



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® Food Grade Silicone
Registration number	-
Synonyms	None.
Part Number	01716
Issue date	02-July-2015
Version number	01

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

Identified uses	A food grade industrial lubricant for rubber, plastic and metal parts.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Supplier	Geocel Limited
Company name	Western Wood Way, Langage Science Park, Plympton,
Address	Plymouth, PL7 5BG United Kingdom
Telephone	+44 (0)1752 202060 / +44 (0)1752 334384
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, Carc. Cat. 1;R45, Muta. Cat. 2;R46, Xi;R38, 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.
Carcinogenicity	Category 1A	H350 - May cause cancer.
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 cause cancer. May cause heritable genetic damage. 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	May cause central nervous system effects.
Main symptoms	Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Narcosis. Decrease in motor functions. Behavioural changes. Prolonged exposure may cause chronic effects.

2.2. Label elements

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

Contains: 2,2-Dimethylbutane, 2,3-Dimethylbutane, 2-Methylpentane, 3-Methylpentane, n-Hexane, Petroleum Gases, Liquefied, Sweetened

Hazard pictograms



Signal word

Danger

Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurized container: May burst if heated.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
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/sparks/open flames/hot surfaces. - No smoking.
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.
P251	Pressurised container: Do not pierce or burn, even after use.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
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

P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor if you feel unwell.
P321	Specific treatment (see this label).
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
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 None.

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	30 - < 40	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
Petroleum Gases, Liquefied, Sweetened	20 - < 30	68476-86-8 270-705-8	-	649-203-00-1	
Classification:	DSD: F+;R12, Carc. Cat. 1;R45, Muta. Cat. 2;R46				K,S
	CLP: Muta. 1B;H340, Carc. 1A;H350				K,S,U
2,3-Dimethylbutane	10 - < 20	79-29-8 201-193-6	-	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
3-Methylpentane	10 - < 20	96-14-0 202-481-4	-	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
2,2-Dimethylbutane	5 - < 10	75-83-2 200-906-8	-	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
n-Hexane	1 - < 3	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, Repr. 2;H361f, 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.

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

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

M: M-factor

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. Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

4.1. Description of first aid measures**Inhalation**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. 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 or poison control centre immediately.

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. Get medical attention immediately.

Ingestion

IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. 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

Narcosis. Irritation of eyes and mucous membranes. Skin irritation. Decrease in motor functions. Behavioural changes. Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged exposure may cause chronic effects.

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

In case of shortness of breath, give oxygen. Symptoms may be delayed. Keep victim under observation.

SECTION 5: Firefighting measures

General fire hazards

Extremely flammable aerosol.

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂). Dry chemical powder. Foam. Water fog.

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Contents under pressure. Pressurised container may explode when exposed to heat or flame. Fire may produce irritating, corrosive and/or toxic gases.

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.

Special fire fighting procedures

Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. Water runoff can cause environmental damage.

Specific methods

In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Local authorities should be advised if significant spillages cannot be contained. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering them.

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.

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. The product is immiscible with water and will spread on the water surface. Stop leak if you can do so without risk. Absorb spillage with non-combustible, absorbent material. Scoop up used absorbent into drums or other appropriate container. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas.

6.4. Reference to other sections

Use personal protection recommended in Section 8 of the SDS. For waste disposal, see section 13. Not applicable.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Pressurised container: Do not pierce or burn, even after use. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Ground and bond containers when transferring material. Do not use if spray button is missing or defective. Do not re-use empty containers. Do not taste or swallow. Avoid contact with skin. Avoid contact with eyes. Use only in well-ventilated areas. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C. Do not handle or store near an open flame, heat or other sources of ignition. Do not puncture, incinerate or crush. This material can accumulate static charge which may cause spark and become an ignition source. Keep out of the reach of children.

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
2,2-Dimethylbutane (CAS 75-83-2)	MAK	715 mg/m ³
	STEL	200 ppm 2860 mg/m ³ 800 ppm
2,3-Dimethylbutane (CAS 79-29-8)	MAK	715 mg/m ³
	STEL	200 ppm 2860 mg/m ³ 800 ppm
2-Methylpentane (CAS 107-83-5)	MAK	715 mg/m ³
	STEL	200 ppm 2860 mg/m ³ 800 ppm
3-Methylpentane (CAS 96-14-0)	MAK	715 mg/m ³
	STEL	200 ppm 2860 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

Belgium. Exposure Limit Values.

