

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2020/878)

ORTHABOND

Version 1 Date of compilation: 17/01/2024

Version 3 (replaces version 2)

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING.

1.1 Product identifier.

Product Name: ORTHABOND (500ml , 1 Litre, 5 Litres)
UFI: UQG2-X0Y1-G006-F83E

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

Adhesives

Uses advised against:

Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet.

Company: **A.Algeo Ltd.**
Address: Sheridan House, Bridge Industrial Estate, Speke Hall Road,
City: Liverpool
Post Code: L24 9HB
Telephone: +44 (0)151 448 1228
Fax: +44 (0)151 448 1008
E-mail: info@algeos.com
Web: www.algeos.com

1.4 Emergency telephone number: +44 (0)151 448 1228 (Only available during office hours; Monday-Friday; 09:00-17:00)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the substance or mixture.

In accordance with Regulation (EC) No 1272/2008:

Aquatic Chronic 2 : Toxic to aquatic life with long lasting effects.

Eye Irrit. 2 : Causes serious eye irritation.

Flam. Liq. 2 : Highly flammable liquid and vapour.

Skin Irrit. 2 : Causes skin irritation.

STOT SE 3 : May cause drowsiness or dizziness.

2.2 Label elements.

Labelling in accordance with Regulation (EC) No 1272/2008:

Pictograms:



Signal Word:

Danger

Hazard statements:

H225 Highly flammable liquid and vapour.
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:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.

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P261	Avoid breathing vapours
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P370+P378	In case of fire: Use foam or dry powder for extinction.
P403+P235	Store in a well-ventilated place. Keep cool.

EUH statements:

EUH208 Contains rosin; colophony. May produce an allergic reaction.

Contains:

cyclohexane

acetone, propan-2-one, propanone

ethyl acetate

propyl acetate

4-tert-butylphenol formaldehyde resin phenolic resin

Hydrocarbons, C6, isoalkanes, <5% n-hexane

2.3 Other hazards.

The mixture does not contain substances classified as PBT.

The mixture does not contain substances classified as vPvB.

The mixture contains endocrine disrupting properties substances in a concentration lower than 0.1%

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Substances.

Not applicable.

3.2 Mixtures.

Substances posing a danger to health or the environment in accordance with the Regulation (EC) No. 1272/2008, assigned a Community exposure limit in the workplace, and classified as PBT/vPvB or included in the Candidate List:

Identifiers	Name	Concentrate	(*)Classification - Regulation (EC) No 1272/2008	
			Classification	Specifics concentration limits and Acute toxicity estimate
Index No: 601-017-00-1 CAS No: 110-82-7 EC No: 203-806-2 Registration No: 01-2119463273-41-XXXX	[1] cyclohexane	20 - 24.99 %	Aquatic Acute 1, H400 - Aquatic Chronic 1, H410 - Asp. Tox. 1, H304 - Flam. Liq. 2, H225 - Skin Irrit. 2, H315 - STOT SE 3, H336	-
CAS No: 64742-49-0 Registration No: 01-2119484651-34	Hydrocarbons, C6, isoalkanes, <5% n-hexane	20 - 24.99 %	Aquatic Chronic 2, H411 - Asp. Tox. 1, H304 - Flam. Liq. 2, H225 - Skin Irrit. 2, H315 - STOT SE 3, H336	-
Index No: 607-022-00-5 CAS No: 141-78-6 EC No: 205-500-4 Registration No: 01-2119475103-46-XXXX	[1] ethyl acetate	10 - 19.99 %	Eye Irrit. 2, H319 - Flam. Liq. 2, H225 - STOT SE 3, H336	-

