



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** LPS® Revo 66

### Other means of identification

**Part Number** 04416, M04416

### Recommended use of the chemical and restrictions on use

**Recommended use** An aerosol remover of dirt, moisture, dust, flux or oxides from the internal components of electronic or precision equipment.

**Restrictions on use** Not available.

### Details of manufacturer or importer

#### Manufacturer

#### Supplier Name

MRO Chem Pty Ltd.

#### Address

Level 19, 644 Chapel Street  
South Yarra, Victoria 3141, Australia  
Tel: +03 9823 6273

### In Case of Emergency

+04 3448 1129

#### Manufacturer

#### Company name

ITW Pro Brands

#### Address

4647 Hugh Howell Rd., Tucker, GA 30084 (U.S.A.)

#### Website

<http://www.lpslabs.com>

#### E-mail

[lpssds@itwprobrands.com](mailto:lpssds@itwprobrands.com)

## 2. Hazard(s) identification

### Classification of the hazardous chemical

<b>Physical hazards</b>	Gases under pressure	Dissolved gas
<b>Health hazards</b>	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
<b>Environmental hazards</b>	Not classified.	

### Label elements, including precautionary statements

#### Hazard symbol(s)



Gas cylinder Exclamation mark

#### Signal word

Warning

#### Hazard statement(s)

Contains gas under pressure; may explode if heated. Causes serious eye irritation. May cause drowsiness or dizziness.

#### Precautionary statement(s)

##### Prevention

Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye/face protection.

##### Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

##### Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight.

##### Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other hazards which do not result in classification** None known.

**Supplemental information** None known.

### 3. Composition/information on ingredients

#### Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
1,2-trans-dichloroethylene	156-60-5	50 - 60
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a)	811-97-2	20 - 30
2,3-Dihydroperfluoropentane	138495-42-8	5 - 10
Isopropanol	67-63-0	3 - 5

### 4. First-aid measures

#### Description of necessary first aid measures

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

**Ingestion** In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.

**Personal protection for first-aid responders** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**Symptoms caused by exposure** May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

**Medical attention and special treatment** Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

### 5. Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

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

**Specific hazards arising from the chemical** During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for fire fighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

**Hazchem code** 2Y E

**General fire hazards** Contents under pressure. Pressurized container may explode when exposed to heat or flame.

**Specific methods** Cool containers exposed to flames with water until well after the fire is out.

### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing gas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**For emergency responders** Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

## Methods and materials for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. Stop leak if you can do so without risk. Isolate area until gas has dispersed. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Absorb in vermiculite, dry sand or earth and place into containers. 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. For waste disposal, see section 13 of the SDS.

## 7. Handling and storage

### Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Ground and bond containers when transferring material. Do not re-use empty containers. Avoid breathing gas. Avoid contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store locked up. Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in a well-ventilated place. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS). Store in accordance with local/regional/national/international regulation.

## 8. Exposure controls and personal protection

### Control parameters

Follow standard monitoring procedures.

### Occupational exposure limits

#### Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)

Components	Type	Value
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	TWA	4240 mg/m <sup>3</sup>
Isopropanol (CAS 67-63-0)	STEL	1000 ppm
		1230 mg/m <sup>3</sup>
	TWA	500 ppm
		983 mg/m <sup>3</sup>
		400 ppm

#### Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

Components	Type	Value
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	TWA	4240 mg/m <sup>3</sup>
Isopropanol (CAS 67-63-0)	STEL	1000 ppm
		1230 mg/m <sup>3</sup>
	TWA	500 ppm
		983 mg/m <sup>3</sup>
		400 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	TWA	200 ppm
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

#### UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	TWA	4240 mg/m <sup>3</sup>
Isopropanol (CAS 67-63-0)	STEL	1000 ppm
		1250 mg/m <sup>3</sup>

**UK. EH40 Workplace Exposure Limits (WELs)**

Components	Type	Value
	TWA	500 ppm 999 mg/m <sup>3</sup> 400 ppm

**Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)**

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	TWA	800 mg/m <sup>3</sup>
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	TWA	200 ppm 4200 mg/m <sup>3</sup>
Isopropanol (CAS 67-63-0)	TWA	1000 ppm 500 mg/m <sup>3</sup> 200 ppm

**Biological limit values****Germany. TRGS 903, BAT List (Biological Limit Values)**

Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	25 mg/l	Aceton	Urine	*
	25 mg/l	Aceton	Blood	*

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

**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

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

**Appropriate engineering controls**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

**Individual protection measures, for example personal protective equipment (PPE)**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection** Wear appropriate chemical resistant gloves.

