



SAFETY DATA SHEET

TENSORGRIP L90 HP SOLID SURFACE CONTACT ADHESIVE

According to Regulation (EC) No 1907/2006, Annex II, as amended., COMMISSION REGULATION (EU) 2015/830 of 28 May 2015.

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

1.1. Product identifier

Product name TENSORGRIP L90 HP SOLID SURFACE CONTACT ADHESIVE

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

Identified uses Adhesive.

Uses advised against Use only for intended applications.

1.3. Details of the supplier of the safety data sheet

Supplier QUIN GLOBAL (UK) LTD
PO BOX 7634
PERTH
PH2 1GA
technical.uk@quinglobal.com
+44 (0)845 381 2233

1.4. Emergency telephone number

Emergency telephone +44 (0)845 381 2233 (Mon - Fri) 09:00 - 16:00

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Aerosol 1 - H222, H229

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H336 Asp. Tox. 1 - H304

Environmental hazards Aquatic Chronic 2 - H411

2.2. Label elements

Pictogram



Signal word

Danger

Hazard statements

H222 Extremely flammable aerosol.
H229 Pressurised 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.

Additional information

For professional users only.

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Precautionary statements	<p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P211 Do not spray on an open flame or other ignition source.</p> <p>P251 Do not pierce or burn, even after use.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P312 Call a POISON CENTER/ doctor if you feel unwell.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>
Contains	methyl acetate, heptane
Supplementary precautionary statements	<p>P261 Avoid breathing spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P273 Avoid release to the environment.</p> <p>P332+P313 If skin irritation occurs: Get medical advice/ attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P337+P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P391 Collect spillage.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p>

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

methyl acetate	30-60%
CAS number: 79-20-9	EC number: 201-185-2
	REACH registration number: 01-2119459211-47-XXXX
Classification	
Flam. Liq. 2 - H225	
Eye Irrit. 2 - H319	
STOT SE 3 - H336	
heptane	10-30%
CAS number: 142-82-5	EC number: 205-563-8
	REACH registration number: 01-2119457603-38-XXXX
M factor (Acute) = 1	M factor (Chronic) = 1
Classification	
Flam. Liq. 2 - H225	
Skin Irrit. 2 - H315	
STOT SE 3 - H336	
Asp. Tox. 1 - H304	
Aquatic Acute 1 - H400	
Aquatic Chronic 1 - H410	

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Carbon dioxide		5-10%
CAS number: 124-38-9	EC number: 204-696-9	
Classification Press. Gas, Liquefied - H280		
Dimethyl ether		5-10%
CAS number: 115-10-6	EC number: 204-065-8	REACH registration number: 01-2119472128-37-XXXX
Classification Flam. Gas 1 - H220 Press. Gas, Liquefied - H280		
Cyclohexane		<1%
CAS number: 110-82-7	EC number: 203-806-2	
M factor (Acute) = 1	M factor (Chronic) = 1	
Classification Flam. Liq. 2 - H225 Skin Irrit. 2 - H315 STOT SE 3 - H336 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
Ingestion	Rinse mouth thoroughly with water. Give plenty of water to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
Skin contact	Remove contamination with soap and water or recognised skin cleansing agent. Continue to rinse for at least 15 minutes. If adhesive bonding occurs, do not force skin apart.
Eye contact	Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse for at least 15 minutes and get medical attention. If adhesive bonding occurs, do not force eyelids apart.

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Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

General information See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation A single exposure may cause the following adverse effects: Headache. Nausea, vomiting. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Narcotic effect. During application and drying, solvent vapours will be emitted. Vapours in high concentrations are narcotic.

Ingestion May cause stomach pain or vomiting. May cause drowsiness or dizziness.

Skin contact Redness. Irritating to skin. Bonds skin and eyes in seconds.

Eye contact Irritating to eyes. Bonds skin and eyes in seconds.