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Index No: 606-001-00-8 CAS No: 67-64-1 EC No: 200-662-2 Registration No: 01-2119471330-49-0016	[1] acetone, propan-2-one, propanone	1 - 9.99 %	Eye Irrit. 2, H319 - Flam. Liq. 2, H225 - STOT SE 3, H336	-
Index No: 607-024-00-6 CAS No: 109-60-4 EC No: 203-686-1 Registration No: 01-2119484620-39-XXXX	propyl acetate	1 - 9.99 %	Eye Irrit. 2, H319 - Flam. Liq. 2, H225 - STOT SE 3, H336	-
CAS No: 25085-50-1	4-tert-butylphenol formaldehyde resin phenolic resin	1 - 9.99 %	Eye Irrit. 2, H319 - Skin Irrit. 2, H315 - STOT SE 3, H335	-
Index No: 650-015-00-7 CAS No: 8050-09-7 EC No: 232-475-7 Registration No: 01-2119480418-32-XXXX	rosin, colophony	0.1 - 0.99 %	Skin Sens. 1, H317	-
Index No: 030-013-00-7 CAS No: 1314-13-2 EC No: 215-222-5 Registration No: 01-2119463881-32-XXXX	zinc oxide	0.1 - 0.249 %	Aquatic Acute 1, H400 - Aquatic Chronic 1, H410	-

(*The complete text of the H phrases is given in section 16 of this Safety Data Sheet.

[1] Substance with a European Union exposure limit in the workplace (see section 8.1).

[2] Substance with a national workplace exposure limit (see section 8.1).

SECTION 4: FIRST AID MEASURES.

IRRITANT MIXTURE. Its repeated or prolonged contact with the skin or mucous membranes can cause irritant symptoms such as reddening of the skin, blisters, or dermatitis. Some of the symptoms may not be immediate. They can cause allergic reactions on the skin.

4.1 Description of first aid measures.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

Inhalation.

Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance.

Eye contact.

Remove contact lenses, if present and if it is easy to do. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance. Don't let the person to rub the affected eye.

Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. NEVER use solvents or thinners.

Ingestion.

If accidentally ingested, seek immediate medical attention. Keep calm. NEVER induce vomiting.

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

Irritant Product, repeated or prolonged contact with skin or mucous membranes can cause redness, blisters or dermatitis, inhalation of spray mist or particles in suspension may cause irritation of the respiratory tract, some symptoms may not be immediate.

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

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In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious. Cover the affected area with a dry sterile bandage. Protect the affected area from pressure or friction.

SECTION 5: FIREFIGHTING MEASURES.

The product is Highly inflammable, it can cause or considerably worsen a fire, the necessary prevention measures should be taken and risks avoided. In case of fire, the following measures are recommended:

5.1 Extinguishing media.

Suitable extinguishing media:

Extinguisher powder or CO₂. In case of more serious fires, also alcohol-resistant foam and water spray.

Unsuitable extinguishing media:

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

5.2 Special hazards arising from the substance or mixture.

Special risks.

Exposure to combustion or decomposition products can be harmful to your health.

During a fire and depending on its magnitude the following may occur:

- Carbon monoxide, carbon dioxide.
- Flammable vapors or gases.

5.3 Advice for firefighters.

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways. Product residues and extinguishing media may contaminate the aquatic environment. Follow the instructions given in the emergency or fire evacuation plan or plans if available.

Fire protection equipment.

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots. During extinction and depending on the magnitude and proximity to the fire, additional protective equipment such as chemical protection gloves, heat-reflecting suits or gas-tight suits may be required.

SECTION 6: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures.

Eliminate possible ignition points and ventilate the area. No smoking. Avoid breathing fumes. For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions.

Product dangerous for the environment, in case of large spills or if the product contaminates lakes, rivers, or sewers, inform the responsible authorities according to local legislation. Prevent the contamination of drains, surface or subterranean waters, and the ground.

6.3 Methods and material for containment and cleaning up.

Contain and collect spillage with inert absorbent material (earth, sand, vermiculite, Kieselguhr...) and clean the area immediately with a suitable decontaminant.

Deposit waste in closed and suitable containers for disposal, in compliance with local and national regulations (see section 13).

6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.

For later elimination of waste, follow the recommendations under section 13.

SECTION 7: HANDLING AND STORAGE.

7.1 Precautions for safe handling.

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The fumes are heavier than air and can spread across the ground. They can form explosive mixtures with air. Prevent the creation of flammable or explosive fume concentrations in the air; prevent fume concentrations above work exposure limits. The product must only be used in areas where all unprotected flames and other ignition points have been eliminated. Electrical equipment has to be protected according to applicable standards.

