

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

### 1.1. Product identifier

Trade name or designation of the mixture	LPS® ZeroTri®
Registration number	-
Synonyms	None.
Part Number	M03505, M03515
Issue date	03-October-2017
Version number	02
Revision date	18-June-2018
Supersedes date	03-October-2017

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

Identified uses	An industrial degreaser designed to remove oil, grease, wax, moisture, dirt or other contaminants from parts and equipments.
Uses advised against	None known.

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

Supplier	Alsco Ltd
Company name	Unite 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	Rocol
Address	Rocol House Swillington Leeds LS26 8BS United Kingdom Tel: +44 (0) 113 232 2700 Fax: +44 (0) 113 232 2740
e-mail	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 Regulation (EC) No 1272/2008 as amended

##### Physical hazards

Flammable liquids	Category 2	H225 - Highly flammable liquid and vapour.
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##### Health hazards

Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Specific target organ toxicity - single exposure	Category 3 narcotic effects	H336 - May cause drowsiness or dizziness.
Aspiration hazard	Category 1	H304 - May be fatal if swallowed and enters airways.

##### Environmental hazards

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

May be ignited by heat, sparks or flames. May be fatal if swallowed and enters airways. May cause drowsiness and dizziness. Causes serious eye irritation. Causes skin irritation. Dangerous for the environment if discharged into watercourses.

## 2.2. Label elements

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

**Contains:** 2-Methyl Butyl Acetate, Acetone, Cyclohexylmethane, Hydrocarbons, C7, N-Alkanes, Isoalkanes, Cyclics

### Hazard pictograms



### Signal word

Danger

### Hazard statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing mist or vapour.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.

#### Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P331	Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTRE/doctor if you feel unwell.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use appropriate media to extinguish.
P391	Collect spillage.

#### Storage

P235	Keep cool.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

#### Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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**Supplemental label information** EUH066 - Repeated exposure may cause skin dryness or cracking.

## 2.3. Other hazards

Not a PBT or vPvB substance or mixture.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Acetone	30- 40	67-64-1 200-662-2	-	606-001-00-8	#
<b>Classification:</b>	Flam. Liq. 2;H225, Eye Irrit. 2;H319, STOT SE 3;H336				

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Hydrocarbons, C7, N-Alkanes, Isoalkanes, Cyclics	30 - 40	64742-49-0 927-510-4	01-21194755-33-XXXX	649-328-00-1	
<b>Classification:</b>	Flam. Liq. 2;H225, Asp. Tox. 1;H304, Skin Irrit. 2;H315, STOT SE 3;H336, Aquatic Chronic 2;H411				P
Cyclohexylmethane	20 - 30	108-87-2 203-624-3	-	601-018-00-7	
<b>Classification:</b>	Flam. Liq. 2;H225, Asp. Tox. 1;H304, Skin Irrit. 2;H315, STOT SE 3;H336, Aquatic Chronic 2;H411				
2-Methyl Butyl Acetate	1 - 3	624-41-9 210-843-8	-	607-130-00-2	
<b>Classification:</b>	Flam. Liq. 3;H226				C
Amyl Acetate	1 - 3	628-63-7 211-047-3	-	607-130-00-2	#
<b>Classification:</b>	Flam. Liq. 3;H226				C

#### 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.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

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.

Note P: The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7).

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

## SECTION 4: First aid measures

**General information** Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

### 4.1. Description of first aid measures

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

**Skin contact** Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**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** Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**4.2. Most important symptoms and effects, both acute and delayed** Aspiration may cause pulmonary oedema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

**4.3. Indication of any immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

## SECTION 5: Firefighting measures

**General fire hazards** Highly flammable liquid and vapour.

### 5.1. Extinguishing media

**Suitable extinguishing media** Water fog. Alcohol resistant 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.

**5.2. Special hazards arising from the substance or mixture** Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. 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

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

#### 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. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

#### For emergency responders

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up.

### 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

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains.

