



# SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Trade name or designation of the mixture** LPS® Electro Contact Cleaner  
**Registration number** -  
**Synonyms** None.  
**Part Number** 00416, M00416  
**Issue date** 27-December-2016  
**Version number** 01

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** A non-flammable solvent blend 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 used in factories and other industrial settings.  
**Uses advised against** None known.

### 1.3. Details of the supplier of the safety data sheet

**Supplier** AlSCO Ltd  
**Company name** Unit 13 Hillmead Industrial Estate  
**Address** Marshall Road  
Swindon, Wiltshire  
United Kingdom SN5 5FZ  
**Telephone** +44 1793 733 900  
**In Case of Emergency** +001 703-527-3887  
**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)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

#### Classification according to Directive 67/548/EEC or 1999/45/EC as amended

**Classification** R5, N;R51/53

The full text for all R-phrases is displayed in section 16.

#### Classification according to Regulation (EC) No 1272/2008 as amended

##### Physical hazards

Aerosols Category 3 H229 - Pressurized container: May burst if heated.

##### Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard Category 2 H411 - Toxic to aquatic life with long lasting effects.

### Hazard summary

**Physical hazards** Heating may cause an explosion.  
**Health hazards** Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.  
**Environmental hazards** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
**Specific hazards** None known.  
**Main symptoms** Exposure may cause temporary irritation, redness, or discomfort.

### 2.2. Label elements

**Label according to Regulation (EC) No. 1272/2008 as amended**

**Contains:** 1,2-trans-dichloroethylene, Cyclohexylmethane, Ethane, 1,1,1,2-tetrafluoro-(hfc-134a), Isopropanol, Methyl Nonafluorobutyl ether, Methyl Nonafluoroisobutyl ether, Perfluoro Compounds, (Primarily compounds with 6 Carbons)

**Hazard pictograms**

**Signal word** Warning

**Hazard statements**

H229 Pressurized container: May burst if heated.  
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements****Prevention**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P251 Do not pierce or burn, even after use.  
P273 Avoid release to the environment.

**Response**

P391 Collect spillage.

**Storage**

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

**Disposal**

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Supplemental label information** None known.

**2.3. Other hazards** None known.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a)	40 - 50	811-97-2 212-377-0	-	-	
<b>Classification:</b>	<b>DSD:</b> -				
	<b>CLP:</b> Press. Gas;H280				
Methyl Nonafluorobutyl ether	10 - 20	163702-07-6	-	-	
<b>Classification:</b>	<b>DSD:</b> -				
	<b>CLP:</b> -				
Methyl Nonafluoroisobutyl ether	10 - 20	163702-08-7	-	-	
<b>Classification:</b>	<b>DSD:</b> -				
	<b>CLP:</b> -				
Perfluoro Compounds, (Primarily compounds with 6 Carbons)	10 - 20	86508-42-1	-	-	
<b>Classification:</b>	<b>DSD:</b> -				
	<b>CLP:</b> -				
1,2-trans-dichloroethylene	5 - 10	156-60-5 205-860-2	-	602-026-00-3	
<b>Classification:</b>	<b>DSD:</b> F;R11, Xn;R20, R52/53				C
	<b>CLP:</b> Flam. Liq. 2;H225, Eye Irrit. 2;H319, Acute Tox. 4;H332, STOT SE 3;H336, Aquatic Chronic 3;H412				C

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Cyclohexylmethane	1 - 5	108-87-2 203-624-3	-	601-018-00-7	
<b>Classification:</b>		<b>DSD:</b> F;R11, Xn;R65, Xi;R38, R67, N;R51/53			
		<b>CLP:</b> Flam. Liq. 2;H225, Asp. Tox. 1;H304, Skin Irrit. 2;H315, Acute Tox. 4;H332, STOT SE 3;H336, Aquatic Chronic 1;H410			
Isopropanol	1 - 5	67-63-0 200-661-7	-	603-117-00-0	
<b>Classification:</b>		<b>DSD:</b> F;R11, Xi;R36, R67			
		<b>CLP:</b> Flam. Liq. 2;H225, Eye Irrit. 2;H319, STOT SE 3;H336			

#### List of abbreviations and symbols that may be used above

DSD: Directive 67/548/EEC.

