



SAFETY DATA SHEET BARTOLINE - Patent Knotting Solution

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

1.1. Product identifier

Product name	BARTOLINE - Patent Knotting Solution
Product number	55625000
REACH registration notes	No REACH registration number required as this product is a mixture.

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

Identified uses	Wood Knot Sealant
Uses advised against	No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier	Bartoline Limited Barmston Close Beverley East Yorkshire HU17 0LW 01482 678710 info@bartoline.co.uk
Contact person	Product Compliance Manager

1.4. Emergency telephone number

Emergency telephone	01482 678710 (8.30am - 4.45pm Monday to Friday) or NHS 111 (General Public) (24 Hour service)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

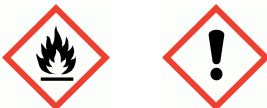
Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 2 - H225
Health hazards	Eye Irrit. 2 - H319
Environmental hazards	Not Classified

Physicochemical The product is highly flammable.

2.2. Label elements

Hazard pictograms



Signal word Danger

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Hazard statements	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation.
Precautionary statements	P102 Keep out of reach of children. P101 If medical advice is needed, have product container or label at hand. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P243 Take action to prevent static discharges. P264 Wash contaminated skin thoroughly after handling. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/ attention. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container to hazardous waste collection point.
Supplemental label information	EU limit value for this product (Cat A/h) is 750g per litre. This product contains max 749g per litre VOC. TO AVOID THE RISK OF SPILLAGE ALWAYS ENSURE THE LID IS SECURE AND THE CONTAINER IS SECURED UPRIGHT DURING TRANSPORTATION AND STORAGE.

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

ethanol		60-100%
CAS number: 64-17-5	EC number: 200-578-6	REACH registration number: 01-2119457610-43-XXXX
Classification Flam. Liq. 2 - H225 Eye Irrit. 2 - H319		
methanol		<3%
CAS number: 67-56-1	EC number: 200-659-6	REACH registration number: 01-2119392409-28-XXXX
Classification Flam. Liq. 2 - H225 Acute Tox. 3 - H301 Acute Tox. 3 - H311 Acute Tox. 3 - H331 STOT SE 1 - H370		

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

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SECTION 4: First aid measures

4.1. Description of first aid measures

General information	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR THE NHS 111 SERVICE. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Keep affected person away from heat, sparks and flames. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Never give anything by mouth to an unconscious person. Treat symptomatically.
Inhalation	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. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical attention.
Skin contact	Remove contamination with soap and water or recognised skin cleansing agent. Do not use organic solvents. Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if symptoms are severe or persist after washing.
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.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves.

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

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Treat symptomatically.
Inhalation	May cause respiratory irritation. Vapours inhaled in strong concentration have a narcotic effect on the central nervous system. Irritation of the respiratory tract due to excessive fume, causes headache, drowsiness or other effects to the central nervous system, loss of consciousness.
Ingestion	May cause nausea, headache, dizziness and intoxication. Ingestion of large amounts may cause unconsciousness.
Skin contact	Prolonged or repeated contact may cause irritation and dry skin.
Eye contact	This product is moderately irritating. Irritation and redness, followed by blurred vision.

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

Notes for the doctor	Treat symptomatically.
Specific treatments	No specific chemical antidote is known to be required after exposure to this product.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

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5.2. Special hazards arising from the substance or mixture

Specific hazards	The product is highly flammable. Severe explosion hazard when vapours are exposed to flames. Vapours may be ignited by a spark, a hot surface or an ember. May form explosive mixture with air at very high concentration. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. Risk of re-ignition after fire has been extinguished. Containers can burst violently or explode when heated, due to excessive pressure build-up. Fire-water run-off in sewers may create fire or explosion hazard.
Hazardous combustion products	Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentrations.