The product can be electrostatically charged: always use earth grounds when transferring the product. Operators must use anti-static footwear and clothing, and floors must be conductors.

Keep the container tightly closed and isolated from heat sources, sparks, and fire. Do not use tools that can cause sparks. For personal protection, see section 8.

In the application area, smoking, eating, and drinking must be prohibited.

Follow legislation on occupational health and safety.

Never use pressure to empty the containers. They are not pressure-resistant containers. Keep the product in containers made of a material identical to the original.

7.2 Conditions for safe storage, including any incompatibilities.

Store according to local legislation. Observe indications on the label. Store the containers between 5 and 25 °C, in a dry and well-ventilated place, far from sources of heat and direct solar light. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorised persons. Once the containers are open, they must be carefully closed and placed vertically to prevent spills.

Classification and threshold amount of storage in accordance with Annex I to Directive 2012/18/EU (SEVESO III):

Code	Description	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
P5b	FLAMMABLE LIQUIDS	50	200
E2	ENVIRONMENTAL HAZARDS - Hazardous to the Aquatic Environment in Category Chronic 2	200	500

7.3 Specific end use(s).

See technical data sheet

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.

Work exposure limit for:

Name	CAS No.	Country	Limit value	ppm	mg/m ³
cyclohexane	110-82-7	European Union [1]	Eight hours	200	700
			Short term		
ethyl acetate	141-78-6	European Union [1]	Eight hours	200	734
			Short term	400	1468
acetone, propan-2-one, propanone	67-64-1	European Union [1]	Eight hours	500	1210
			Short term		

[1] According both Binding Occupational Exposure Limits (BOELVs) and Indicative Occupational Exposure Limits (IOELVs) adopted by Scientific Committee for Occupational Exposure Limits to Chemical Agents (SCOEL).

The product does NOT contain substances with Biological Limit Values.

Concentration levels DNEL/DMEL:

Name	DNEL/DMEL	Type	Value
cyclohexane CAS No: 110-82-7 EC No: 203-806-2	DNEL (Workers)	Inhalation, Chronic, Local effects	700 (mg/m ³)
	DNEL (Workers)	Inhalation, Chronic, Systemic effects	700 (mg/m ³)
ethyl acetate CAS No: 141-78-6 EC No: 205-500-4	DNEL (Workers)	Inhalation, Chronic, Systemic effects	734 (mg/m ³)
	DNEL (Workers)	Inhalation, Chronic, Local effects	734 (mg/m ³)

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	DNEL (Consumers)	Inhalation, Chronic, Local effects	367 (mg/m ³)
	DNEL (Workers)	Inhalation, Short term, Local effects	1468 (mg/m ³)
	DNEL (Consumers)	Inhalation, Short term, Local effects	734 (mg/m ³)
	DNEL (Workers)	Dermal, Chronic, Systemic effects	63 (mg/kg bw/day)
	DNEL (Consumers)	Dermal, Chronic, Systemic effects	37 (mg/kg bw/day)
	DNEL (Workers)	Inhalation, Chronic, Systemic effects	1210 (mg/m ³)
acetone, propan-2-one, propanone CAS No: 67-64-1 EC No: 200-662-2	DNEL (Consumers)	Inhalation, Chronic, Systemic effects	200 (mg/m ³)
	DNEL (Workers)	Inhalation, Short term, Local effects	2420 (mg/m ³)
	DNEL (Workers)	Dermal, Chronic, Systemic effects	186 (mg/kg bw/day)
	DNEL (Consumers)	Dermal, Chronic, Systemic effects	62 (mg/kg bw/day)
	DNEL (Consumers)	Oral, Chronic, Systemic effects	62 (mg/kg bw/day)
	DNEL (Workers)	Inhalation, Chronic, Local effects	420 (mg/m ³)
propyl acetate CAS No: 109-60-4 EC No: 203-686-1	DNEL (Workers)	Inhalation, Chronic, Systemic effects	420 (mg/m ³)
	DNEL (Workers)	Inhalation, Chronic, Systemic effects	176 (mg/m ³)
rosin, colophony CAS No: 8050-09-7 EC No: 232-475-7	DNEL (Workers)	Inhalation, Chronic, Systemic effects	5 (mg/m ³)
zinc oxide CAS No: 1314-13-2 EC No: 215-222-5	DNEL (Workers)	Inhalation, Chronic, Systemic effects	5 (mg/m ³)

DNEL: Derived No Effect Level, level of exposure to the substance below which adverse effects are not anticipated.