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³ 20 ppm

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³ 20 ppm

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	MAC	72 mg/m ³ 20 ppm

Czech Republic. OELs. Government Decree 361

Components	Type	Value
n-Hexane (CAS 110-54-3)	Ceiling	200 mg/m ³
	TWA	70 mg/m ³

Denmark. Exposure Limit Values

Components	Type	Value
n-Hexane (CAS 110-54-3)	TLV	72 mg/m ³ 20 ppm

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³ 20 ppm

Finland. Workplace Exposure Limits

Components	Type	Value
2,2-Dimethylbutane (CAS 75-83-2)	STEL	2300 mg/m ³
	TWA	630 ppm 1800 mg/m ³ 500 ppm

Finland. Workplace Exposure Limits

Components	Type	Value
2,3-Dimethylbutane (CAS 79-29-8)	STEL	2300 mg/m3
		630 ppm
	TWA	1800 mg/m3
		500 ppm
2-Methylpentane (CAS 107-83-5)	STEL	2300 mg/m3
		630 ppm
	TWA	1800 mg/m3
		500 ppm
3-Methylpentane (CAS 96-14-0)	STEL	2300 mg/m3
		630 ppm
	TWA	1800 mg/m3
		500 ppm
n-Hexane (CAS 110-54-3)	STEL	2300 mg/m3
		630 ppm
	TWA	72 mg/m3
		20 ppm

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

Components	Type	Value	Form
n-Hexane (CAS 110-54-3)	VLE	1500 mg/m3	Vapor.
	VME	72 mg/m3	
		20 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
2,2-Dimethylbutane (CAS 75-83-2)	TWA	1800 mg/m3
		500 ppm
2,3-Dimethylbutane (CAS 79-29-8)	TWA	1800 mg/m3
		500 ppm
2-Methylpentane (CAS 107-83-5)	TWA	1800 mg/m3
		500 ppm
3-Methylpentane (CAS 96-14-0)	TWA	1800 mg/m3
		500 ppm
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3
		50 ppm
		50 ppm

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

Components	Type	Value
2,2-Dimethylbutane (CAS 75-83-2)	AGW	1800 mg/m3
		500 ppm
2,3-Dimethylbutane (CAS 79-29-8)	AGW	1800 mg/m3
		500 ppm
2-Methylpentane (CAS 107-83-5)	AGW	1800 mg/m3
		500 ppm
3-Methylpentane (CAS 96-14-0)	AGW	1800 mg/m3
		500 ppm
n-Hexane (CAS 110-54-3)	AGW	180 mg/m3
		50 ppm
		50 ppm

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3
		20 ppm

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	90 mg/m3 25 ppm

Ireland. Occupational Exposure Limits

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 ppm

Italy. Occupational Exposure Limits

Components	Type	Value
2,2-Dimethylbutane (CAS 75-83-2)	STEL	1000 ppm
	TWA	500 ppm
2,3-Dimethylbutane (CAS 79-29-8)	STEL	1000 ppm
	TWA	500 ppm
2-Methylpentane (CAS 107-83-5)	STEL	1000 ppm
	TWA	500 ppm
3-Methylpentane (CAS 96-14-0)	STEL	1000 ppm
	TWA	500 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 ppm

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

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 ppm

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 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/m3 20 ppm

Netherlands. OELs (binding)

Components	Type	Value
n-Hexane (CAS 110-54-3)	STEL	144 mg/m3
	TWA	72 mg/m3

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
n-Hexane (CAS 110-54-3)	TLV	72 mg/m3 20 ppm

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3

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/m3 20 ppm

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	50 ppm

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 ppm

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

Components	Type	Value
n-Hexane (CAS 110-54-3)	STEL	140 mg/m3 40 ppm
	TWA	72 mg/m3 20 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
2,2-Dimethylbutane (CAS 75-83-2)	TWA	720 mg/m3
		200 ppm
2,3-Dimethylbutane (CAS 79-29-8)	TWA	720 mg/m3
		200 ppm
2-Methylpentane (CAS 107-83-5)	TWA	720 mg/m3
		200 ppm
3-Methylpentane (CAS 96-14-0)	TWA	720 mg/m3
		200 ppm
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3
		20 ppm