5.3. Advice for firefighters

Protective actions during firefighting	Avoid breathing fire vapours. Cool containers exposed to flames with water until well after the fire is out. Keep run-off water out of sewers and water sources. Dike for water control. Containers close to fire should be removed or cooled with water.
Special protective equipment for firefighters	In case of a large fire or in confined or poorly ventilated spaces, wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Keep unnecessary and unprotected personnel away from the spillage. No smoking, sparks, flames or other sources of ignition near spillage. Do not touch or walk into spilled material. Do not enter storage areas or confined spaces unless adequately ventilated. Wear protective clothing as described in Section 8 of this safety data sheet. Treat the spilled material according to the instructions in the clean-up section.
For emergency responders	Wear protective clothing as described in Section 8 of this safety data sheet. See section 11 for additional information on health hazards. For waste disposal, see section 13.

6.2. Environmental precautions

Environmental precautions	The product contains a substance which may cause long-term adverse effects in the aquatic environment. The product contains substances which are water-soluble and may spread in water systems. Volatile substances are degraded in the atmosphere within a few days. Avoid the spillage or runoff entering drains, sewers or watercourses. To prevent release, place container with damaged side up. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Stop leak if safe to do so. Eliminate all ignition sources if safe to do so. No smoking, sparks, flames or other sources of ignition near spillage. To prevent release, place container with damaged side up. Do not touch or walk into spilled material. Cover large spillages with alcohol-resistant foam. Allow small quantities to evaporate to the atmosphere in a safe, open place. Large Spillages: Contain spillage with sand, earth or other suitable non-combustible material. Absorb in vermiculite, dry sand or earth and place into containers. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. For waste disposal, see Section 13. Wash thoroughly after dealing with a spillage.
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6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid contact with skin and eyes. Keep away from heat, sparks and open flame. Eliminate all sources of ignition. Use explosion proof electric equipment. Storage tanks and other containers must be grounded. Wear full protective clothing for prolonged exposure and/or high concentrations. Contaminated clothing and shoes must be discarded. Contaminated rags and cloths must be put in fireproof containers for disposal. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Avoid spilling and release to the environment such as drains and watercourses.

Advice on general occupational hygiene Persons with impaired lung function should not handle this product.. Do not eat, drink or smoke when using this product. Provide eyewash station. Wash promptly with soap and water if skin becomes contaminated. Take off immediately all contaminated clothing and wash it before reuse. Promptly remove any clothing that becomes wet or contaminated. Remove contaminated clothing and protective equipment before entering eating areas. Wash at the end of each work shift and before eating, smoking and using the toilet. Use appropriate hand lotion to prevent defatting and cracking of skin.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep container tightly sealed when not in use. Keep containers upright. Keep locked up and out of the reach of children. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid contact with oxidising agents. Keep away from food, drink and animal feeding stuffs. Use containers made of the following materials: Mild steel. Stainless steel. High-density polyethylene (HDPE) Polyethylene terephthalate (PET)

Storage class Flammable liquid storage.

7.3. Specific end use(s)

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

Usage description In General:
 Keep containers closed when not in use.
 Keep containers upright.
 Use only in well ventilated areas, ideally outdoors.
 Open containers slowly in order to release any pressure build up that may occur.
 Keep out of reach of children.
 Apply "common sense" measures when using this product.
 When using transfer required amount to a suitable container such as glass, metal or HDPE.
 Avoid all contact with skin and eyes.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1920 mg/m³ vapour
 Short term exposure limit (STEL) 15 Min - No Standard in EH40

ethanol

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Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1920 mg/m³ vapour

Short term exposure limit (STEL) 15 Min - No Standard in EH40

methanol

Long-term exposure limit (8-hour TWA): WEL 200 ppm 266 mg/m³ vapour

Short-term exposure limit (15-minute): WEL 250 ppm 333 mg/m³ vapour

WEL = Workplace Exposure Limit

ethanol (CAS: 64-17-5)