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. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

### 6.4. Reference to other sections

Not available.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe 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. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

### 7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers.

### 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
2-Methyl Butyl Acetate (CAS 624-41-9)	MAK	270 mg/m <sup>3</sup>
		50 ppm
	STEL	540 mg/m <sup>3</sup>
Acetone (CAS 67-64-1)		100 ppm
	MAK	1200 mg/m <sup>3</sup>
	STEL	4800 mg/m <sup>3</sup>
		2000 ppm

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

<b>Components</b>	<b>Type</b>	<b>Value</b>
Amyl Acetate (CAS 628-63-7)	MAK	270 mg/m3
		50 ppm
	STEL	540 mg/m3 100 ppm
Cyclohexylmethane (CAS 108-87-2)	MAK	1600 mg/m3
		400 ppm
	STEL	6400 mg/m3 1600 ppm

**Belgium. Exposure Limit Values.**

<b>Components</b>	<b>Type</b>	<b>Value</b>
2-Methyl Butyl Acetate (CAS 624-41-9)	STEL	540 mg/m3
		100 ppm
	TWA	270 mg/m3 50 ppm
Acetone (CAS 67-64-1)	STEL	2420 mg/m3
		1000 ppm
	TWA	1210 mg/m3 500 ppm
Amyl Acetate (CAS 628-63-7)	STEL	540 mg/m3
		100 ppm
	TWA	270 mg/m3 50 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	1633 mg/m3
		400 ppm

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

<b>Components</b>	<b>Type</b>	<b>Value</b>
Acetone (CAS 67-64-1)	STEL	1400 mg/m3
	TWA	600 mg/m3
Amyl Acetate (CAS 628-63-7)	STEL	540 mg/m3
		100 ppm
	TWA	270 mg/m3 50 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	500 mg/m3

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

<b>Components</b>	<b>Type</b>	<b>Value</b>
Acetone (CAS 67-64-1)	MAC	1210 mg/m3
		500 ppm
	STEL	3620 mg/m3 1500 ppm
Amyl Acetate (CAS 628-63-7)	MAC	270 mg/m3
		50 ppm
	STEL	540 mg/m3 100 ppm

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

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	Ceiling	540 mg/m3
	TWA	270 mg/m3
Acetone (CAS 67-64-1)	Ceiling	1500 mg/m3
	TWA	800 mg/m3
Amyl Acetate (CAS 628-63-7)	Ceiling	540 mg/m3
	TWA	270 mg/m3
Cyclohexylmethane (CAS 108-87-2)	Ceiling	2000 mg/m3
	TWA	1500 mg/m3

**Denmark. Exposure Limit Values**

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	TLV	271 mg/m3
		50 ppm
Acetone (CAS 67-64-1)	TLV	600 mg/m3
		250 ppm
Amyl Acetate (CAS 628-63-7)	TLV	271 mg/m3
		50 ppm
Cyclohexylmethane (CAS 108-87-2)	TLV	805 mg/m3
		200 ppm

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

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	1210 mg/m3
		500 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	1600 mg/m3
		400 ppm

**Finland. Workplace Exposure Limits**

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	STEL	540 mg/m3
		100 ppm
		270 mg/m3
Acetone (CAS 67-64-1)	STEL	50 ppm
		1500 mg/m3
		630 ppm
Amyl Acetate (CAS 628-63-7)	TWA	1200 mg/m3
		500 ppm
		540 mg/m3
Cyclohexylmethane (CAS 108-87-2)	STEL	100 ppm
		270 mg/m3
		50 ppm
	TWA	2000 mg/m3
		500 ppm
		1600 mg/m3
		400 ppm