CLP: Regulation No. 1272/2008.

#: This substance has been assigned Union workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

Note C: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

**Composition comments** The full text for all R- and H-phrases is displayed in section 16.

## SECTION 4: First aid measures

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 4.1. Description of first aid measures

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

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

**Eye contact** Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

**4.2. Most important symptoms and effects, both acute and delayed** Exposure may cause temporary irritation, redness, or discomfort.

**4.3. Indication of any immediate medical attention and special treatment needed** Treat symptomatically.

## SECTION 5: Firefighting measures

**General fire hazards** Not available.

### 5.1. Extinguishing media

**Suitable extinguishing media** Not available.

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

**5.2. Special hazards arising from the substance or mixture** During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

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

**Special fire fighting procedures** Use water spray to cool unopened containers.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

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

**For non-emergency personnel** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

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

**6.2. Environmental precautions** Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

**6.3. Methods and material for containment and cleaning up** Isolate area until gas has dispersed. Prevent product from entering drains. Stop the flow of material, if this is without risk.

**6.4. Reference to other sections** Use personal protection recommended in Section 8 of the SDS. For waste disposal, see section 13.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

**7.2. Conditions for safe storage, including any incompatibilities** Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

**7.3. Specific end use(s)** Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	MAK	790 mg/m <sup>3</sup>
	STEL	200 ppm 3160 mg/m <sup>3</sup>
Cyclohexylmethane (CAS 108-87-2)	MAK	800 ppm 1600 mg/m <sup>3</sup>
	STEL	400 ppm 6400 mg/m <sup>3</sup>
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a ) (CAS 811-97-2)	MAK	1600 ppm 4200 mg/m <sup>3</sup>
	STEL	1000 ppm 16800 mg/m <sup>3</sup>
Isopropanol (CAS 67-63-0)	MAK	4000 ppm 500 mg/m <sup>3</sup>
	STEL	200 ppm 2000 mg/m <sup>3</sup> 800 ppm

##### Belgium. Exposure Limit Values.

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	TWA	1633 mg/m <sup>3</sup>
	STEL	400 ppm
Isopropanol (CAS 67-63-0)	STEL	1000 mg/m <sup>3</sup>
	TWA	400 ppm 500 mg/m <sup>3</sup> 200 ppm

##### Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	TWA	500 mg/m <sup>3</sup>
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m <sup>3</sup>

**Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work**

Components	Type	Value
	TWA	980 mg/m <sup>3</sup>

**Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09**

Components	Type	Value
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	MAC	4240 mg/m <sup>3</sup>
Isopropanol (CAS 67-63-0)	MAC	1000 ppm
		999 mg/m <sup>3</sup>
	STEL	400 ppm
		1250 mg/m <sup>3</sup>
		500 ppm

**Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.**

Components	Type	Value
Isopropanol (CAS 67-63-0)	TWA	980 mg/m <sup>3</sup>
		400 ppm

**Czech Republic. OELs. Government Decree 361**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	Ceiling	2000 mg/m <sup>3</sup>
	TWA	1500 mg/m <sup>3</sup>
Isopropanol (CAS 67-63-0)	Ceiling	1000 mg/m <sup>3</sup>
	TWA	500 mg/m <sup>3</sup>

**Denmark. Exposure Limit Values**

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	TLV	790 mg/m <sup>3</sup>
		200 ppm
Cyclohexylmethane (CAS 108-87-2)	TLV	805 mg/m <sup>3</sup>
		200 ppm
Isopropanol (CAS 67-63-0)	TLV	490 mg/m <sup>3</sup>
		200 ppm

**Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	TWA	1600 mg/m <sup>3</sup>
		400 ppm
Isopropanol (CAS 67-63-0)	STEL	600 mg/m <sup>3</sup>
		250 ppm
	TWA	350 mg/m <sup>3</sup>
		150 ppm

**Finland. Workplace Exposure Limits**

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	STEL	1000 mg/m <sup>3</sup>
		250 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	800 mg/m <sup>3</sup>
		200 ppm
	STEL	2000 mg/m <sup>3</sup>
		500 ppm
Isopropanol (CAS 67-63-0)	TWA	1600 mg/m <sup>3</sup>
		400 ppm
	STEL	620 mg/m <sup>3</sup>
		250 ppm
TWA	500 mg/m <sup>3</sup>	
	200 ppm	

