to mop up residues. See section 13 'Disposal Considerations'.



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Section 7 – Handling and Storage

Usage Precautions: Do not spray on a naked flame or any incandescent material.

Storage Precautions: Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C. It is recommended that aerosols are stored in their own location away from bulk flammable liquids and packaging materials. Store in a cool, dry place away from heat and ignition sources.

Section 8 – Exposure Controls / Personal Protection

Ingredients	EC No.	UK LT EXP (8 hrs.)	UK ST EXP (15 min.)	Other Limits
2-methylpentane	203-523-4	200 ppm	Not Established	500 ppm TLV (ACGIH) 1000 ppm STEL (ACGIH)
3-methylpentane	202-481-4	Not Established	Not Established	500 ppm TLV (ACGIH) 1000 ppm STEL (ACGIH) MAK: 200 ppm, 720 mg/m ³
2,3-dimethylbutane	201-193-6	Not Established	Not Established	500 ppm TLV (ACGIH) 1000 ppm STEL (ACGIH)
2,2-dimethylbutane	200-906-8	Not Established	Not Established	Not Established
Isopropanol	200-661-7	999 mg/m ³ , 400 ppm	1250 mg/m ³ , 500 ppm	400 ppm (ACGIH) 500 ppm STEL (ACGIH)
Carbon Dioxide	204-696-9	5000 ppm	15000 ppm	5,000 ppm TLV (ACGIH) 30,000 STEL (ACGIH)

Engineering measures Normal room ventilation is usually adequate. If necessary, use appropriate local exhaust ventilation to keep exposures below the regulated limits.

Personal protective equipment

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 protective gloves conforming to appropriate regulations. Please observe the instructions regarding permeability and breakthrough time that are provided by the supplier of the gloves. Take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion and the contact time.

Respiratory protection Typical use of this product under normal conditions does not require the use of respiratory protection. If extended spraying of product will be made under poor ventilation, use appropriate organic vapor filtering respirators.

Hygiene measures Do not soak clothing with this product and continue working without immediately changing clothes and washing skin. Do not reuse clothing until it has been laundered. An eyewash fountain should be available in the work area.

Environmental exposure controls Soak up puddles of product (from a crushed or ruptured aerosol) with absorbent material and dispose of according to local regulations. Ventilate area to reduce worker exposure to vapours and prevent accumulation of explosive vapour concentrations.



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Section 9 – Physical and Chemical Properties

Appearance:	Liquid.	Colour:	Clear, colourless
Odour/Taste:	Mild (or faint) Alcohol	Vapour Pressure:	47 kPa @ 38 °C
Solubility Description:	<10% by weight.	Evaporation Rate:	<1(Ethyl Ether =1)
Boiling Point (°C):	60.5 @ 101 kPa	Flash Point (°C):	<-17°C
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
V.O.C. Content:	100%, 665 g/L,	Partition Coefficient (octanol/water):	<1
Flammable limits (estimated):	LOWER: 0.6% UPPER: 7%	Viscosity:	<3 mm ² /second @ 25°C
pH:	Not applicable		

Section 10 – Chemical Stability and Reactivity

Chemical Stability:	Product is stable under recommended storage conditions.
Conditions to Avoid:	Exposure to direct sunlight for extended periods. Temperatures in excess of 50°C.
Incompatibility:	Reactive or incompatible with oxidizing agents.
Hazardous Decomposition:	Combustion will generate smoke, possibly thick and choking, resulting in zero visibility and combustion products include carbon monoxide and carbon dioxide.
Hazardous Polymerization:	Will not occur.

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

Ingredients	EC No.	LC-50	LD-50
2-methylpentane	203-523-4	> 3125 ppm / 4 hours/rat	Not available
3-methylpentane	202-481-4	Not Established	Not Established
2,3-dimethylbutane	201-193-6	Not Established	Not Established
2,2-dimethylbutane	200-906-8	Not Established	Not Established
Isopropanol	200-661-7	13 g/kg	6 g/kg acute oral/ rat
Carbon Dioxide	204-696-9	Not available	Not appropriate



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Section 12 – Ecological Information

Mobility: Volatile. Readily absorbed into soil. **Persistence and degradability:** Only slightly biodegradable.

Bioaccumulative potential: No bioaccumulation potential **Other adverse effects:** None known.

Component Information Acute Aquatic Toxicity

Component	EC No.	Test	Species	Results
2-methylpentane	203-523-4	48-hour EC ₅₀	Daphnia magna	2.1 mg/L
		96-hour EC ₅₀	Microcystis pyrifera	10 mg/L
3-methylpentane	202-481-4	No data available		
2,3-dimethylbutane	201-193-6			
2,2-dimethylbutane	200-906-8			
Isopropanol	200-661-7	24-hour EC ₅₀	Daphnia magna	> 10,000 mg/L
		Toxicity Threshold	Chilomonas paramecium	104 mg/L

Section 13 – Disposal Considerations

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

Section 14 – Transportation Information

Road/Rail - ADR/RID :	UN no:	1950	ADR Class:	2
	Classification code:	5F	Shipping name:	AEROSOLS, flammable
	Labelling:	2.2	Packing Group:	NA

IMDG-IMO	UN no:	1950	Class:	2
	Shipping Name:	AEROSOLS	Packing Group:	NA
	EmS:	F-D, S-U	Packing Instructions:	P003

IATA-ICAO:	UN no:	1950	Class:	2.1
	Proper Shipping Name:	Aerosols, flammable	Labeling:	Flammable Gas



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Section 15 – Regulatory Information

Warning Symbol(s): F+, Xi, N

Risk Phrases:

R-11	Highly Flammable
R-36/38	Irritating to eyes and skin.
R-50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R-67	Vapours may cause drowsiness and dizziness.

Safety Phrases:

S-2	Keep out of the reach of children.
S-9	Keep container in a well-ventilated place.
S-16	Keep away from sources of ignition -- No smoking.
S-24/25	Avoid contact with skin and eyes.
S-26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S-33	Take precautionary measures against static discharges.
S-60	This material and its container must be disposed of as hazardous waste.
S-61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Precautionary Phrases: Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

Section 16 – Other Information

User Notes: The purpose of the above information is to describe this product only in terms of Health and Safety requirements. The information given therefore, should not be construed as guaranteeing specific properties or specification. Customers should satisfy themselves as to the suitability and completeness of this information for their own particular use, bearing in mind any other Health and Safety legislation or regulations. The information and recommendations in this publication are to the best of our knowledge reliable. However, nothing herein is construed as a warranty or representation. Statements concerning the use of the products described herein are not to be construed as recommending the infringement of any patent and no liability for infringement arising out of any such use is to be assumed.

Information Sources: ESIS: European Chemical Substances Information
HSE EH40 Occupation Exposure Limits. Suppliers Safety Data Sheets.

Full R-Phrases

R-11	Highly Flammable
R-36	Irritating to eyes
R-37	Irritating to respiratory system.
R-38	Irritating to the skin.
R-50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R-65	Harmful: may cause lung damage if swallowed.
R 67	Vapours may cause drowsiness and dizziness.