



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® Micro-X
Registration number -
Synonyms None.
Part Number 04555, M04555
Issue date 23-March-2017
Version number 01

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

Identified uses A fast drying industrial cleaning solvent designed to remove soil and other contaminants.
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

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 F;R11, Xn;R65, Xi;R36/38, R67, 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

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.
Reproductive toxicity	Category 2	H361 - Suspected of damaging fertility or the unborn child.
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

Physical hazards Highly flammable.

Health hazards	May impair fertility. May cause harm to the unborn child. Irritating to eyes and skin. Also harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness. Occupational exposure to the substance or mixture 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	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.

2.2. Label elements

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

Contains: 2-Methylpentane, Isopropanol, n-Hexane, Pentane

Hazard pictograms



Signal word

Danger

Hazard statements

H225	Highly 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.
H361	Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
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

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
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 None known.

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
2-Methylpentane	70 - 80	107-83-5 203-523-4	-	601-007-00-7	
Classification:		DSD: F;R11, Xn;R65, Xi;R38, R67, N;R51/53			C
		CLP: Flam. Liq. 2;H225, Asp. Tox. 1;H304, Skin Irrit. 2;H315, STOT SE 3;H336, Aquatic Chronic 2;H411			C
Isopropanol	10 - 20	67-63-0 200-661-7	-	603-117-00-0	
Classification:		DSD: F;R11, Xi;R36, R67			
		CLP: Flam. Liq. 2;H225, Eye Irrit. 2;H319, STOT SE 3;H336			
Pentane	5 - 10	109-66-0 203-692-4	-	601-006-00-1	#
Classification:		DSD: F+;R12, Xn;R65, R66-67, N;R51/53			C
		CLP: Flam. Liq. 2;H225, Asp. Tox. 1;H304, STOT SE 3;H336, Aquatic Chronic 2;H411			C
n-Hexane	0,1 - 1	110-54-3 203-777-6	-	601-037-00-0	#
Classification:		DSD: F;R11, Repr. Cat. 3;R62, Xn;R65-48/20, Xi;R38, R67, N;R51/53			
		CLP: Flam. Liq. 2;H225, Asp. Tox. 1;H304, Skin Irrit. 2;H315, STOT SE 3;H336, STOT RE 2;H373, Aquatic Chronic 2;H411			

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.

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 (CO₂).

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. Use personal protection recommended in Section 8 of the SDS.

For emergency responders Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. 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 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 entry into waterways, sewer, basements or confined areas.

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 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 Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Should be handled in closed systems, if possible. 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 contact during pregnancy/while nursing. 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. 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
2-Methylpentane (CAS 107-83-5)	MAK	715 mg/m3 200 ppm

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

Components	Type	Value
	STEL	2860 mg/m ³ 800 ppm
Isopropanol (CAS 67-63-0)	MAK	500 mg/m ³ 200 ppm
	STEL	2000 mg/m ³ 800 ppm
n-Hexane (CAS 110-54-3)	MAK	72 mg/m ³ 20 ppm
	STEL	288 mg/m ³ 80 ppm
Pentane (CAS 109-66-0)	Ceiling	3600 mg/m ³ 1200 ppm
	MAK	1800 mg/m ³ 600 ppm

Belgium. Exposure Limit Values.

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1000 mg/m ³ 400 ppm
	TWA	500 mg/m ³ 200 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³ 20 ppm
Pentane (CAS 109-66-0)	STEL	2250 mg/m ³ 750 ppm
	TWA	1800 mg/m ³ 600 ppm

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m ³
	TWA	980 mg/m ³
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³ 20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m ³ 1000 ppm

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	MAC	999 mg/m ³ 400 ppm
	STEL	1250 mg/m ³ 500 ppm
n-Hexane (CAS 110-54-3)	MAC	72 mg/m ³ 20 ppm
Pentane (CAS 109-66-0)	MAC	3000 mg/m ³ 1000 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 ³ 400 ppm

Czech Republic. OELs. Government Decree 361

Components	Type	Value
Isopropanol (CAS 67-63-0)	Ceiling	1000 mg/m ³
	TWA	500 mg/m ³
n-Hexane (CAS 110-54-3)	Ceiling	200 mg/m ³
	TWA	70 mg/m ³
Pentane (CAS 109-66-0)	Ceiling	4500 mg/m ³
	TWA	3000 mg/m ³