Spain. Occupational Exposure Limits

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m3 20 ppm

Sweden. Occupational Exposure Limit Values

Components	Type	Value
2,2-Dimethylbutane (CAS 75-83-2)	STEL	1100 mg/m3
	TWA	300 ppm
		700 mg/m3 200 ppm
2,3-Dimethylbutane (CAS 79-29-8)	STEL	1100 mg/m3
	TWA	300 ppm
		700 mg/m3 200 ppm
2-Methylpentane (CAS 107-83-5)	STEL	1100 mg/m3
	TWA	300 ppm
		700 mg/m3 200 ppm
3-Methylpentane (CAS 96-14-0)	STEL	1100 mg/m3
	TWA	300 ppm
		700 mg/m3 200 ppm
n-Hexane (CAS 110-54-3)	STEL	180 mg/m3
		50 ppm

Sweden. Occupational Exposure Limit Values

Components	Type	Value
	TWA	90 mg/m ³ 25 ppm

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value
2,2-Dimethylbutane (CAS 75-83-2)	STEL	3600 mg/m ³ 1000 ppm
	TWA	1800 mg/m ³ 500 ppm
2,3-Dimethylbutane (CAS 79-29-8)	STEL	3600 mg/m ³ 1000 ppm
	TWA	1800 mg/m ³ 500 ppm
2-Methylpentane (CAS 107-83-5)	STEL	3600 mg/m ³ 1000 ppm
	TWA	1800 mg/m ³ 500 ppm
3-Methylpentane (CAS 96-14-0)	STEL	3600 mg/m ³ 1000 ppm
	TWA	1800 mg/m ³ 500 ppm
n-Hexane (CAS 110-54-3)	STEL	1440 mg/m ³ 400 ppm
	TWA	180 mg/m ³ 50 ppm

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
n-Hexane (CAS 110-54-3)	TWA	72 mg/m ³ 20 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

Biological limit values**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
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
n-Hexane (CAS 110-54-3)	0,2 mg/l	2,5-Hexanediona, 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
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 level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

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

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required.

Eye/face protection Do not get in eyes. Chemical goggles are recommended. 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 Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Wear suitable protective clothing. Chemical resistant gloves.

Respiratory protection If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

Thermal hazards None known.

Hygiene measures Do not get in eyes, on skin, on clothing. When using, do not eat, drink or smoke. Wash hands after handling and before eating. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practices.

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.Colorless
Odour	Mild. Ether-like.
Odour threshold	Not established

pH	Not applicable
Melting point/freezing point	Not established -151,8 °C (-241,24 °F) estimated
Initial boiling point and boiling range	61 °C (141,8 °F)
Flash point	< -17,0 °C (< 1,4 °F) Tag closed cup
Evaporation rate	< 1 BuAc
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1 % (estimated)
Flammability limit - upper (%)	6 % (estimated)
Vapour pressure	352 mm Hg @ 38 °C
Vapour density	~3
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not soluble in water
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	> 1
Auto-ignition temperature	306 °C (582,8 °F)
Decomposition temperature	Not available.
Viscosity	< 14 cSt @ 25°C
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	
Heat of combustion	> 30 kJ/g
Percent volatile	96 %
Specific gravity	0,64 - 0,66 @ 20°C
VOC (Weight %)	96,1 % per State and Federal Consumer Product Regulations

SECTION 10: Stability and reactivity

10.1. Reactivity	Strong oxidising agents. Fluorine. Chlorine. Nitrates.
10.2. Chemical stability	Risk of explosion.
10.3. Possibility of hazardous reactions	Hazardous polymerisation does not occur.
10.4. Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
10.5. Incompatible materials	Strong oxidising agents. Fluorine. Chlorine. Nitrates.
10.6. Hazardous decomposition products	At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

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 be harmful if inhaled. Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Skin contact	Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May be harmful if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms	Irritant effects. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Behavioural changes. Decrease in motor functions. Narcosis.
11.1. Information on toxicological effects	
Acute toxicity	Not expected to be acutely toxic.