**Other** Wear suitable protective clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures**

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties****Appearance**

**Physical state** Gas.  
**Form** Aerosol.  
**Color** Clear colorless or nearly colorless.

**Odor** Mild.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** Not available.

**Initial boiling point and boiling range** 107.6 °F (42 °C)

<b>Flash point</b>	Not applicable
<b>Evaporation rate</b>	< 1 BuAc
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	868 mm Hg @20°C
<b>Vapor density</b>	> 1
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	< 5 %
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	860 °F (460 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	< 3 cSt @25°C
<b>Other physical and chemical parameters</b>	
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>Percent volatile</b>	100 %
<b>Specific gravity</b>	1.2 - 1.3 @20°C
<b>VOC</b>	64.7 % per US State and Federal Consumer Product Regulations

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Heat. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Combustion will generate smoke, possibly thick and choking, resulting in zero visibility and combustion products include hydrogen fluoride, hydrogen chloride, fluorine, chlorine, carbon monoxide and carbon dioxide.

## 11. Toxicological information

### Information on possible routes of exposure

<b>Inhalation</b>	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.
<b>Symptoms related to exposure</b>	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
<b>Acute toxicity</b>	Narcotic effects.

Components	Species	Test Results
1,2-trans-dichloroethylene (CAS 156-60-5)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	1235 mg/kg
Isopropanol (CAS 67-63-0)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	16.4 ml/kg, 24 Hours
<b>Oral</b>		
LD50	Rat	4.7 g/kg
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.	
<b>Serious eye damage/irritation</b>	Causes serious eye irritation.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.	
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.	
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
<b>ACGIH Carcinogens</b>		
Isopropanol (CAS 67-63-0)	A4 Not classifiable as a human carcinogen.	
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	May cause drowsiness and dizziness.	
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.	
<b>Aspiration hazard</b>	Not likely, due to the form of the product.	
<b>Chronic effects</b>	Prolonged inhalation may be harmful.	
<b>Other information</b>	None known.	

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Isopropanol (CAS 67-63-0)		
<b>Aquatic</b>		
Fish	LC50 Bluegill ( <i>Lepomis macrochirus</i> )	> 1400 mg/l, 96 hours
<b>Persistence and degradability</b>	No data is available on the degradability of this product.	
<b>Bioaccumulative potential</b>		
<b>Partition coefficient n-octanol / water (log Kow)</b>		
1,2-trans-dichloroethylene	2.06	
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a)	1.06	
Isopropanol	0.05	
<b>Mobility in soil</b>	No data available for this product.	
<b>Other adverse effects</b>	The product contains volatile organic compounds which have a photochemical ozone creation potential.	

## 13. Disposal considerations

**Disposal methods** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Residual waste** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

## 14. Transport information

### ADG

**UN number** 1950  
**UN proper shipping name** Aerosols, non-flammable  
**Transport hazard class(es)**  
**Class** 2.2  
**Subsidiary risk** -  
**Packing group** Not applicable.  
**Environmental hazards** No  
**Hazchem code** 2YE  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

### RID

**UN number** 1950  
**UN proper shipping name** Aerosols, asphyxiant  
**Transport hazard class(es)**  
**Class** 2.2  
**Subsidiary risk** -  
**Label(s)** 2.2  
**Packing group** Not applicable.  
**Environmental hazards** No.  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

### IATA

**UN number** 1950  
**UN proper shipping name** Aerosols, non-flammable  
**Transport hazard class(es)**  
**Class** 2.2  
**Subsidiary risk** -  
**Label(s)** 2.2  
**Packing group** Not applicable.  
**Environmental hazards** No.  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.  
**Other information**  
**Passenger and cargo aircraft** Allowed with restrictions.  
**Cargo aircraft only** Allowed with restrictions.

### IMDG

**UN number** 1950  
**UN proper shipping name** Aerosols, non-flammable  
**Transport hazard class(es)**  
**Class** 2.2  
**Subsidiary risk** -  
**Label(s)** 2.2  
**Packing group** Not applicable.  
**Environmental hazards**  
**Marine pollutant** No  
**EmS** F-D, S-U  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

ADG



IATA; IMDG; RID



General information

Ensure compliance with applicable regulations.

## 15. Regulatory information

### Safety, health and environmental regulations

#### National regulations

This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (23/12/2011).

#### High Volume Industrial Chemicals (HVIC)

Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	1000 - 9999 TONNES See the regulation for additional information.
Isopropanol (CAS 67-63-0)	1000 - 9999 TONNES See the regulation for additional information.

#### Importation of Ozone Deleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

2,3-Dihydroperfluoropentane (CAS 138495-42-8)	9
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	9

#### National Pollutant Inventory (NPI) substance reporting list

Not listed.

#### Prohibited Carcinogenic Substances

Not regulated.

#### Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

#### Restricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

#### Restricted Carcinogenic Substances

Not regulated.

### International regulations

#### Stockholm Convention

Not applicable.

#### Rotterdam Convention

Not applicable.

#### Kyoto protocol

Not applicable.

#### Montreal Protocol

Not applicable.

#### Basel Convention

Not applicable.



## 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)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
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

### Issue date

12-28-2016

### Disclaimer

ITW Pro Brands cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. 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.

### Revision information

This document has undergone significant changes and should be reviewed in its entirety.