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

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

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

Specific hazards Containers can burst violently or explode when heated, due to excessive pressure build-up. Bursting aerosol containers may be propelled from a fire at high speed. If aerosol cans are ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. Vapours may form explosive mixtures with air.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO₂). Carbon monoxide (CO). Harmful gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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Personal precautions	No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Evacuate area. Risk of explosion. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage. Promptly remove any clothing that becomes contaminated.
<u>6.2. Environmental precautions</u>	
Environmental precautions	Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).
<u>6.3. Methods and material for containment and cleaning up</u>	
Methods for cleaning up	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. Approach the spillage from upwind. Under normal conditions of handling and storage, spillages from aerosol containers are unlikely. If aerosol cans are ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. Small Spillages: Wipe up with an absorbent cloth and dispose of waste safely. Large Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Flush away spillage with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
<u>6.4. Reference to other sections</u>	
Reference to other sections	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	For professional users only. Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Avoid exposing aerosol containers to high temperatures or direct sunlight. The product is flammable. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Spray will evaporate and cool rapidly and may cause frostbite or cold burns if in contact with skin. Avoid contact with eyes.
Advice on general occupational hygiene	Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

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Storage precautions Store at temperatures between 10°C and 25°C. Store away from incompatible materials (see Section 10). Store in accordance with national regulations. Keep away from oxidising materials, heat and flames. Keep only in the original container. Keep container tightly closed and in a well-ventilated place. Keep containers upright. Protect containers from damage. Protect from sunlight. Do not store near heat sources or expose to high temperatures. Do not expose to temperatures exceeding 50°C/122°F. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class Flammable compressed gas storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

methyl acetate

Long-term exposure limit (8-hour TWA): WEL 200 ppm 616 mg/m³

Short-term exposure limit (15-minute): WEL 250 ppm 770 mg/m³

heptane

Long-term exposure limit (8-hour TWA): WEL 500 ppm 2085 mg/m³

Carbon dioxide

Long-term exposure limit (8-hour TWA): WEL 5000 ppm 9150 mg/m³

Short-term exposure limit (15-minute): WEL 15000 ppm 27400 mg/m³

Dimethyl ether

Long-term exposure limit (8-hour TWA): WEL 400 ppm 766 mg/m³

Short-term exposure limit (15-minute): WEL 500 ppm 958 mg/m³

Cyclohexane

Long-term exposure limit (8-hour TWA): WEL 100 ppm 350 mg/m³

Short-term exposure limit (15-minute): WEL 300 ppm 1050 mg/m³

WEL = Workplace Exposure Limit

methyl acetate (CAS: 79-20-9)

DNEL

- Workers - Inhalation; Long term systemic effects: 610 mg/m³
- Workers - Inhalation; Long term local effects: 305 mg/m³
- Workers - Dermal; Long term systemic effects: 88 mg/kg/day
- General population - Inhalation; Long term systemic effects: 131 mg/m³
- General population - Inhalation; Long term local effects: 152 mg/m³
- General population - Dermal; Long term systemic effects: 44 mg/kg/day
- General population - Oral; Long term systemic effects: 44 mg/kg/day

PNEC

- Fresh water; 0.12 mg/l
- Marine water; 0.012 mg/l
- Intermittent release; 1.2 mg/l
- STP; 600 mg/l
- Sediment (Freshwater); 0.128 mg/kg
- Sediment (Marinewater); 0.013 mg/kg
- Soil; 20.4 mg/kg

heptane (CAS: 142-82-5)

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DNEL	Workers - Inhalation; Long term systemic effects: 2085 mg/m ³
	Workers - Dermal; Long term systemic effects: 300 mg/kg/day
	General population - Inhalation; Long term systemic effects: 447 mg/m ³
	General population - Dermal; Long term systemic effects: 149 mg/kg/day
	General population - Oral; Long term systemic effects: 149 mg/kg/day

Dimethyl ether (CAS: 115-10-6)

DNEL	Workers - Inhalation; Long term systemic effects: 1894 mg/m ³
	General population - Inhalation; Long term systemic effects: 471 mg/m ³
PNEC	- Fresh water; 0.155 mg/l
	- Marine water; 0.016 mg/l
	- Intermittent release; 1.549 mg/l
	- STP; 160 mg/l
	- Sediment (Freshwater); 0.681 mg/kg
	- Sediment (Marinewater); 0.069 mg/kg
	- Soil; 0.045 mg/kg

Pentaerythritol tetrakis(3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate) (CAS: 6683-19-8)