Components	Species	Test results
n-Hexane (CAS 110-54-3)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg, 4 Hours > 5 ml/kg, 4 Hours
<i>Inhalation</i>		
LC50	Mouse	48000 ppm, 4 Hours
	Rat	> 5000 ppm, 24 Hours > 31,86 mg/l 73860 ppm, 4 Hours
<i>Oral</i>		
LD50	Rat	24 ml/kg 24 mg/kg
	Wistar rat	49 mg/kg

Petroleum Gases, Liquified, Sweetened (CAS 68476-86-8)

Acute		
<i>Inhalation</i>		
LC50	Mouse	1237 mg/l, 120 Minutes 52 %, 120 Minutes
	Rat	1355 mg/l
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary 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.	
Reproductive toxicity	Suspected of damaging fertility or the unborn child.	
Specific target organ toxicity - single exposure	Narcotic effects.	
Specific target organ toxicity - repeated exposure	Causes damage to organs (Central Nervous System, Liver, Kidneys, Blood, Skin) through prolonged or repeated exposure.	
Aspiration hazard	Not likely, due to the form of the product.	
Mixture versus substance information	No information available.	
Other information	Symptoms may be delayed.	

SECTION 12: Ecological information

12.1. Toxicity Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the environment.

Components	Species	Test results
n-Hexane (CAS 110-54-3)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 2,101 - 2,981 mg/l, 96 hours
12.2. Persistence and degradability	Not inherently biodegradable.	
12.3. Bioaccumulative potential	Not available.	
Partition coefficient n-octanol/water (log Kow)		
LPS® Food Grade Silicone		> 1
2,2-Dimethylbutane		3,82
2,3-Dimethylbutane		3,42
2-Methylpentane		3,74
3-Methylpentane		3,6
n-Hexane		3,9

Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	Not available.
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
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. Do not re-use empty containers.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Contents under pressure. Do not puncture, incinerate or crush. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable 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	Not available.
14.4. Packing group	Not applicable.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

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 applicable.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

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 applicable.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

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	-
Label(s)	2.1
14.4. Packing group	Not applicable.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Forbidden.
Cargo aircraft only	Forbidden.

IMDG

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 applicable.
14.5. Environmental hazards	
Marine pollutant	No.
EmS	Not available.
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 available.

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, as amended**
Not listed.
- Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II, as amended**
Not listed.
- Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**
Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended**
Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended**
Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended**
Not listed.
- Regulation (EC) No. 689/2008 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.

Not listed.

Authorisations

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

Petroleum Gases, Liquified, Sweetened (CAS 68476-86-8)

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

Petroleum Gases, Liquified, Sweetened (CAS 68476-86-8)

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended

Petroleum Gases, Liquified, Sweetened (CAS 68476-86-8)

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances

2,2-Dimethylbutane (CAS 75-83-2)

2,3-Dimethylbutane (CAS 79-29-8)

2-Methylpentane (CAS 107-83-5)

3-Methylpentane (CAS 96-14-0)

n-Hexane (CAS 110-54-3)

Petroleum Gases, Liquified, Sweetened (CAS 68476-86-8)

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended

2,2-Dimethylbutane (CAS 75-83-2)

2,3-Dimethylbutane (CAS 79-29-8)

2-Methylpentane (CAS 107-83-5)

3-Methylpentane (CAS 96-14-0)

n-Hexane (CAS 110-54-3)

Petroleum Gases, Liquified, Sweetened (CAS 68476-86-8)

Directive 94/33/EC on the protection of young people at work, as amended

n-Hexane (CAS 110-54-3)

Petroleum Gases, Liquified, Sweetened (CAS 68476-86-8)

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

Not available.

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

R11 Highly flammable.

R12 Extremely flammable.

R38 Irritating to skin.

R45 May cause cancer.

R46 May cause heritable genetic damage.

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.

R62 Possible risk of impaired fertility.

R65 Harmful: may cause lung damage if swallowed.

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.

H336 May cause drowsiness or dizziness.

H340 May cause genetic defects.

H350 May cause cancer.

Revision information

Training information

Disclaimer

H361f Suspected of damaging fertility.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

None.

Not available.

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