



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 M04516
Issue date 15-September-2015
Version number 04
Revision date 23-March-2017
Supersedes date 18-May-2016

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+;R12, 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

Aerosols	Category 1	H222 - Extremely flammable aerosol. H229 - Pressurized container: May burst if heated.
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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.

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	Extremely flammable.
Health hazards	May impair fertility. May cause harm to the unborn child. Irritating to eyes. Irritating to skin. 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	Extremely flammable. Do not breathe vapours, aerosols. May cause central nervous system effects. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Irritating to eyes and skin. Harmful if swallowed.
Main symptoms	Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Narcosis. Decrease in motor functions. Behavioural changes. Irritating to eyes, respiratory system and skin. Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

2.2. Label elements

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

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

Hazard pictograms



Signal word Danger

Hazard statements

H222	Extremely flammable aerosol.
H361	Suspected of damaging fertility or the unborn child.
H229	Pressurized container: May burst if heated.
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

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.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing gas.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
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/protective clothing/eye protection/face protection.

Response

P308 + P313	IF exposed or concerned: Get medical advice/attention.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
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.
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Supplemental label information 85,52 % of the mixture consists of component(s) of unknown acute dermal toxicity. 99,47 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 11,62 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment. 11,62 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

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
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	5 - 15	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	1 - 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
Carbon dioxide	1 - 5	124-38-9 204-696-9	-	-	#
Classification:		DSD: -			
		CLP: -			
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

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

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

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.

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

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. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). 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. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician if symptoms develop or persist.

Skin contact

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

Eye contact

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

Ingestion

Call a physician or poison control centre immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

4.2. Most important symptoms and effects, both acute and delayed

Irritation of eyes and mucous membranes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Defatting of the skin. Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Narcosis. Behavioural changes. Prolonged exposure may cause chronic effects.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards Extremely flammable aerosol.

5.1. Extinguishing media

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

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

5.2. Special hazards arising from the substance or mixture By heating and fire, harmful vapours/gases may be formed. Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back.

5.3. Advice for firefighters

Special protective equipment for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Special fire fighting procedures In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. In the event of fire and/or explosion do not breathe fumes.

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

6.2. Environmental precautions Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

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.

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

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

Never return spills in original containers for re-use.

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

Should be handled in closed systems, if possible. Vapours may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. Use non-sparking tools and explosion-proof equipment.

Avoid contact during pregnancy/while nursing. Avoid breathing mist or vapour. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure.

Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

7.2. Conditions for safe storage, including any incompatibilities

Level 3 Aerosol.

Store locked up. Keep away from heat, sparks and open flame.

Keep container tightly closed. Store in a cool, dry place out of direct sunlight. 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-Methylpentane (CAS 107-83-5)	MAK	715 mg/m ³
	STEL	200 ppm 2860 mg/m ³ 800 ppm
	Ceiling	18000 mg/m ³
Carbon dioxide (CAS 124-38-9)	MAK	10000 ppm 9000 mg/m ³
	MAK	5000 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
Carbon dioxide (CAS 124-38-9)	STEL	54784 mg/m ³
	TWA	30000 ppm 9131 mg/m ³ 5000 ppm
	STEL	1000 mg/m ³ 400 ppm
Isopropanol (CAS 67-63-0)	TWA	500 mg/m ³ 200 ppm
	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
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m ³ 5000 ppm
	STEL	1225 mg/m ³
Isopropanol (CAS 67-63-0)	TWA	980 mg/m 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
Carbon dioxide (CAS 124-38-9)	MAC	9000 mg/m3
Isopropanol (CAS 67-63-0)	MAC	5000 ppm
		999 mg/m3
		400 ppm
n-Hexane (CAS 110-54-3)	STEL	1250 mg/m3
		500 ppm
		72 mg/m3
Pentane (CAS 109-66-0)	MAC	20 ppm
		3000 mg/m3
		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/m3
		400 ppm

Czech Republic. OELs. Government Decree 361

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	Ceiling	45000 mg/m3
	TWA	9000 mg/m3
Isopropanol (CAS 67-63-0)	Ceiling	1000 mg/m3
	TWA	500 mg/m3
n-Hexane (CAS 110-54-3)	Ceiling	200 mg/m3
	TWA	70 mg/m3
Pentane (CAS 109-66-0)	Ceiling	4500 mg/m3
	TWA	3000 mg/m3