DNEL	Workers - Inhalation; Long term systemic effects: 9.5 mg/m ³
	Workers - Dermal; Long term systemic effects: 27 mg/kg/day
	General population - Inhalation; Long term systemic effects: 2.3 mg/m ³
	General population - Dermal; Long term systemic effects: 13.5 mg/kg/day
	General population - Oral; Long term systemic effects: 1.4 mg/kg/day
PNEC	- Fresh water; 0.04 mg/l
	- Marine water; 0.004 mg/l
	- Intermittent release; 0.86 mg/l
	- STP; 1 mg/l
	- Sediment (Freshwater); 4000000 mg/kg
	- Sediment (Marinewater); 400000 mg/kg
	- Soil; 798000 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure the ventilation system is regularly maintained and tested. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.
Environmental exposure controls	Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Aerosol.
Colour	Amber.
Odour	Characteristic.
Odour threshold	Not available.
pH	Not available.
Melting point	Not available.
Initial boiling point and range	57°C @ 1013 hPa
Flash point	-15°C
Evaporation rate	Not available.
Evaporation factor	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 1.0 % Upper flammable/explosive limit: 13 %
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	0.83
Solubility(ies)	Insoluble in water.

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Partition coefficient	Not available.
Auto-ignition temperature	275°C
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Volatile organic compound This product contains a maximum VOC content of 273 g/l.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Stable at normal ambient temperatures and when used as recommended.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions The following materials may react strongly with the product: Oxidising agents.

10.4. Conditions to avoid

Conditions to avoid Avoid exposing aerosol containers to high temperatures or direct sunlight. Containers can burst violently or explode when heated, due to excessive pressure build-up.

10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances: Acrid smoke or fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

Respiratory sensitisation

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Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure May cause drowsiness or dizziness.

Target organs Central nervous system

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

General information

The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

A single exposure may cause the following adverse effects: Headache. Nausea, vomiting. Central nervous system depression. Drowsiness, dizziness, disorientation, vertigo. Narcotic effect. During application and drying, solvent vapours will be emitted. Vapours in high concentrations are narcotic.

Ingestion

Gastrointestinal symptoms, including upset stomach.

Skin contact

Redness. Irritating to skin. Bonds skin and eyes in seconds.

Eye contact

Irritating to eyes. Bonds skin and eyes in seconds.

Toxicological information on ingredients.

methyl acetate

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 6,482.0

Species Rat

ATE oral (mg/kg) 6,482.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ : > 2000 mg/kg, Dermal, Rat

Skin corrosion/irritation

Animal data Dose: 0.5 ml, 4 hours, Rabbit Erythema/eschar score: No erythema (0). Oedema score: No oedema (0). Not irritating.

Serious eye damage/irritation

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Serious eye damage/irritation Dose: 0.1 ml, 1 - 72 hours, Rabbit Irritating.

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Human: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Specific target organ toxicity - single exposure

STOT - single exposure May cause drowsiness or dizziness.

heptane

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ : > 5000 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ : > 2000 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ : > 29.29 mg/l, Inhalation, Vapour, Rat

Skin corrosion/irritation

Animal data Dose: 0.5 ml, 24 hours, Rabbit Erythema/eschar score: Very slight erythema - barely perceptible (1). Oedema score: No oedema (0). Primary dermal irritation index: 0.25 Irritating.

Skin sensitisation

Skin sensitisation Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Chromosome aberration: Negative.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - NOAEL 31680 mg/m³, Inhalation, Rat P

Specific target organ toxicity - single exposure

STOT - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEC 12470 mg/m³, Inhalation, Rat