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

Components	Type	Value
Acetone (CAS 67-64-1)	VLE	2420 mg/m3
<b>Regulatory status:</b>	Regulatory binding (VRC)	1000 ppm
<b>Regulatory status:</b>	Regulatory binding (VRC)	1210 mg/m3
	VME	500 ppm
<b>Regulatory status:</b>	Regulatory binding (VRC)	
<b>Regulatory status:</b>	Regulatory binding (VRC)	
Amyl Acetate (CAS 628-63-7)	VLE	540 mg/m3
<b>Regulatory status:</b>	Regulatory binding (VRC)	100 ppm
<b>Regulatory status:</b>	Regulatory binding (VRC)	270 mg/m3
	VME	50 ppm
<b>Regulatory status:</b>	Regulatory binding (VRC)	
<b>Regulatory status:</b>	Regulatory binding (VRC)	
Cyclohexylmethane (CAS 108-87-2)	VME	1600 mg/m3
<b>Regulatory status:</b>	Indicative limit (VL)	400 ppm
<b>Regulatory status:</b>	Indicative limit (VL)	

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

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	TWA	270 mg/m3
		50 ppm
Acetone (CAS 67-64-1)	TWA	1200 mg/m3
		500 ppm
Amyl Acetate (CAS 628-63-7)	TWA	270 mg/m3
		50 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	810 mg/m3
		200 ppm

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

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	AGW	270 mg/m3
		50 ppm
Acetone (CAS 67-64-1)	AGW	1200 mg/m3
		500 ppm
Amyl Acetate (CAS 628-63-7)	AGW	270 mg/m3
		50 ppm
Cyclohexylmethane (CAS 108-87-2)	AGW	810 mg/m3
		200 ppm

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

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	3560 mg/m3
	TWA	1780 mg/m3

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

Components	Type	Value
Amyl Acetate (CAS 628-63-7)	STEL	800 mg/m3
		150 ppm
	TWA	530 mg/m3 100 ppm
Cyclohexylmethane (CAS 108-87-2)	STEL	2000 mg/m3
		500 ppm
	TWA	2000 mg/m3 500 ppm

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

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	2420 mg/m3
	TWA	1210 mg/m3
Amyl Acetate (CAS 628-63-7)	STEL	540 mg/m3
	TWA	270 mg/m3

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

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	STEL	540 mg/m3
		100 ppm
	TWA	266 mg/m3 50 ppm
Acetone (CAS 67-64-1)	TWA	600 mg/m3 250 ppm
	Amyl Acetate (CAS 628-63-7)	STEL
		100 ppm
TWA		266 mg/m3 50 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	805 mg/m3
		200 ppm

**Ireland. Occupational Exposure Limits**

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	1210 mg/m3 500 ppm
	Amyl Acetate (CAS 628-63-7)	STEL
		100 ppm
TWA		270 mg/m3 50 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	1600 mg/m3
		400 ppm

**Italy. Occupational Exposure Limits**

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	STEL	100 ppm
	TWA	50 ppm
Acetone (CAS 67-64-1)	TWA	1210 mg/m3



**Italy. Occupational Exposure Limits**

Components	Type	Value
Amyl Acetate (CAS 628-63-7)	STEL	500 ppm
		540 mg/m3
	TWA	100 ppm
270 mg/m3		
Cyclohexylmethane (CAS 108-87-2)	TWA	50 ppm
		400 ppm

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

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	1210 mg/m3
Amyl Acetate (CAS 628-63-7)	STEL	500 ppm
		540 mg/m3
	TWA	100 ppm
270 mg/m3		
		50 ppm

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

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	2420 mg/m3
		1000 ppm
	TWA	1210 mg/m3
500 ppm		
Amyl Acetate (CAS 628-63-7)	STEL	540 mg/m3
		100 ppm
	TWA	270 mg/m3
50 ppm		
Cyclohexylmethane (CAS 108-87-2)	TWA	50 mg/m3

**Luxembourg. Binding Occupational exposure limit values (Annex I), Memorial A**

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	1210 mg/m3
Amyl Acetate (CAS 628-63-7)	STEL	500 ppm
		540 mg/m3
	TWA	100 ppm
270 mg/m3		
		50 ppm