Denmark. Exposure Limit Values

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TLV	9000 mg/m3
		5000 ppm
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
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m3
		5000 ppm
Isopropanol (CAS 67-63-0)	STEL	600 mg/m3
		250 ppm
		350 mg/m3
n-Hexane (CAS 110-54-3)	TWA	150 ppm
		72 mg/m3
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3
		1000 ppm

Finland. Workplace Exposure Limits

Components	Type	Value
2-Methylpentane (CAS 107-83-5)	STEL	2300 mg/m3
		630 ppm
Carbon dioxide (CAS 124-38-9)	TWA	1800 mg/m3
		500 ppm
Carbon dioxide (CAS 124-38-9)	TWA	9100 mg/m3

Finland. Workplace Exposure Limits Components

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	5000 ppm 620 mg/m3
	TWA	250 ppm 500 mg/m3
n-Hexane (CAS 110-54-3)	STEL	200 ppm 2300 mg/m3
	TWA	630 ppm 72 mg/m3
Pentane (CAS 109-66-0)	STEL	20 ppm 1900 mg/m3
	TWA	630 ppm 1500 mg/m3 500 ppm

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

Components	Type	Value	Form
Carbon dioxide (CAS 124-38-9)	VME	9000 mg/m3	
Isopropanol (CAS 67-63-0)	VLE	5000 ppm	
		980 mg/m3	
n-Hexane (CAS 110-54-3)	VLE	400 ppm	Vapor.
	VME	1500 mg/m3 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
Carbon dioxide (CAS 124-38-9)	TWA	500 ppm
		9100 mg/m3
Isopropanol (CAS 67-63-0)	TWA	5000 ppm
		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

Components	Type	Value
2-Methylpentane (CAS 107-83-5)	AGW	1800 mg/m3
Carbon dioxide (CAS 124-38-9)	AGW	500 ppm
		9100 mg/m3
Isopropanol (CAS 67-63-0)	AGW	5000 ppm
		500 mg/m3 200 ppm
n-Hexane (CAS 110-54-3)	AGW	180 mg/m3
		50 ppm
Pentane (CAS 109-66-0)	AGW	3000 mg/m3
		1000 ppm

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

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	54000 mg/m3
	TWA	5000 ppm 9000 mg/m3

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

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	5000 ppm 1225 mg/m3
	TWA	500 ppm 980 mg/m3
n-Hexane (CAS 110-54-3)	TWA	400 ppm 72 mg/m3 20 ppm

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m3
Isopropanol (CAS 67-63-0)	STEL	2000 mg/m3
	TWA	500 mg/m3
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3
Pentane (CAS 109-66-0)	TWA	2950 mg/m3

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

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m3
Isopropanol (CAS 67-63-0)	TWA	5000 ppm 490 mg/m3
	TWA	200 ppm
n-Hexane (CAS 110-54-3)	TWA	90 mg/m3
Pentane (CAS 109-66-0)	TWA	25 ppm 1500 mg/m3
	TWA	500 ppm

Ireland. Occupational Exposure Limits

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	27000 mg/m3
	TWA	15000 ppm 9000 mg/m3
Isopropanol (CAS 67-63-0)	STEL	5000 ppm 400 ppm
	TWA	200 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3
	TWA	20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3
	TWA	1000 ppm

Italy. Occupational Exposure Limits

Components	Type	Value
2-Methylpentane (CAS 107-83-5)	STEL	1000 ppm
	TWA	500 ppm
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m3
	TWA	5000 ppm
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3
	TWA	20 ppm
Pentane (CAS 109-66-0)	TWA	2000 mg/m3
	TWA	667 ppm

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

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m3
	TWA	5000 ppm
Isopropanol (CAS 67-63-0)	STEL	600 mg/m3
	TWA	350 mg/m3

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	STEL	300 mg/m3
	TWA	72 mg/m3
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3
		1000 ppm