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

Dimethyl ether

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ gases ppmV) 164,000.0

Species Rat

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ATE inhalation (gases ppm)	164,000.0
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Gene mutation: Negative.
Genotoxicity - in vivo	Genome mutation: Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	NOAEL 2.5 %, Inhalation, Rat
<u>Reproductive toxicity</u>	
Reproductive toxicity - development	Developmental toxicity: - NOAEL: 40000 ppm, Inhalation, Rat
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	NOAEL 2.5 %, Inhalation, Rat
<u>Cyclohexane</u>	
<u>Acute toxicity - oral</u>	
Notes (oral LD₅₀)	LD ₅₀ : > 5000 mg/kg, Oral, Rat
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	LD ₅₀ : > 2000 mg/kg, Dermal, Rabbit
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	LC ₅₀ : > 32880 mg/m ³ , Inhalation, Vapour, Rat 4 hours
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Causes skin irritation.
<u>Skin sensitisation</u>	
Skin sensitisation	Buehler test - Guinea pig: Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.
Genotoxicity - in vivo	Chromosome aberration: Negative.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Two-generation study - NOAEC 500 - 2000 ppm, Inhalation, Rat P
Reproductive toxicity - development	Developmental toxicity: - NOAEC: 7000 ppm, Inhalation, Rabbit
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	May cause drowsiness or dizziness.
Target organs	Central nervous system
<u>Aspiration hazard</u>	
Aspiration hazard	May be fatal if swallowed and enters airways.

SECTION 12: Ecological Information

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12.1. Toxicity

Toxicity Aquatic Chronic 2 - H411 Toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

methyl acetate

Acute toxicity - fish	LC ₀ , 48 hours: 250 mg/l, Brachydanio rerio (Zebra Fish) LC ₅₀ , 48 hours: 250 - 350 mg/l, Brachydanio rerio (Zebra Fish) LC ₁₀₀ , 48 hours: 500 mg/l, Brachydanio rerio (Zebra Fish) LC ₀ , 96 hours: 250 mg/l, Brachydanio rerio (Zebra Fish) LC ₅₀ , 96 hours: 250 - 350 mg/l, Brachydanio rerio (Zebra Fish) LC ₁₀₀ , 96 hours: 500 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	EC ₀ , 48 hours: 362 mg/l, Daphnia magna EC ₅₀ , 48 hours: 1026.7 mg/l, Daphnia magna EC ₁₀₀ , 48 hours: 1448.2 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: > 120 mg/l, Desmodesmus subspicatus EC ₁₀₀ , 72 hours: > 100 mg/l, Desmodesmus subspicatus NOEC, 72 hours: 120 mg/l, Desmodesmus subspicatus
Acute toxicity - microorganisms	EC ₅₀ , 16 hours: 6000 mg/l, Pseudomonas putida

heptane

Acute aquatic toxicity

LE(C)₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LL ₅₀ , 96 hours: 5.738 mg/l, Onchorhynchus mykiss (Rainbow trout) Calculation method.
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 1.5 mg/l, Daphnia magna
<u>Chronic aquatic toxicity</u>	
M factor (Chronic)	1
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0.17 mg/l, Daphnia magna LOEC, 21 days: 0.32 mg/l, Daphnia magna EC ₅₀ , 21 days: 0.23 mg/l, Daphnia magna

Dimethyl ether

Acute toxicity - fish	LC ₅₀ , 96 hours: > 4100 mg/l, Poecilia reticulata (Guppy) NOEC, 96 hours: ≥ 4100 mg/l, Poecilia reticulata (Guppy)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: > 4400 mg/l, Daphnia magna NOEC, 48 hours: ≥ 4400 mg/l, Daphnia magna

Cyclohexane

Toxicity	Very toxic to aquatic life with long lasting effects.
<u>Acute aquatic toxicity</u>	

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LE(C)₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC ₅₀ , 96 hours: 4.53 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 0.9 mg/l, Daphnia magna EC ₅₀ , 48 hours: 2.4 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 3.4 mg/l, Pseudokirchneriella subcapitata NOEC, 72 hours: 0.9 mg/l, Pseudokirchneriella subcapitata
Acute toxicity - terrestrial	LC ₅₀ , 48 hours: >1 mg/cm ² , Eisenia Fetida (Earthworm)
<u>Chronic aquatic toxicity</u>	
M factor (Chronic)	1

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Ecological information on ingredients.

methyl acetate

Phototransformation	Air - DT ₅₀ : 50.4 days
Biodegradation	Water - Degradation (70%): 28 days The substance is readily biodegradable.

heptane

Phototransformation	Air - DT ₅₀ : 4.5 days
Biodegradation	Water - Degradation (70%): 10 days The substance is readily biodegradable.

Dimethyl ether

Biodegradation	Water - Degradation (5%): 28 days No biodegradation observed under test conditions.
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Cyclohexane

Phototransformation	Air - DT ₅₀ : 52 hours
Biodegradation	Water - Degradation (77%): 28 days The substance is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not available.