Denmark. Exposure Limit Values

Components	Type	Value
Isopropanol (CAS 67-63-0)	TLV	490 mg/m3
		200 ppm
n-Hexane (CAS 110-54-3)	TLV	72 mg/m3
		20 ppm
Pentane (CAS 109-66-0)	TLV	1500 mg/m3
		500 ppm

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	600 mg/m3
		250 ppm
		TWA
n-Hexane (CAS 110-54-3)	TWA	350 mg/m3
		150 ppm
		72 mg/m3
Pentane (CAS 109-66-0)	TWA	20 ppm
		3000 mg/m3
		1000 ppm

Finland. Workplace Exposure Limits

Components	Type	Value
2-Methylpentane (CAS 107-83-5)	STEL	2300 mg/m3
		630 ppm
		TWA
Isopropanol (CAS 67-63-0)	STEL	1800 mg/m3
		500 ppm
		620 mg/m3
n-Hexane (CAS 110-54-3)	STEL	250 ppm
		500 mg/m3
		200 ppm
Pentane (CAS 109-66-0)	STEL	2300 mg/m3
		630 ppm
		TWA
Isopropanol (CAS 67-63-0)	TWA	72 mg/m3
		20 ppm
		1900 mg/m3
n-Hexane (CAS 110-54-3)	TWA	630 ppm
		1500 mg/m3
		500 ppm

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

Components	Type	Value	Form
Isopropanol (CAS 67-63-0)	VLE	980 mg/m3	
		400 ppm	
n-Hexane (CAS 110-54-3)	VLE	1500 mg/m3	Vapor.
		VME	
		72 mg/m3	
Pentane (CAS 109-66-0)	VME	20 ppm	
		3000 mg/m3	
		1000 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
2-Methylpentane (CAS 107-83-5)	TWA	1800 mg/m3
		500 ppm
Isopropanol (CAS 67-63-0)	TWA	500 mg/m3
		200 ppm
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3
		50 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3
		1000 ppm

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

Components	Type	Value
2-Methylpentane (CAS 107-83-5)	AGW	1800 mg/m ³
Isopropanol (CAS 67-63-0)	AGW	500 ppm
		500 mg/m ³
n-Hexane (CAS 110-54-3)	AGW	200 ppm
		180 mg/m ³
Pentane (CAS 109-66-0)	AGW	50 ppm
		3000 mg/m ³
		1000 ppm

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m ³
		500 ppm
		980 mg/m ³
n-Hexane (CAS 110-54-3)	TWA	400 ppm
		72 mg/m ³
		20 ppm

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	2000 mg/m ³
	TWA	500 mg/m ³
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³
Pentane (CAS 109-66-0)	TWA	2950 mg/m ³

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	TWA	490 mg/m ³
		200 ppm
n-Hexane (CAS 110-54-3)	TWA	90 mg/m ³
		25 ppm
Pentane (CAS 109-66-0)	TWA	1500 mg/m ³
		500 ppm

Ireland. Occupational Exposure Limits

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m ³
		1000 ppm

Italy. Occupational Exposure Limits

Components	Type	Value
2-Methylpentane (CAS 107-83-5)	STEL	1000 ppm
	TWA	500 ppm
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³
		20 ppm
Pentane (CAS 109-66-0)	TWA	2000 mg/m ³
		667 ppm

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	600 mg/m ³
	TWA	350 mg/m ³
n-Hexane (CAS 110-54-3)	STEL	300 mg/m ³
	TWA	72 mg/m ³
Pentane (CAS 109-66-0)	TWA	20 ppm
		3000 mg/m ³

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

Components	Type	Value
		1000 ppm

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	600 mg/m ³
		250 ppm
	TWA	350 mg/m ³
		150 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m ³
		1000 ppm

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m ³
		1000 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
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m ³
		1000 ppm

Netherlands. OELs (binding)

Components	Type	Value
n-Hexane (CAS 110-54-3)	STEL	144 mg/m ³
	TWA	72 mg/m ³
Pentane (CAS 109-66-0)	TWA	1800 mg/m ³

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
Isopropanol (CAS 67-63-0)	TLV	245 mg/m ³
		100 ppm
n-Hexane (CAS 110-54-3)	TLV	72 mg/m ³
		20 ppm
Pentane (CAS 109-66-0)	TLV	750 mg/m ³
		250 ppm