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

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m3
		5000 ppm
Isopropanol (CAS 67-63-0)	STEL	600 mg/m3
		250 ppm
	TWA	350 mg/m3
n-Hexane (CAS 110-54-3)	TWA	150 ppm
		72 mg/m3
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3
		1000 ppm

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

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m3
		5000 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3
		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
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m3
		5000 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3
		1000 ppm

Netherlands. OELs (binding)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m3
		5000 ppm
n-Hexane (CAS 110-54-3)	STEL	144 mg/m3
	TWA	72 mg/m3
Pentane (CAS 109-66-0)	TWA	1800 mg/m3
		1000 ppm

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TLV	9000 mg/m3
		5000 ppm
Isopropanol (CAS 67-63-0)	TLV	245 mg/m3
		100 ppm
n-Hexane (CAS 110-54-3)	TLV	72 mg/m3
		20 ppm
Pentane (CAS 109-66-0)	TLV	750 mg/m3
		250 ppm

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

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	27000 mg/m ³
	TWA	9000 mg/m ³
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
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m ³
		5000 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

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

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Pentane (CAS 109-66-0)	TWA	600 ppm

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

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m ³
		5000 ppm
Isopropanol (CAS 67-63-0)	STEL	500 mg/m ³
	TWA	203 ppm
n-Hexane (CAS 110-54-3)	TWA	200 mg/m ³
		81 ppm
Pentane (CAS 109-66-0)	TWA	72 mg/m ³
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m ³
		1000 ppm

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

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m ³
		5000 ppm
Isopropanol (CAS 67-63-0)	STEL	1000 mg/m ³
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	500 mg/m ³
		200 ppm
Pentane (CAS 109-66-0)	STEL	140 mg/m ³
	TWA	40 ppm
Pentane (CAS 109-66-0)	TWA	72 mg/m ³
		20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m ³
		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/m ³
		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
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m ³
		5000 ppm
Isopropanol (CAS 67-63-0)	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)	TWA	3000 mg/m ³
		1000 ppm

Spain. Occupational Exposure Limits

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9150 mg/m ³
		5000 ppm
Isopropanol (CAS 67-63-0)	STEL	1000 mg/m ³
	TWA	400 ppm
n-Hexane (CAS 110-54-3)	TWA	500 mg/m ³
		200 ppm
Pentane (CAS 109-66-0)	TWA	72 mg/m ³
		20 ppm
		3000 mg/m ³
		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/m ³
	TWA	300 ppm
Carbon dioxide (CAS 124-38-9)	STEL	700 mg/m ³
		200 ppm
Isopropanol (CAS 67-63-0)	STEL	18000 mg/m ³
		TWA
n-Hexane (CAS 110-54-3)	STEL	9000 mg/m ³
		TWA
Pentane (CAS 109-66-0)	STEL	600 mg/m ³
		TWA
		350 mg/m ³
		150 ppm
		180 mg/m ³
		50 ppm
		90 mg/m ³
		25 ppm
		2000 mg/m ³
		750 ppm
		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
	TWA	1000 ppm
Carbon dioxide (CAS 124-38-9)	TWA	1800 mg/m ³
		500 ppm
Isopropanol (CAS 67-63-0)	STEL	9000 mg/m ³
		TWA
		1000 mg/m ³
		400 ppm
		500 mg/m ³
		200 ppm

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value
n-Hexane (CAS 110-54-3)	STEL	1440 mg/m3 400 ppm
	TWA	180 mg/m3 50 ppm
Pentane (CAS 109-66-0)	STEL	3600 mg/m3 1200 ppm
	TWA	1800 mg/m3 600 ppm

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	27400 mg/m3 15000 ppm
	TWA	9150 mg/m3 5000 ppm
Isopropanol (CAS 67-63-0)	STEL	1250 mg/m3 500 ppm
	TWA	999 mg/m3 400 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 ppm
Pentane (CAS 109-66-0)	TWA	1800 mg/m3 600 ppm

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

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	TWA	9000 mg/m3 5000 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 ppm
Pentane (CAS 109-66-0)	TWA	3000 mg/m3 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	Acetone	Urine	*
	25 mg/l	Acetone	Blood	*

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

Components	Value	Determinant	Specimen	Sampling time
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-hexanone	Creatinine in urine	*
	5 mg/l	2,5-hexanedione and 4,5-dihydroxy-2-hexanone	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. Provide eyewash station.