Ecological information on ingredients.

Carbon dioxide

Partition coefficient	log Kow: 2.26
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Dimethyl ether

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Partition coefficient log Pow: 0.07

Cyclohexane

Partition coefficient log Pow: 3.44

12.4. Mobility in soil

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

Ecological information on ingredients.

methyl acetate

Adsorption/desorption coefficient Water - Log Koc: 0.18 @ 40°C

Henry's law constant 6.43 Pa m³/mol @ 20°C

Dimethyl ether

Mobility The product is soluble in water.

Cyclohexane

Mobility The product is soluble in water.

Adsorption/desorption coefficient Log Koc: 2.89

Henry's law constant 14 900 Pa m³/mol @ 20°C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

methyl acetate

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

heptane

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Carbon dioxide

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Dimethyl ether

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

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Cyclohexane

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods Do not empty into drains. Empty containers must not be punctured or incinerated because of the risk of an explosion. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	3501
UN No. (IMDG)	3501
UN No. (ICAO)	3501
UN No. (ADN)	3501

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S. (METHYL ACETATE, HEPTANE)
Proper shipping name (IMDG)	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S. (METHYL ACETATE, HEPTANE)
Proper shipping name (ICAO)	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S. (METHYL ACETATE, HEPTANE)
Proper shipping name (ADN)	CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S. (METHYL ACETATE, HEPTANE)

14.3. Transport hazard class(es)

ADR/RID class	2.1
ADR/RID classification code	8F
ADR/RID label	2.1
IMDG class	2.1
ICAO class/division	2.1
ADN class	2.1

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Transport labels



14.4. Packing group

No information required.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS	F-D, S-U
ADR transport category	2
Emergency Action Code	2YE
Hazard Identification Number (ADR/RID)	23
Tunnel restriction code	(B/D)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information required.

SECTION 15: Regulatory information

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

National regulations	EH40/2005 Workplace exposure limits. The Aerosol Dispensers Regulations 2009 (SI 2009 No. 2824).
EU legislation	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Council Directive of 20 May 1975 on the approximation of the laws of the Member States relating to aerosol dispensers (75/324/EEC) (as amended).
Guidance	Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet	<p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.</p> <p>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.</p> <p>IATA: International Air Transport Association.</p> <p>ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>CAS: Chemical Abstracts Service.</p> <p>LC₅₀: Lethal Concentration to 50 % of a test population.</p> <p>LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).</p> <p>EC₅₀: 50% of maximal Effective Concentration.</p> <p>PBT: Persistent, Bioaccumulative and Toxic substance.</p> <p>vPvB: Very Persistent and Very Bioaccumulative.</p>
Classification abbreviations and acronyms	<p>Aerosol = Aerosol</p> <p>Eye Irrit. = Eye irritation</p> <p>Skin Irrit. = Skin irritation</p> <p>STOT SE = Specific target organ toxicity-single exposure</p> <p>Aquatic Chronic = Hazardous to the aquatic environment (chronic)</p>
Classification procedures according to Regulation (EC) 1272/2008	<p>Aerosol 1 - H222, H229: Expert judgement. Skin Irrit. 2 - H315, Eye Irrit. 2 - H319, STOT SE 3 - H336, Asp. Tox. 1 - H304, Aquatic Chronic 2 - H411: Calculation method.</p>
Training advice	<p>Read and follow manufacturer's recommendations. Only trained personnel should use this material.</p>
Revision date	24/08/2016
Revision	3
Supersedes date	08/02/2016
SDS number	21478
Hazard statements in full	<p>H220 Extremely flammable gas.</p> <p>H222 Extremely flammable aerosol.</p> <p>H225 Highly flammable liquid and vapour.</p> <p>H229 Pressurised container: may burst if heated</p> <p>H280 Contains gas under pressure; may explode if heated.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H315 Causes skin irritation.</p> <p>H319 Causes serious eye irritation.</p> <p>H336 May cause drowsiness or dizziness.</p> <p>H400 Very toxic to aquatic life.</p> <p>H410 Very toxic to aquatic life with long lasting effects.</p> <p>H411 Toxic to aquatic life with long lasting effects.</p>

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.