**Malta. OELs. Occupational Exposure Limit Values (L.N. 227. of Occupational Health and Safety Authority Act (CAP. 424), Schedules I and V)**

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	1210 mg/m3
		500 ppm
Amyl Acetate (CAS 628-63-7)	STEL	540 mg/m3
		100 ppm
	TWA	270 mg/m3
		50 ppm

**Netherlands. OELs (binding)**

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	STEL	530 mg/m3
Acetone (CAS 67-64-1)	STEL	2420 mg/m3
	TWA	1210 mg/m3
Amyl Acetate (CAS 628-63-7)	STEL	530 mg/m3

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

Components	Type	Value
Acetone (CAS 67-64-1)	TLV	295 mg/m3
		125 ppm
Amyl Acetate (CAS 628-63-7)	TLV	260 mg/m3
		50 ppm
Cyclohexylmethane (CAS 108-87-2)	TLV	800 mg/m3
		200 ppm

**Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817**

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	1800 mg/m3
	TWA	600 mg/m3
Amyl Acetate (CAS 628-63-7)	STEL	500 mg/m3
	TWA	250 mg/m3
Cyclohexylmethane (CAS 108-87-2)	STEL	3000 mg/m3
	TWA	1600 mg/m3

**Portugal. OELs. Decree-Law n. 290/2001 (Journal of the Republic - 1 Series A, n.266)**

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	1210 mg/m3
		500 ppm
Amyl Acetate (CAS 628-63-7)	STEL	540 mg/m3
		100 ppm
	TWA	270 mg/m3
		50 ppm

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

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	STEL	100 ppm
	TWA	50 ppm
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Amyl Acetate (CAS 628-63-7)	STEL	100 ppm
	TWA	50 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	400 ppm

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

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	1210 mg/m3
		500 ppm

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

Components	Type	Value
Amyl Acetate (CAS 628-63-7)	STEL	540 mg/m3 100 ppm
	TWA	270 mg/m3 50 ppm
Cyclohexylmethane (CAS 108-87-2)	STEL	1500 mg/m3 375 ppm
	TWA	1200 mg/m3 211 ppm

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

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	1210 mg/m3 500 ppm
Amyl Acetate (CAS 628-63-7)	STEL	540 mg/m3 100 ppm
	TWA	270 mg/m3 50 ppm
Cyclohexylmethane (CAS 108-87-2)	STEL	1620 mg/m3 400 ppm
	TWA	810 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
2-Methyl Butyl Acetate (CAS 624-41-9)	TWA	270 mg/m3 50 ppm
Acetone (CAS 67-64-1)	TWA	1210 mg/m3 500 ppm
Amyl Acetate (CAS 628-63-7)	TWA	270 mg/m3 50 ppm
Cyclohexylmethane (CAS 108-87-2)	TWA	2000 mg/m3 500 ppm

**Spain. Occupational Exposure Limits**

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	STEL	540 mg/m3 100 ppm
	TWA	270 mg/m3 50 ppm
Acetone (CAS 67-64-1)	TWA	1210 mg/m3 500 ppm
Amyl Acetate (CAS 628-63-7)	STEL	540 mg/m3 100 ppm
	TWA	270 mg/m3 50 ppm

**Spain. Occupational Exposure Limits**

Components	Type	Value
Cyclohexylmethane (CAS 108-87-2)	TWA	1630 mg/m <sup>3</sup>
		400 ppm

**Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)**

Components	Type	Value
2-Methyl Butyl Acetate (CAS 624-41-9)	Ceiling	540 mg/m <sup>3</sup>
		100 ppm
	TWA	270 mg/m <sup>3</sup>
Acetone (CAS 67-64-1)		50 ppm
	STEL	1200 mg/m <sup>3</sup>
	TWA	600 mg/m <sup>3</sup>
Amyl Acetate (CAS 628-63-7)		250 ppm
	Ceiling	540 mg/m <sup>3</sup>
	TWA	270 mg/m <sup>3</sup>
		50 ppm