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1200 mg/m ³
	TWA	900 mg/m ³
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³
Pentane (CAS 109-66-0)	TWA	3000 mg/m ³

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m ³
		1000 ppm

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Pentane (CAS 109-66-0)	TWA	600 ppm

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	500 mg/m3 203 ppm
	TWA	200 mg/m3 81 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3 1000 ppm

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1000 mg/m3 400 ppm
	TWA	500 mg/m3 200 ppm
n-Hexane (CAS 110-54-3)	STEL	140 mg/m3 40 ppm
	TWA	72 mg/m3 20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3 1000 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-Methylpentane (CAS 107-83-5)	TWA	720 mg/m3 200 ppm
	TWA	500 mg/m3 200 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3 1000 ppm

Spain. Occupational Exposure Limits

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1000 mg/m3 400 ppm
	TWA	500 mg/m3 200 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3 1000 ppm

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

Components	Type	Value
2-Methylpentane (CAS 107-83-5)	STEL	1100 mg/m3 300 ppm
	TWA	700 mg/m3 200 ppm
Isopropanol (CAS 67-63-0)	STEL	600 mg/m3 250 ppm
	TWA	350 mg/m3 150 ppm
n-Hexane (CAS 110-54-3)	STEL	180 mg/m3 50 ppm
	TWA	90 mg/m3 25 ppm
Pentane (CAS 109-66-0)	STEL	2000 mg/m3 750 ppm

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

Components	Type	Value
	TWA	1800 mg/m ³ 600 ppm

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value
2-Methylpentane (CAS 107-83-5)	STEL	3600 mg/m ³ 1000 ppm
	TWA	1800 mg/m ³ 500 ppm
Isopropanol (CAS 67-63-0)	STEL	1000 mg/m ³ 400 ppm
	TWA	500 mg/m ³ 200 ppm
n-Hexane (CAS 110-54-3)	STEL	1440 mg/m ³ 400 ppm
	TWA	180 mg/m ³ 50 ppm
Pentane (CAS 109-66-0)	STEL	3600 mg/m ³ 1200 ppm
	TWA	1800 mg/m ³ 600 ppm

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1250 mg/m ³ 500 ppm
	TWA	999 mg/m ³ 400 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³ 20 ppm
Pentane (CAS 109-66-0)	TWA	1800 mg/m ³ 600 ppm

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³ 20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m ³ 1000 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	*
n-Hexane (CAS 110-54-3)	150 µg/l	n-Hexane	Blood	*
	5,3 mg/g	2,5-Hexanedione	Creatinine in urine	*
	5,25 mmol/mol	2,5-Hexanedione	Creatinine in urine	*
	40 ppm	n-Hexane	End-exhaled air	*
	1,74 µmol/l	n-Hexane	Blood	*
	1,66 µmol/l	n-Hexane	End-exhaled air	*

* - 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
n-Hexane (CAS 110-54-3)	5 mg/g	2,5-Hexanedione	Creatinine in urine	*

* - 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	*
n-Hexane (CAS 110-54-3)	5 mg/l	2,5-Hexandion plus 4,5-Dihydroxy-2-hexanon (nach Hydrolyse)	Urine	*

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

Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices

Components	Value	Determinant	Specimen	Sampling time
n-Hexane (CAS 110-54-3)	3,5 mg/g	hexane-2,5-dion	Creatinine in urine	*
	3,5 µmol/mmol	hexane-2,5-dion	Creatinine in 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
n-Hexane (CAS 110-54-3)	3 mg/g	2,5-hexanedione and 4,5-dihydroxy-2-hexanon	Creatinine in urine	*
	5 mg/l	2,5-hexanedione and 4,5-dihydroxy-2-hexanon	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
Isopropanol (CAS 67-63-0)	40 mg/l	Acetona	Urine	*
n-Hexane (CAS 110-54-3)	0,2 mg/l	2,5-Hexanodiona, sin hidrólisis	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	*
n-Hexane (CAS 110-54-3)	5 mg/l	2,5-Hexandion plus 4,5-Dihydroxy-2-hexanon	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	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
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