DMEL: Derived Minimal Effect Level, exposure level corresponding to a low risk, that risk should be considered a tolerable minimum.

Concentration levels PNEC:

Name	Details	Value
ethyl acetate CAS No: 141-78-6 EC No: 205-500-4	aqua (freshwater)	0,24 (mg/L)
	aqua (marine water)	0,024 (mg/L)
	aqua (intermittent releases)	1,65 (mg/L)
	sediment (freshwater)	1,15 (mg/L)
	sediment (marine water)	0,115 (mg/L)
	Soil	0,148 (mg/kg soil dw)
	STP	650 (mg/L)
	oral (Hazard for predators)	0,2 (g/kg food)
acetone, propan-2-one, propanone CAS No: 67-64-1 EC No: 200-662-2	aqua (freshwater)	10,6 (mg/L)
	aqua (marine water)	1,06 (mg/L)
	aqua (intermittent releases)	21 (mg/L)
	STP	100 (mg/L)
	sediment (freshwater)	30,04 (mg/kg sediment dw)
	sediment (marine water)	3,04 (mg/kg sediment dw)
	soil	29,5 (mg/kg soil dw)

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PNEC: Predicted No Effect Concentration, concentration of the substance below which adverse effects are not expected in the environmental compartment.

8.2 Exposure controls.

Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

Concentration:	100 %		
Uses:	Adhesives		
Breathing protection:			
PPE:	Filter mask for protection against gases and particles.		
Characteristics:	«CE» marking, category III. The mask must have a wide field of vision and an anatomically designed form in order to be sealed and watertight.		
CEN standards:	EN 136, EN 140, EN 405		
Maintenance:	Should not be stored in places exposed to high temperatures and damp environments before use. Special attention should be paid to the state of the inhalation and exhalation valves in the face adaptor.		
Observations:	Read carefully the manufacturer's instructions regarding the equipment's use and maintenance. Attach the necessary filters to the equipment according to the specific nature of the risk (Particles and aerosols: P1-P2-P3, Gases and vapours: A-B-E-K-AX), changing them as advised by the manufacturer.		
Filter Type needed:	A2		
Hand protection:			
PPE:	Protective gloves.		
Characteristics:	«CE» marking, category II.		
CEN standards:	EN 374-1, En 374-2, EN 374-3, EN 420		
Maintenance:	Keep in a dry place, away from any sources of heat, and avoid exposure to sunlight as much as possible. Do not make any changes to the gloves that may alter their resistance, or apply paints, solvents or adhesives.		
Observations:	Gloves should be of the appropriate size and fit the user's hand well, not being too loose or too tight. Always use with clean, dry hands.		
Material:	PVC (polyvinyl chloride)	Breakthrough time (min.):	> 480
		Material thickness (mm):	0,35
Eye protection:			
PPE:	Face shield.		
Characteristics:	«CE» marking, category II. Face and eye protector against splashing liquid.		
CEN standards:	EN 165, EN 166, EN 167, EN 168		
Maintenance:	Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions. Make sure that mobile parts move smoothly.		
Observations:	Face shields should offer a field of vision with a dimension in the central line of, at least, 150 mm vertically once attached to the frame.		
Skin protection:			
PPE:	Anti-static protective clothing.		
Characteristics:	«CE» marking, category II. Protective clothing should not be too tight or loose in order not to obstruct the user's movements.		
CEN standards:	EN 340, EN 1149-1, EN 1149-2, EN 1149-3, EN 1149-5		
Maintenance:	In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer.		
Observations:	The protective clothing should offer a level of comfort in line with the level of protection provided in terms of the hazard against which it protects, bearing in mind environmental conditions, the user's level of activity and the expected time of use.		
PPE:	Anti-static safety footwear.		
Characteristics:	«CE» marking, category II.		
CEN standards:	EN ISO 13287, EN ISO 20344, EN ISO 20346		
Maintenance:	The footwear should be checked regularly		
Observations:	The level of comfort during use and acceptability are factors that are assessed very differently depending on the user. Therefore, it is advisable to try on different footwear models and, if possible, different widths		