**France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	VME	1600 mg/m3
		400 ppm
Isopropanol (CAS 67-63-0)	VLE	980 mg/m3
		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/m3
		200 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	810 mg/m3
		200 ppm
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	TWA	4200 mg/m3
		1000 ppm
Isopropanol (CAS 67-63-0)	TWA	500 mg/m3
		200 ppm

**Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	AGW	810 mg/m3
		200 ppm
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	AGW	4200 mg/m3
		1000 ppm
Isopropanol (CAS 67-63-0)	AGW	500 mg/m3
		200 ppm

**Greece. OELs (Decree No. 90/1999, as amended)**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	STEL	2000 mg/m3
		500 ppm
	TWA	2000 mg/m3
		500 ppm
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m3
		500 ppm
	TWA	980 mg/m3
		400 ppm

**Hungary. OELs. Joint Decree on Chemical Safety of Workplaces**

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	2000 mg/m3
	TWA	500 mg/m3

**Iceland. OELs. Regulation 154/1999 on occupational exposure limits**

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	TWA	790 mg/m3
		200 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	805 mg/m3
		200 ppm
Isopropanol (CAS 67-63-0)	TWA	490 mg/m3
		200 ppm

**Ireland. Occupational Exposure Limits**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	TWA	1600 mg/m3

**Ireland. Occupational Exposure Limits**

Components	Type	Value
Isopropanol (CAS 67-63-0)		400 ppm
	STEL	400 ppm
	TWA	200 ppm

**Italy. Occupational Exposure Limits Components**

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	TWA	200 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	400 ppm
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

**Latvia. OELs. Occupational exposure limit values of chemical substances in work environment**

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	600 mg/m3
	TWA	350 mg/m3

**Lithuania. OELs. Limit Values for Chemical Substances, General Requirements**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	TWA	50 mg/m3
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	STEL	3000 mg/m3
	TWA	750 ppm 2000 mg/m3
Isopropanol (CAS 67-63-0)	STEL	500 ppm 600 mg/m3
	TWA	250 ppm 350 mg/m3
		150 ppm

**Norway. Administrative Norms for Contaminants in the Workplace**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	TLV	800 mg/m3
Isopropanol (CAS 67-63-0)		200 ppm
		245 mg/m3
		100 ppm

**Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1**

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	TWA	700 mg/m3
Cyclohexylmethane (CAS 108-87-2)	STEL	3000 mg/m3
Isopropanol (CAS 67-63-0)	TWA	1600 mg/m3
	STEL	1200 mg/m3
	TWA	900 mg/m3

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)**

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	TWA	200 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	400 ppm
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

**Romania. OELs. Protection of workers from exposure to chemical agents at the workplace**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	STEL	1500 mg/m3
		375 ppm

**Romania. OELs. Protection of workers from exposure to chemical agents at the workplace**

Components	Type	Value
Isopropanol (CAS 67-63-0)	TWA	1200 mg/m3 211 ppm
	STEL	500 mg/m3 203 ppm
	TWA	200 mg/m3 81 ppm

**Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	STEL	1620 mg/m3 400 ppm
	TWA	810 mg/m3 200 ppm
	STEL	1000 mg/m3 400 ppm
Isopropanol (CAS 67-63-0)	TWA	500 mg/m3 200 ppm

**Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	TWA	2000 mg/m3 500 ppm
	TWA	4200 mg/m3
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	TWA	1000 ppm
	TWA	500 mg/m3 200 ppm

**Spain. Occupational Exposure Limits**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	TWA	1630 mg/m3 400 ppm
	STEL	1000 mg/m3 400 ppm
Isopropanol (CAS 67-63-0)	TWA	500 mg/m3 200 ppm

**Sweden. Occupational Exposure Limit Values**

Components	Type	Value
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	STEL	3000 mg/m3 750 ppm
	TWA	2000 mg/m3 500 ppm
Isopropanol (CAS 67-63-0)	STEL	600 mg/m3 250 ppm
	TWA	350 mg/m3 150 ppm