Physical state	Liquid.
Form	Liquid.
Colour	Clear. Colourless.
Odour	Hydrocarbon-like.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	60,5 °C (140,9 °F)
Flash point	< -18,0 °C (< -0,4 °F) Tag closed cup
Evaporation rate	< 1 (Ethyl Ether = 1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0,6 %
Flammability limit - upper (%)	7 %
Vapour pressure	352,53 mm Hg @ 38°C
Vapour density	~3 (air = 1)
Relative density	Not available.
Solubility(ies)	
Solubility (water)	< 10 % w/w
Partition coefficient (n-octanol/water)	> 1
Auto-ignition temperature	306 °C (582,8 °F)
Decomposition temperature	Not available.
Viscosity	< 3 cSt @ 25°C
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2. Other information

Heat of combustion	> 30 kJ/g
Percent volatile	100 %
Specific gravity	0,64 - 0,67 @ 20°C
VOC	100 % per US State and Federal Consumer Product Regulations; 669 g/L per SCAQMD Rule 102

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. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
10.5. Incompatible materials	Acids. Strong oxidising agents. Isocyanates. Chlorine.
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.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitisation	Not a respiratory sensitizer.
Skin sensitisation	This product is not expected to cause skin sensitisation.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
ACGIH Carcinogens	
Isopropanol (CAS 67-63-0)	Not classifiable as a human carcinogen. A4
Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)	
Not listed.	
Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)	
n-Hexane (CAS 110-54-3)	Toxic for reproduction - category 2.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be fatal if swallowed and enters airways.
Mixture versus substance information	No information available.
Other information	Symptoms may be delayed.

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects. Based on available data, the classification criteria are not met for hazardous to the aquatic environment, acute hazard.

Components	Species	Test results
Isopropanol (CAS 67-63-0)		
Aquatic		
Fish	LC50 Bluegill (<i>Lepomis macrochirus</i>)	> 1400 mg/l, 96 hours
n-Hexane (CAS 110-54-3)		
Aquatic		
Fish	LC50 Fathead minnow (<i>Pimephales promelas</i>)	2,101 - 2,981 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

12.2. Persistence and degradability

12.3. Bioaccumulative potential

Partition coefficient

n-octanol/water (log Kow)

LPS® Micro-X	> 1
2-Methylpentane	3,74
Isopropanol	0,05
n-Hexane	3,9
Pentane	3,39

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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.

EU waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information 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.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number UN1993

14.2. UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Hexanes and Isopropanol)

14.3. Transport hazard class(es)

Class 3

Subsidiary risk -

Label(s) 3

Hazard No. (ADR) 33

Tunnel restriction code D/E

14.4. Packing group II

14.5. Environmental hazards No

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number UN1993

14.2. UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Hexanes and Isopropanol)

14.3. Transport hazard class(es)

Class 3

Subsidiary risk -

Label(s) 3

14.4. Packing group II

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 UN1993

14.2. UN proper shipping name Flammable liquid, n.o.s. (Hexanes and Isopropanol)

14.3. Transport hazard class(es)

Class 3
Subsidiary risk -
Label(s) 3

14.4. Packing group II

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 UN1993

14.2. UN proper shipping name Flammable liquid, n.o.s. (Hexanes and Isopropanol)

14.3. Transport hazard class(es)

Class 3
Subsidiary risk -

14.4. Packing group II

14.5. Environmental hazards No

ERG Code 3H

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 UN1993

14.2. UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Hexanes and Isopropanol), 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

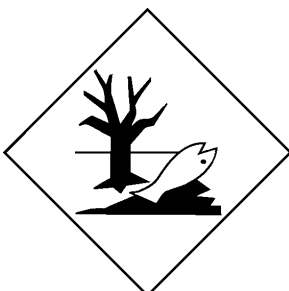
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code Not established.

ADN; ADR; IATA; IMDG; RID



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

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

n-Hexane (CAS 110-54-3)

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

2-Methylpentane (CAS 107-83-5)

Isopropanol (CAS 67-63-0)

n-Hexane (CAS 110-54-3)

Pentane (CAS 109-66-0)

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. Additional information is given in the Safety Data Sheet.

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.

R12 Extremely flammable.

R36 Irritating to eyes.

R36/38 Irritating to eyes and skin.

R38 Irritating to skin.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

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

R60 May impair fertility.

R61 May cause harm to the unborn child.

R62 Possible risk of impaired fertility.

R65 Harmful: may cause lung damage if swallowed.

R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.
H225 Highly 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.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic 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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