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.

Physical state: Liquid

Colour: Caramelo amarillento

Odour: Not applicable/Not available due to the nature/properties of the product

Odour threshold: Not applicable/Not available due to the nature/properties of the product

Melting point: Not applicable/Not available due to the nature/properties of the product

Freezing point: Not applicable/Not available due to the nature/properties of the product

Boiling point or initial boiling point and boiling range: 55 °C (Estimation based on the indication of the Regulation (CE) N°1272/2008.)

Flammability: Not applicable/Not available due to the nature/properties of the product

Lower explosion limit: 1

Upper explosion limit: 12.8

Flash point: -11 °C (Estimation based on the indication of the Regulation (CE) N°1272/2008.)

Auto-ignition temperature: 514 °C

Decomposition temperature: Not applicable/Not available due to the nature/properties of the product

pH: Not applicable (Substance/mixture is non-soluble (in water)).

Kinematic viscosity: Not applicable/Not available due to the nature/properties of the product

Solubility: Not applicable/Not available due to the nature/properties of the product

Hydrosolubility: Not applicable/Not available due to the nature/properties of the product

Liposolubility: Not applicable/Not available due to the nature/properties of the product

Partition coefficient n-octanol/water (log value): Not applicable/Not available due to the nature/properties of the product

Vapour pressure: 113,92 (Estimation based on the indication of the Regulation (CE) N°1272/2008.)

Absolute density: Not applicable/Not available due to the nature/properties of the product

Relative density: 0.80 (Estimations in base on the Regulation (CE) N°1272 / 2008 indications.)

Relative vapour density: 2.9

Particle characteristics: Not applicable/Not available due to the nature/properties of the product

9.2 Other information

Information with regard to physical hazard classes

Flammable liquids:

Sustained combustibility: Yes.

Other safety characteristics

Viscosity: 1000-2500

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.

The product does not present hazards by their reactivity.

10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

10.3 Possibility of hazardous reactions.

The product does not present possibility of hazardous reactions.

10.4 Conditions to avoid.

Avoid any improper handling.

10.5 Incompatible materials.

Keep away from oxidising agents and from highly alkaline or acidic materials in order to prevent exothermic reactions.

10.6 Hazardous decomposition products.

No decomposition if used for the intended uses.

SECTION 11: TOXICOLOGICAL INFORMATION.

IRRITANT MIXTURE. Splashes in the eyes can cause irritation.

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IRRITANT MIXTURE. Its repeated or prolonged contact with the skin or mucous membranes can cause irritant symptoms such as reddening of the skin, blisters, or dermatitis. Some of the symptoms may not be immediate. They can cause allergic reactions on the skin.

IRRITANT MIXTURE. The inhalation of spray mist or suspended particulates can irritate the respiratory tract. It can also cause serious respiratory difficulties, central nervous system disorders, and in extreme cases, unconsciousness.

11.1 Information on hazard classes as defined in Regulation (EC) N° 1272/2008.

Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin.

Toxicological information about the substances present in the composition.

