MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product identifier **LPS® CFC Free (Aerosol)**

Version # 03

Issue date 05-10-2013

Revision date 01-11-2015

Supersedes date 08-03-2014

CAS # Mixture

Part Number 03116, C03116

Product use A fast drying industrial cleaning solvent designed to remove soil and other contaminants.

Manufacturer information

ITW Pro Brands
4647 Hugh Howell Rd
Tucker, Georgia 30084
United States
www.lpslabs.com

1-800-241-8334/	770-243-8800
Chemtrec	1-800-424-9300

Supplier Not available.

2. Hazards Identification

Emergency overview

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

May damage fertility or the unborn child. Causes skin irritation. Causes serious eye irritation. Vapors may cause drowsiness and dizziness. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential health effects

Routes of exposure Eye contact. Skin contact. Inhalation. Ingestion.

Eyes Avoid contact with eyes. Causes eye irritation.

Skin Do not get this material in contact with skin. Causes skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Inhalation Avoid breathing dust/fume/gas/mist/vapors/spray. Irritating to respiratory system. Prolonged inhalation may be harmful.

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 Central nervous system. Eyes. Respiratory system. Skin.

Chronic effects May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May cause harm to the unborn child.

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

3. Composition / Information on Ingredients

Components	CAS #	Percent
2-METHYLPENTANE	107-83-5	40 - 50
2,3-DIMETHYLBUTANE	79-29-8	10 - 20
3-Methylpentane	96-14-0	10 - 20

Components	CAS #	Percent
ISOPROPANOL	67-63-0	5 - 15
NEOHEXANE	75-83-2	1 - 10
CARBON DIOXIDE	124-38-9	1 - 5
N-HEXANE	110-54-3	< 3

4. First Aid Measures

First aid procedures

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. Call a physician if symptoms develop or persist.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

Eye contact Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or Poison Control Center immediately.

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.

Notes to physician Provide general supportive measures and treat symptomatically. 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. Vapors may travel considerable distance to a source of ignition and flash back.

Extinguishing media

Suitable extinguishing media Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Protection of firefighters

Specific hazards arising from the chemical Fire may produce irritating, corrosive and/or toxic gases.

Protective equipment for firefighters Firefighters should wear full protective clothing including self contained breathing apparatus. 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. In the event of fire, cool tanks with water spray. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Explosion data

Sensitivity to static discharge Yes

Sensitivity to mechanical impact None known.

Hazardous combustion products May include oxides of carbon.

General fire hazards Extremely flammable aerosol.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. 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. Move the cylinder to a safe and open area if the leak is irreparable. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up Extinguish all flames in the vicinity.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use foam to blanket spilled material. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. 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 Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke.

Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid prolonged exposure. Do not get this material on clothing.

Do not use in areas without adequate ventilation. Wash thoroughly after handling.

Storage Keep locked up. Do not handle or store near an open flame, heat or other sources of ignition.

Store in a closed container away from incompatible materials. Store in a well-ventilated place. Keep away from food, drink and animal feedingstuffs.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
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
CARBON DIOXIDE (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
ISOPROPANOL (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
NEOHEXANE (CAS 75-83-2)	STEL	1000 ppm
	TWA	500 ppm
N-HEXANE (CAS 110-54-3)	TWA	50 ppm

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

Components	Type	Value
2-METHYLPENTANE (CAS 107-83-5)	STEL	3500 mg/m3
		1000 ppm
	TWA	1760 mg/m3
		500 ppm
3-Methylpentane (CAS 96-14-0)	STEL	3500 mg/m3

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

Components	Type	Value
		1000 ppm
	TWA	1760 mg/m3
		500 ppm
CARBON DIOXIDE (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm
ISOPROPANOL (CAS 67-63-0)	STEL	984 mg/m3
		400 ppm
	TWA	492 mg/m3
		200 ppm
N-HEXANE (CAS 110-54-3)	TWA	176 mg/m3
		50 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
CARBON DIOXIDE (CAS 124-38-9)	STEL	15000 ppm
	TWA	5000 ppm
ISOPROPANOL (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
N-HEXANE (CAS 110-54-3)	TWA	20 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
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
CARBON DIOXIDE (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
ISOPROPANOL (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
NEOHEXANE (CAS 75-83-2)	STEL	1000 ppm
	TWA	500 ppm
N-HEXANE (CAS 110-54-3)	TWA	50 ppm

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

Components	Type	Value
CARBON DIOXIDE (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
ISOPROPANOL (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
N-HEXANE (CAS 110-54-3)	TWA	50 ppm

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

Components	Type	Value
CARBON DIOXIDE (CAS 124-38-9)	STEL	54000 mg/m3
		30000 ppm
	TWA	9000 mg/m3
		5000 ppm
ISOPROPANOL (CAS 67-63-0)	STEL	1230 mg/m3
		500 ppm
	TWA	983 mg/m3
		400 ppm
N-HEXANE (CAS 110-54-3)	TWA	176 mg/m3
		50 ppm

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

Components	Type	Value
CARBON DIOXIDE (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm
ISOPROPANOL (CAS 67-63-0)	PEL	980 mg/m3
		400 ppm
N-HEXANE (CAS 110-54-3)	PEL	1800 mg/m3
		500 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
ISOPROPANOL (CAS 67-63-0)	40 mg/l	Acetone	Urine	*
N-HEXANE (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*

* - For sampling details, please see the source document.