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	2400 mg/m <sup>3</sup>
		1000 ppm
	TWA	1200 mg/m <sup>3</sup>
Cyclohexylmethane (CAS 108-87-2)		500 ppm
	STEL	3200 mg/m <sup>3</sup>
	TWA	1600 mg/m <sup>3</sup>
		400 ppm

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

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	3620 mg/m <sup>3</sup>
		1500 ppm
	TWA	1210 mg/m <sup>3</sup>
		500 ppm

**EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU**

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	1210 mg/m <sup>3</sup>
		500 ppm
Amyl Acetate (CAS 628-63-7)	STEL	540 mg/m <sup>3</sup>
		100 ppm
	TWA	270 mg/m <sup>3</sup>
		50 ppm

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

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	20 mg/g	Acetone	Creatinine in urine	*
	20 mg/l	Acetone	Blood	*

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

Components	Value	Determinant	Specimen	Sampling Time
	0,34 mmol/l	Acetone	Blood	*
	38,95 mmol/mol	Acetone	Creatinine in urine	*

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

**France. Biological indicators of exposure (IBE) (National Institute for Research and Security (INRS, ND 2065))**

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	100 mg/l	Acétone	Urine	*

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

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

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	80 mg/l	Aceton	Urine	*

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

**Slovakia. BLVs (Biological Limit Value). Regulation no. 355/2006 concerning protection of workers exposed to chemical agents, Annex 2**

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	53,36 mg/g	Acetone	Creatinine in urine	*
	80 mg/l	Acetone	Urine	*

\* - 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
Acetone (CAS 67-64-1)	50 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
Acetone (CAS 67-64-1)	80 mg/l	Aceton	Urine	*

\* - 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**

Explosion-proof general and local exhaust ventilation. 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. Eye wash fountain and emergency showers are recommended.

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

**General information** Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN 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 appropriate chemical resistant 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.

**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

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Colour</b>	Clear. Colourless.
<b>Odour</b>	Characteristic.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	< 23,0 °C (< 73,4 °F)
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.

#### Upper/lower flammability or explosive limits

<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.

**Vapour pressure** Not available.

**Vapour density** Not available.

**Relative density** Not available.

#### Solubility(ies)

**Solubility (water)** Not available.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** Non viscous.

**Explosive properties** Not explosive.

**Oxidising properties** Not oxidising.

**9.2. Other information** No relevant additional information available.

## 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** Avoid heat, sparks, open flames and other ignition sources. Contact with incompatible materials.

**10.5. Incompatible materials** Acids. 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** May cause drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.

**Skin contact** Causes skin irritation.

**Eye contact** Causes serious eye irritation.

**Ingestion** Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

**Symptoms** Aspiration may cause pulmonary oedema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

### 11.1. Information on toxicological effects

**Acute toxicity** May be fatal if swallowed and enters airways.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
<b>Acute</b>		
<b>Inhalation</b>		
LC50	Rat	50 mg/l, 8 Hours
<b>Oral</b>		
LD50	Rat	5800 mg/kg
Cyclohexylmethane (CAS 108-87-2)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
Hydrocarbons, C7, N-Alkanes, Isoalkanes, Cyclics (CAS 64742-49-0)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 1900 mg/kg, 24 Hours
<b>Skin corrosion/irritation</b>	Causes skin irritation.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye 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>		
Acetone (CAS 67-64-1)	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>		
Hydrocarbons, C7, N-Alkanes, Isoalkanes, Cyclics (CAS 64742-49-0)		
<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>	May be fatal if swallowed and enters airways.	
<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. Due to partial or complete lack of data the classification for hazardous to the aquatic environment, acute hazard, is not possible.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna) 10294 - 17704 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss) 4740 - 6330 mg/l, 96 hours
Amyl Acetate (CAS 628-63-7)		
<b>Aquatic</b>		
Fish	LC50	Western mosquitofish (Gambusia affinis) 65 mg/l, 96 hours