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

Components	Type	Value
1,2-trans-dichloroethylene (CAS 156-60-5)	STEL	1580 mg/m3 400 ppm
	TWA	790 mg/m3 200 ppm
Cyclohexylmethane (CAS 108-87-2)	STEL	3200 mg/m3 800 ppm



**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

Components	Type	Value
	TWA	1600 mg/m3 400 ppm
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a) (CAS 811-97-2)	TWA	4200 mg/m3
Isopropanol (CAS 67-63-0)	STEL	1000 ppm 1000 mg/m3
	TWA	400 ppm 500 mg/m3 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/m3
Isopropanol (CAS 67-63-0)	STEL	1000 ppm 1250 mg/m3
	TWA	500 ppm 999 mg/m3 400 ppm

**Biological limit values****Croatia. BLV. Dangerous Substance Exposure Limit Values at Workplace, Annexes 4 (as amended)**

Components	Value	Determinant	Specimen	Sampling time
Isopropanol (CAS 67-63-0)	50 mg/l	Acetone	Urine	*
	50 mg/l	Acetone	Blood	*

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

**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.

**Spain. Biological Limit Values (VLBs), Occupational Exposure Limits for Chemical Agents, Table 4**

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

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

**Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)**

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.

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

**8.2. Exposure controls**

**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.

**Individual protection measures, such as personal protective equipment**

**General information** Personal protection equipment should be chosen according to the GEN standards and in discussion with the supplier of the personal protective equipment.

**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** 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.

**Environmental exposure controls** Inform appropriate managerial or supervisory personnel of all environmental releases.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

**Physical state** Gas.

**Form** Aerosol

**Colour** Colourless.

**Odour** Characteristic.

**Odour threshold** Not established

**pH** Not applicable

**Melting point/freezing point** Not established

**Initial boiling point and boiling range** 48 °C (118,4 °F)

**Flash point** None (Tag-Closed Cup)

**Evaporation rate** < 1 (Ethyl Ether = 1)

**Flammability (solid, gas)** Non flammable gas.

#### Upper/lower flammability or explosive limits

**Flammability limit - lower (%)** Not established

**Flammability limit - upper (%)** Not established

**Vapour pressure** 3103 mm Hg @ 20°C

**Vapour density** > 1

**Relative density** Not available.

#### Solubility(ies)

**Solubility (water)** < 5 % by weight

**Solubility (other)** Not available.

**Partition coefficient (n-octanol/water)** < 1

**Auto-ignition temperature** > 250 °C (> 482 °F)

**Decomposition temperature** Not established

**Viscosity** < 3 cSt @ 25°C

**Explosive properties** Not explosive.

**Oxidising properties** Not oxidising.

### 9.2. Other information

**Heat of combustion** < 20 kJ/g

**Percent volatile** 100 %

**Specific gravity** 1,38 - 1,4 @ 25°C

**VOC** 45 % per US State & Federal Consumer Product Regulations

## SECTION 10: Stability and reactivity

**10.1. Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability** Material is stable under normal conditions.

**10.3. Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid** Contact with incompatible materials.

**10.5. Incompatible materials** Strong oxidising agents.

10.6. Hazardous decomposition products Carbon oxides.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

**Inhalation** Prolonged inhalation may be harmful.  
**Skin contact** No adverse effects due to skin contact are expected.  
**Eye contact** Direct contact with eyes may cause temporary irritation.  
**Ingestion** May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms** Exposure may cause temporary irritation, redness, or discomfort.

### 11.1. Information on toxicological effects

Components	Species	Test results
1,2-trans-dichloroethylene (CAS 156-60-5)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	1235 mg/kg
Cyclohexylmethane (CAS 108-87-2)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
<b>Inhalation</b>		
<i>Vapour</i>		
LC50	Rat	> 6564 ppm, 1 Hours
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/eye irritation</b>	Direct contact with eyes may cause temporary irritation.	
<b>Respiratory sensitisation</b>	Not a respiratory sensitizer.	
<b>Skin sensitisation</b>	This product is not expected to cause skin sensitisation.	
<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)	Not classifiable as a human carcinogen. A4	
<b>Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)</b>		
Not listed.		
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.	
<b>Aspiration hazard</b>	Not likely, due to the form of the product.	
<b>Mixture versus substance information</b>	No information available.	
<b>Other information</b>	None known.	

## SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects.

Components	Species	Test results
Cyclohexylmethane (CAS 108-87-2)		
<b>Aquatic</b>		
Fish	LC50	Striped bass ( <i>Morone saxatilis</i> )
		5,8 mg/l, 96 hours
Isopropanol (CAS 67-63-0)		
<b>Aquatic</b>		
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )
		> 1400 mg/l, 96 hours
<b>12.2. Persistence and degradability</b>	No data is available on the degradability of this product.	
<b>12.3. Bioaccumulative potential</b>		
<b>Partition coefficient n-octanol/water (log Kow)</b>		
1,2-trans-dichloroethylene		2,06
Cyclohexylmethane		3,61
Ethane, 1,1,1,2-tetrafluoro-(hfc-134a)		1,06
Isopropanol		0,05
<b>Bioconcentration factor (BCF)</b>	Not available.	
<b>12.4. Mobility in soil</b>	No data available.	
<b>12.5. Results of PBT and vPvB assessment</b>	Not available.	
<b>12.6. Other adverse effects</b>	The product contains volatile organic compounds which have a photochemical ozone creation potential.	

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</b>	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).
<b>Contaminated packaging</b>	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.
<b>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

<b>14.1. UN number</b>	UN1950
<b>14.2. UN proper shipping name</b>	AEROSOLS, asphixiant
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	2.2
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	2.2
<b>Hazard No. (ADR)</b>	Not available.
<b>Tunnel restriction code</b>	3E
<b>14.4. Packing group</b>	Not applicable.
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### RID

<b>14.1. UN number</b>	UN1950
<b>14.2. UN proper shipping name</b>	Aerosols, asphixiant
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	2.2
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	2.2

- 14.4. Packing group Not applicable.
- 14.5. Environmental hazards No.
- 14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

**ADN**

- 14.1. UN number UN1950
- 14.2. UN proper shipping name Aerosols, asphixiant
- 14.3. Transport hazard class(es)
  - Class 2.2
  - Subsidiary risk -
  - Label(s) 2.2
- 14.4. Packing group Not applicable.
- 14.5. Environmental hazards No.
- 14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

**IATA**

- 14.1. UN number UN1950
- 14.2. UN proper shipping name Aerosols, non-flammable
- 14.3. Transport hazard class(es)
  - Class 2.2
  - Subsidiary risk -
- 14.4. Packing group Not applicable.
- 14.5. Environmental hazards No.
- ERG Code 10L
- 14.6. 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**

- 14.1. UN number UN1950
- 14.2. UN proper shipping name AEROSOLS
- 14.3. Transport hazard class(es)
  - Class 2.2
  - Subsidiary risk -
- 14.4. Packing group Not applicable.
- 14.5. Environmental hazards
  - Marine pollutant No.
- EmS F-D, S-U
- 14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
- 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

ADN; ADR; IATA; IMDG; RID



**SECTION 15: Regulatory information**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**EU regulations**

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### **Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### **Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

#### **Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

1,2-trans-dichloroethylene (CAS 156-60-5)

Cyclohexylmethane (CAS 108-87-2)

Isopropanol (CAS 67-63-0)

#### **Other regulations**

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

#### **National regulations**

Follow national regulation for work with chemical agents.

#### **15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

### **SECTION 16: Other information**

#### **List of abbreviations**

Not available.

#### **References**

Not available.

#### **Information on evaluation method leading to the classification of mixture**

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

#### **Full text of any statements or R-phrases and H-statements under Sections 2 to 15**

R11 Highly flammable.

R20 Harmful by inhalation.

R36 Irritating to eyes.

R38 Irritating to skin.

R5 Heating may cause an explosion.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65 Harmful: may cause lung damage if swallowed.

R67 Vapours may cause drowsiness and dizziness.

H225 Highly flammable liquid and vapour.

H280 Contains gas under pressure; may explode if heated.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H336 May cause drowsiness or dizziness.  
H410 Very toxic to aquatic life with long lasting effects.  
H412 Harmful to aquatic life with long lasting effects.

**Revision information**

**Training information**

**Disclaimer**

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

Follow training instructions when handling this material.

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