Name	Acute toxicity			
	Type	Test	Kind	Value
acetone, propan-2-one, propanone	Oral	LD50	Rat	5800 mg/kg bw [1]
		[1] Journal of Toxicology and Environmental Health. Vol. 15, Pg. 609, 1985		
	Dermal			
CAS No: 67-64-1 EC No: 200-662-2	Inhalation			

a) acute toxicity;

Not conclusive data for classification.

b) skin corrosion/irritation;

Product classified:

Skin irritant, Category 2: Causes skin irritation.

c) serious eye damage/irritation;

Product classified:

Eye irritation, Category 2: Causes serious eye irritation.

d) respiratory or skin sensitisation;

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

e) germ cell mutagenicity;

Not conclusive data for classification.

f) carcinogenicity;

Not conclusive data for classification.

g) reproductive toxicity;

Not conclusive data for classification.

h) STOT-single exposure;

Product classified:

Specific target organ toxicity following a single exposure, Category 3: May cause drowsiness or dizziness.

i) STOT-repeated exposure;

Not conclusive data for classification.

j) aspiration hazard;

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

11.2 Information on other hazards.

Endocrine disrupting properties

This product does not contain components with endocrine-disrupting properties with effects on human health.

Other information

There is no information available on other adverse health effects.

SECTION 12: ECOLOGICAL INFORMATION.

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12.1 Toxicity.

Name	Ecotoxicity			
	Type	Test	Kind	Value
acetone, propan-2-one, propanone	Fish	LC50 LC50 LC50 LC50	Fish Fish Salmo gairdneri (new name: Oncorhynchus mykiss) Poecilia reticulata	8300 mg/l (96 h) [1] 8120 mg/l (96 h) [2] 5540 mg/l (96 h) [3] 9600 mg/l (48 h) [4]
	Aquatic invertebrates	LC50 EC50 LC50 LC50	Crustacean Crustacean Daphnia pulex Artemia salina	8450 mg/l (48 h) [1] 18500 mg/l (48 h) [2] 8800 mg/l (48 h) [3] 2100 mg/l (24 h) [4]

[1] Cairns, J.Jr., and A. Scheier 1968. A Comparison of the Toxicity of Some Common Industrial Waste Components Tested Individually and Combined. Prog.Fish-Cult. 30(1):3-8
[2] 95% CL: 7530-8760 mg/l
[3] Handbook of Acute Toxicity of Chemicals to Fish and Aquatic Invertebrates
[4] Reinhaltung des Wassers, Erich Schmidt Verlag, Berlin, 58-68 (1979). cited in: Sloof, W. et al., Aquat. Toxicol. 4, 113-128 (1983)

[1] Cowgill, U.M., and D.P. Milazzo 1991. The Sensitivity of Ceriodaphnia dubia and Daphnia magna to Seven Chemicals Utilizing the Three-Brood Test. Arch.Environ.Contam.Toxicol. 20(2):211-217. Canton, J.H., and D.M.M. Adema 1978. Reproducibility of Short-Term and Reproduction Toxicity Experiments with Daphnia magna and Comparison of the Sensitivity of Daphnia magna with Daphnia pulex and Daphnia cucullata in Short-Term Experiments. Hydrobiologia 59(2):135-140 (Used Reference 2018)
[2] Randall, T.L., and P.V. Knopp 1980. Detoxification of Specific Organic Substances by Wet Oxidation. J.Water Pollut.Control Fed. 52(8):2117-2130. Barera, Y., and W.J. Adams 1983. Resolving Some Practical Questions About Daphnia Acute Toxicity Tests. In: W.E.Bishop (Ed.), Aquatic Toxicology and Hazard Assessment, 6th Symposium, ASTM STP 802, Philadelphia, PA :509-518
[3] Study conducted according to national standard method without detailed documentation. Analytical monitoring of test substance concentration was not performed. Based on the results of the acute fish toxicity testing, the moderate volatility of acetone from aqueous solution seems to be of little importance.
[4] Sufficiently described study, meets basic scientific principles. Although the test duration (24 h instead 48 h) is not in accordance to nowadays standards the study at least give a hint on the acute toxicity of acetone to a marine species. Analytical monitoring of test substance concentration was not performed. Based on the results of the acute fish toxicity testing, the moderate volatility of acetone from aqueous solution seems to be of little importance.