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 the skin. Wear appropriate chemical resistant clothing. Chemical resistant gloves.

Respiratory protection No personal respiratory protective equipment normally required. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Hand protection For prolonged or repeated skin contact use suitable protective gloves. Chemical resistant gloves are recommended.

9. Physical & Chemical Properties

Appearance	Liquid.
Physical state	Gas.
Form	Aerosol.
Color	Clear water-white
Odor	Solvent.
Odor threshold	Not available.
pH	Not available.
Vapor pressure	352.53 mm Hg @ 38ºC
Vapor density	~3 (air = 1)
Boiling point	140.9 °F (60.5 °C) dispensed liquid
Melting point/Freezing point	Not available.
Solubility (water)	< 10 % w/w
Specific gravity	0.64 - 0.67 @ 20ºC
Relative density	Not available.
Flash point	< 1.4 °F (< -17.0 °C) Tag Closed Cup
Flammability limits in air, upper, % by volume	7 %
Flammability limits in air, lower, % by volume	0.6 %
Auto-ignition temperature	582.8 °F (306 °C)
VOC	96.2 % per U.S, State and Federal Consumer Product Regulations; 669 g/L per SCAQMD Rule 102
Evaporation rate	< 1 (Ethyl Ether = 1)
Viscosity	< 3 cSt @ 25ºC
Percent volatile	100 %
Partition coefficient (n-octanol/water)	> 1
Other data	
Heat of combustion	> 30 kJ/g

10. Chemical Stability & Reactivity Information

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Risk of explosion. Instability caused by elevated temperatures.
Conditions to avoid	Heat, flames and sparks. Aerosol containers are unstable at temperatures above 50°C. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents. Isocyanates. Acids. Chlorine. Do not mix with other chemicals.
Hazardous decomposition products	Carbon oxides.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
ISOPROPANOL (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	12800 mg/kg
		16.4 ml/kg, 24 Hours
Inhalation		
LC50	Rat	> 10000 ppm, 6 Hours

Components	Species	Test Results
Oral		
LD50	Dog	4797 mg/kg
	Mouse	3600 mg/kg
	Rabbit	5.03 g/kg
	Rat	5.84 g/kg
		4.7 g/kg
Other		
LD50	Mouse	1509 mg/kg
	Rat	1099 mg/kg
N-HEXANE (CAS 110-54-3)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, 4 Hours
		> 5 ml/kg, 4 Hours
Inhalation		
LC50	Mouse	48000 ppm, 4 Hours
	Rat	> 5000 ppm, 24 Hours
		> 31.86 mg/l
		73860 ppm, 4 Hours
Oral		
LD50	Rat	24 ml/kg
		24 mg/kg
	Wistar rat	49 mg/kg

Acute effects Narcotic effects.

Sensitization Not expected to be hazardous by WHMIS criteria.

Local effects Irritating to eyes and skin. Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic effects Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

ACGIH Carcinogens

ISOPROPANOL (CAS 67-63-0) A4 Not classifiable as a human carcinogen.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation Causes serious eye irritation.

Mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive effects Suspected of damaging fertility or the unborn child.

Teratogenicity Avoid exposure to women during early pregnancy.

Symptoms and target organs Skin irritation. Defatting of the skin. Irritating to eyes and respiratory system. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Synergistic materials No data available for this product.

Further information None known.

12. Ecological Information

Ecotoxicological data

Components		Species	Test Results
ISOPROPANOL (CAS 67-63-0)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 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

Ecotoxicity Toxic to aquatic life with long lasting effects.

Environmental effects Toxic to aquatic organisms.

Aquatic toxicity Toxic to aquatic organisms.

Persistence and degradability Not inherently biodegradable.

Partition coefficient

LPS® CFC Free (Aerosol)	> 1
2,3-DIMETHYLBUTANE	3.42
2-METHYLPENTANE	3.74
3-Methylpentane	3.6
ISOPROPANOL	0.05
NEOHEXANE	3.82
N-HEXANE	3.9

Other adverse effects None known.

13. Disposal Considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

TDG

UN number UN1950
UN proper shipping name AEROSOLS, flammable, MARINE POLLUTANT
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Packing group Not applicable.
Environmental hazards Yes
Special precautions for user Not available.

IATA

UN number UN1950
UN proper shipping name Aerosols, flammable
Transport hazard class(es)
Class 2.1
Subsidiary risk -
Packing group Not applicable.
Environmental hazards No.
ERG Code 2X
Special precautions for user Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, MSDS and emergency procedures before handling.
Other information
Passenger and cargo aircraft Allowed.
Cargo aircraft only Allowed.

IMDG

UN number UN1950
UN proper shipping name AEROSOLS, flammable, MARINE POLLUTANT

Transport hazard class(es)

Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	Yes
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, MSDS and emergency procedures before handling.

IATA; IMDG; TDG

Marine pollutant

General information IMDG Regulated Marine Pollutant.

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
B1 - Flammable Gases
D2A - Other Toxic Effects-VERY TOXIC
D2B - Other Toxic Effects-TOXIC

WHMIS labeling

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply 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

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.

Prepared by

Not available.

This data sheet contains changes from the previous version in section(s):

Transport Information: Material Transportation Information
Transport Information: General information
GHS: Qualifiers