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). Eye wash fountain is recommended.

Skin protection

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

- Other	Avoid contact with the skin. Wear appropriate chemical resistant clothing.
Respiratory protection	No personal respiratory protective equipment normally required. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.
Thermal hazards	None known.
Hygiene measures	When using do not smoke. Keep away from food and drink. 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	Contain spills and prevent releases and observe national regulations on emissions. Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Physical state	Gas.
Form	Aerosol
Colour	Clear water-white
Odour	Solvent.
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) dispensed liquid
Flash point	< -17,0 °C (< 1,4 °F) Tag closed cup
Evaporation rate	< 1 (Ethyl Ether = 1)
Flammability (solid, gas)	Not available.
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 available.
Oxidising properties	Not available.

9.2. Other information

Heat of combustion	> 30 kJ/g
Percent volatile	100 %
Specific gravity	0,64 - 0,67 @ 20°C
VOC	96,2 % per U.S, State and Federal Consumer Product Regulations; 669 g/L per SCAQMD Rule 102

SECTION 10: Stability and reactivity

10.1. Reactivity	Avoid contact with oxidising agents (e.g. nitric acid, peroxides and chromates).
10.2. Chemical stability	Risk of ignition. Instability caused by elevated temperatures.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Avoid temperatures exceeding the flash point.
10.5. Incompatible materials	Strong oxidising agents. Isocyanates. Acids. 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	Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Skin contact	Causes skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed.
Symptoms	Skin irritation. Defatting of the skin. Irritating to eyes and respiratory system. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
11.1. Information on toxicological effects	
Acute toxicity	Narcotic effects.
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	Narcotic effects.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not likely, due to the form of the product.
Mixture versus substance information	Not available.
Other information	None known.

SECTION 12: Ecological information

12.1. Toxicity	Toxic to aquatic life with long lasting effects.		
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
12.2. Persistence and degradability	Not inherently biodegradable.		
12.3. Bioaccumulative potential	No data available for this product.		
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	Readily absorbed into soil.
12.5. Results of PBT and vPvB assessment	Not available.
12.6. Other adverse effects	None known.

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	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
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. This material and its container must be disposed of as hazardous waste. 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.

SECTION 14: Transport information

ADR

14.1. UN number	UN1950
14.2. UN proper shipping name	Aerosols, flammable
14.3. Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Hazard No. (ADR)	Not available.
Tunnel restriction code	D
14.4. Packing group	Not available.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN1950
14.2. UN proper shipping name	Aerosols, flammable
14.3. Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
14.4. Packing group	Not available.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN1950
14.2. UN proper shipping name	Aerosols, flammable
14.3. Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
14.4. Packing group	Not available.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

IATA

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

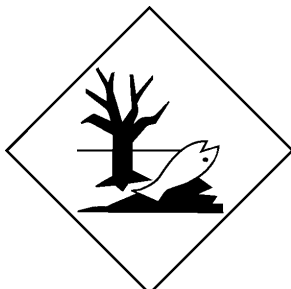
IMDG

14.1. UN number	UN1950
14.2. UN proper shipping name	AEROSOLS, flammable, MARINE POLLUTANT
14.3. Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
14.4. Packing group	Not available.
14.5. Environmental hazards	
Marine pollutant	Yes
EmS	F-D, S-U
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. 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



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 EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

National regulations

Not available.

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.

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

SECTION 2: Hazards identification: Hazard summary
SECTION 2: Hazards identification: Hazard statements
SECTION 2: Hazards identification: Prevention
SECTION 2: Hazards identification: Response
SECTION 2: Hazards identification: Specific hazards
SECTION 2: Hazards identification: Supplemental label information
Composition / Information on Ingredients: Disclosure Overrides
SECTION 7: Handling and storage: 7,1. Precautions for safe handling
SECTION 11: Toxicological information: Specific target organ toxicity - repeated exposure
Regulatory Information: Risk Phrases - Labeling
GHS: Classification

Training information

Follow training instructions when handling this material.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.