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CAS No: 67-64-1	EC No: 200-662-2	Aquatic plants	EC50	Algae	
			TT Toxic Threshold Concentration EC50	Microcystis aeruginosa Anabaena cylindrica	7200 mg/l (96 h) [1] 530 mg/l (8 d) [2] 2844 mg/l (14 d) [3]
			[1] Slooff, W. 1982. A Comparative Study on the Short-Term Effects of 15 Chemicals on Fresh Water Organisms of Different Tropic Levels. Natl.Tech.Inf.Serv., Springfield, VA :25 p. (DUT) (ENG ABS) (NTIS/PB83-200386) [2] Grenzwerte der Schadwirkung wassergefährdender Stoffe gegen Blaualgen (Microcystis aeruginosa) und Grünalgen (Scenedesmus quadricauda) im Zellvermehrungshemmtest [3] Toxic effects of organic solvents on the growth of blue-green algae. Bull. Environ. Contam. Toxicol. 38:1012-1019		

12.2 Persistence and degradability.

No information is available regarding the biodegradability of the substances present.

No information is available on the degradability of the substances present.

No information is available about persistence and degradability of the product.

12.3 Bioaccumulative potential.

Information about the bioaccumulation of the substances present.

Name	Bioaccumulation			
	Log Pow	BCF	NOECs	Level
ethyl acetate CAS No: 141-78-6 EC No: 205-500-4	0,73	-	-	Very low

12.4 Mobility in soil.

No information is available about the mobility in soil.

The product must not be allowed to go into sewers or waterways.

Prevent penetration into the ground.

12.5 Results of PBT and vPvB assessment.

No information is available about the results of PBT and vPvB assessment of the product.

12.6 Endocrine disrupting properties.

This product doesn't contain components with environmental endocrine disrupting properties.

12.7 Other adverse effects.

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

No information is available about other adverse effects for the environment.

SECTION 13: DISPOSAL CONSIDERATIONS.

13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

Follow the provisions of Directive 2008/98/EC regarding waste management.

SECTION 14: TRANSPORT INFORMATION.

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Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

Land: Transport by road: ADR, Transport by rail: RID.

Transport documentation: Consignment note and written instructions

Sea: Transport by ship: IMDG.

Transport documentation: Bill of lading

Air: Transport by plane: ICAO/IATA.

Transport document: Airway bill.

14.1 UN number or ID number.

UN No: UN1133

14.2 UN proper shipping name.

Description:

ADR/RID: UN 1133, ADHESIVES, 3, PG II, (D/E)

IMDG: UN 1133, ADHESIVES (CYCLOHEXANE), 3, PG II, MARINE POLLUTANT

ICAO/IATA: UN 1133, ADHESIVES, 3, PG II

14.3 Transport hazard class(es).

Class(es): 3

14.4 Packing group.

Packing group: II

14.5 Environmental hazards.

Marine pollutant: Yes



Dangerous for the environment

Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): F-E,S-D

14.6 Special precautions for user.

Labels: 3



Hazard number: 33

Provisions concerning carriage in bulk ADR: Not authorized carriage in bulk in accordance with ADR.

Proceed in accordance with point 6.

ADR LQ: 5 L

IMDG LQ: 5 L

ICAO LQ: 1 L

14.7 Maritime transport in bulk according to IMO instruments.

The product is not transported in bulk.

SECTION 15: REGULATORY INFORMATION.

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

Volatile organic compound (VOC)

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VOC content (p/p): 77,028 %

VOC content: 616,224 g/l

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles:

Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
3. Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1.	1. Shall not be used in: - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, - tricks and jokes, - games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: - can be used as fuel in decorative oil lamps for supply to the general public, and, - present an aspiration hazard and are labelled with H304, 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN). 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met: (a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil - or even sucking the wick of lamps - may lead to life-threatening lung damage'; (b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter may lead to life threatening lung damage'; (c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
57. Cyclohexane CAS No 110-82-7 EC No 203-806-2	1. Shall not be placed on the market for the first time after 27 June 2010, for supply to the general public, as a constituent of neoprene-based contact adhesives in concentrations equal to or greater than 0,1 % by weight in package sizes greater than 350 g. 2. Neoprene-based contact adhesives containing cyclohexane and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010. 3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that neoprene-based contact adhesives containing cyclohexane in concentrations equal to or greater than 0,1 % by weight that are placed on the market for supply to the general public after 27 December 2010 are visibly, legibly and indelibly marked as follows: '- This product is not to be used under conditions of poor ventilation. - This product is not to be used for carpet laying.'