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
<b>12.2. Persistence and degradability</b>		
<b>12.3. Bioaccumulative potential</b>		
<b>Partition coefficient n-octanol/water (log Kow)</b>		
Acetone		-0,24
Amyl Acetate		2,3
Cyclohexylmethane		3,61
<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 a PBT or vPvB substance or mixture.	
<b>12.6. Other adverse effects</b>	None known.	
<b>SECTION 13: Disposal considerations</b>		
<b>13.1. Waste treatment methods</b>		
<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.	
<b>SECTION 14: Transport information</b>		
<b>ADR</b>		
<b>14.1. UN number</b>	UN1993	
<b>14.2. UN proper shipping name</b>	FLAMMABLE LIQUID, N.O.S. (Acetone, Cyclohexylmethane)	
<b>14.3. Transport hazard class(es)</b>		
Class	3	
Subsidiary risk	-	
Label(s)	3	
Hazard No. (ADR)	30	
Tunnel restriction code	D/E	
<b>14.4. Packing group</b>	II	
<b>14.5. Environmental hazards</b>	Yes	
<b>14.6. Special precautions for user</b>	Not available.	
<b>RID</b>		
<b>14.1. UN number</b>	UN1993	
<b>14.2. UN proper shipping name</b>	FLAMMABLE LIQUID, N.O.S. (Acetone, Cyclohexylmethane)	
<b>14.3. Transport hazard class(es)</b>		
Class	3	
Subsidiary risk	-	
Label(s)	3	
<b>14.4. Packing group</b>	II	
<b>14.5. Environmental hazards</b>	Yes	
<b>14.6. Special precautions for user</b>	Not available.	
<b>ADN</b>		
<b>14.1. UN number</b>	UN1993	



14.2. UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Acetone, Cyclohexylmethane)

14.3. Transport hazard class(es)

Class	3
Subsidiary risk	-
Label(s)	3

14.4. Packing group II

14.5. Environmental hazards Yes

14.6. Special precautions for user Not available.

**IATA**

14.1. UN number UN1993

14.2. UN proper shipping name Flammable liquid, n.o.s. (Acetone, Cyclohexylmethane)

14.3. Transport hazard class(es)

Class	3
Subsidiary risk	-

14.4. Packing group II

14.5. Environmental hazards Yes

ERG Code 3L

14.6. Special precautions for user Not available.

**Other information**

Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

**IMDG**

14.1. UN number UN1993

14.2. UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Acetone, Cyclohexylmethane), MARINE POLLUTANT

14.3. Transport hazard class(es)

Class	3
Subsidiary risk	-

14.4. Packing group II

14.5. Environmental hazards

Marine pollutant	Yes
EmS	F-E, S-E

14.6. Special precautions for user Not available.

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

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**

Acetone (CAS 67-64-1)

Hydrocarbons, C7, N-Alkanes, Isoalkanes, Cyclics (CAS 64742-49-0)

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

Hydrocarbons, C7, N-Alkanes, Isoalkanes, Cyclics (CAS 64742-49-0)

#### Other EU regulations

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

2-Methyl Butyl Acetate (CAS 624-41-9)

Acetone (CAS 67-64-1)

Amyl Acetate (CAS 628-63-7)

Cyclohexylmethane (CAS 108-87-2)

#### 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 H-statements  
not written out in full under  
Sections 2 to 15**

H225 Highly flammable liquid and vapour.  
H226 Flammable liquid and vapour.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
H411 Toxic to aquatic life with long lasting effects.

**Revision information**

Product and Company Identification: Product and Company Identification  
Physical & Chemical Properties: Multiple Properties  
Transport Information: Material Transportation Information

**Training information**

Follow training instructions when handling this material.

**Disclaimer**

Rocol 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 in the sheet was written based on the best knowledge and experience currently available.