Kind of pollutant to water (Germany): WGK 2: Hazardous to water. (Autoclassified according to the AwSV Regulations)

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15.2 Chemical safety assessment.

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION.

Complete text of the H phrases that appear in section 3:

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Classification codes:

Aquatic Acute 1 : Acute toxicity to the aquatic environment, Category 1
Aquatic Chronic 1 : Chronic effect to the aquatic environment, Category 1
Aquatic Chronic 2 : Chronic effect to the aquatic environment, Category 2
Asp. Tox. 1 : Aspiration toxicity, Category 1
Eye Irrit. 2 : Eye irritation, Category 2
Flam. Liq. 2 : Flammable liquid, Category 2
Skin Irrit. 2 : Skin irritant, Category 2
Skin Sens. 1 : Skin sensitiser, Category 1
STOT SE 3 : Specific target organ toxicity following a single exposure, Category 3

Changes regarding to the previous version:

- Change in the hazard classification (SECTION 2.1).
- Removal of precautionary statements/hazard statements/pictograms/signal word (SECTION 2.2).
- Addition of precautionary statements/hazard statements/pictograms/signal word (SECTION 2.2).
- Modifications in the first aid measures (SECTION 4.1).
- Modification of the symptoms (SECTION 4.2).
- Modification of the medical attention measures (SECTION 4.3).
- Modifications in the handling and storage precautions (SECTION 7.1).
- Modifications in the handling and storage precautions (SECTION 7.2).
- Modifications of the personal protective equipment (SECTION 8.2).
- Change in the hazard classification (SECTION 11.1).
- National legislative changes (SECTION 15.1).

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health hazards	Calculation method
Environmental hazards	Calculation method

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Information on the TSCA Inventory (Toxic Substances Control Act) USA:

CAS No	Name	State
110-82-7	cyclohexane	Registered
64742-49-0	Hydrocarbons, C6, isoalkanes, <5% n-hexane	Registered

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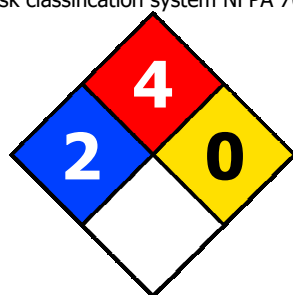
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141-78-6	ethyl acetate	Registered
67-64-1	acetone, propan-2-one, propanone	Registered
109-60-4	propyl acetate	Registered
25085-50-1	4-tert-butylphenol formaldehyde resin phenolic resin	Registered
8050-09-7	rosin, colophony	Registered
1314-13-2	zinc oxide	Registered

Risk classification system NFPA 704:



Health hazard: 2 (Hazardous)

Flammability: 4 (Below 73°F)

Reactivity: 0 (Stable)

Abbreviations and acronyms used:

- ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
AwSV: Facility Regulations for handling substances that are hazardous for the water.
BCF: Bioconcentration factor.
CEN: European Committee for Standardization.
DMEL: Derived Minimal Effect Level, exposure level corresponding to a low risk, that risk should be considered a tolerable minimum.
DNEL: Derived No Effect Level, level of exposure to the substance below which adverse effects are not anticipated.
EC50: Half maximal effective concentration.
PPE: Personal protection equipment.
IATA: International Air Transport Association.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Code for Dangerous Goods.
LC50: Lethal concentration, 50%.
LD50: Lethal dose, 50%.
NOEC: No observed effect concentration.
PNEC: Predicted No Effect Concentration, concentration of the substance below which adverse effects are not expected in the environmental compartment.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.
WGK: Water hazard classes.

Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>

<http://echa.europa.eu/>

Regulation (EU) 2020/878.

Regulation (EC) No 1907/2006.

Regulation (EC) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemical substances and mixtures (REACH).

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current

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legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.