DNEL	Workers - Inhalation; Short term local effects: 1900 mg/m ³
	Workers - Inhalation; Long term systemic effects: 950 mg/m ³
	General population - Inhalation; Short term local effects: 950 mg/m ³
	General population - Inhalation; Long term systemic effects: 114 mg/m ³
	Workers - Dermal; Long term systemic effects: 343 mg/kg/day
	General population - Dermal; Long term systemic effects: 206 mg/kg/day
PNEC	General population - Oral; Long term systemic effects: 87 mg/kg/day
	Industry - Fresh water; Long term 0.96 mg/l
	Industry - marine water; Long term 0.79 mg/l
	Industry - Sediment (Freshwater); Long term 3.6 mg/kg sediment dw
	Industry - Soil; Long term 0.63 mg/kg soil dw
	Industry - Intermittent release; Long term 2.75 mg/l
Industry - STP; Long term 580 mg/l	

methanol (CAS: 67-56-1)

DNEL	Workers - Inhalation; Long term systemic effects: 260 mg/m ³
	Workers - Inhalation; Short term systemic effects: 260 mg/m ³
	Workers - Inhalation; Long term local effects: 260 mg/m ³
	Workers - Inhalation; Short term local effects: 260 mg/m ³
	Workers - Dermal; Long term systemic effects: 40 mg/kg/day
	Workers - Dermal; Short term systemic effects: 40 mg/kg bw/day
	General population - Inhalation; Long term systemic effects: 50 mg/m ³
	General population - Inhalation; Short term systemic effects: 50 mg/m ³
	General population - Inhalation; Long term local effects: 50 mg/m ³
	General population - Inhalation; Short term local effects: 50 mg/m ³
	General population - Dermal; Long term systemic effects: 8 mg/kg bw/day
	General population - Dermal; Short term systemic effects: 8 mg/kg bw/day
DMEL	Workers - Dermal; Long term systemic effects: 40 mg/kg bw/day
PNEC	Industry - Fresh water; Long term 20.8 mg/l
	Industry - marine water; Long term 2.08 mg/l
	Industry - Intermittent release; Long term 1540 mg/l
	Industry - STP; Long term 100 mg/l
	Industry - Sediment (Freshwater); Long term 77 mg/kg sediment dw
	Industry - Sediment (Marinewater); Long term 7.7 mg/kg sediment dw
Industry - Soil; Long term 3.18 mg/kg soil dw	

8.2. Exposure controls

Protective equipment



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Appropriate engineering controls	Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Good general ventilation should be adequate to control worker exposure to airborne contaminants. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures.
Personal protection	Protective engineering solutions should be implemented and in use before Personal Protective Equipment (PPE) is considered.
Eye/face protection	Wear EN 166 approved chemical safety goggles with side shields where eye exposure is reasonably probable.
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. It is recommended that gloves are made of the following material: Nitrile rubber. Rubber (natural, latex). Viton rubber (fluoro rubber). It should be noted that liquid may penetrate the gloves. Frequent changes are recommended.
Other skin and body protection	Given the identified use of the product additional skin and body protection should not be required.
Hygiene measures	Wash hands thoroughly after handling. Wash promptly with soap and water if skin becomes contaminated. Care should be taken to avoid contact with contaminants when removing contaminated clothing. Promptly remove any clothing that becomes wet or contaminated. Remove contaminated clothing and protective equipment before entering eating areas. Wash at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. 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. Gas and combination filter cartridges should comply with European Standard EN14387. Check that the respirator fits tightly and the filter is changed regularly.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Store in a demarcated bunded area to prevent release to drains and/or watercourses. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Coloured liquid.
Colour	Dark brown.
Odour	Alcoholic.
Odour threshold	Not known. No specific test data are available.
pH	No specific test data are available.
Melting point	No specific test data are available.

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Initial boiling point and range	>35°C
Flash point	12°C
Evaporation rate	No specific test data are available.
Evaporation factor	No specific test data are available.
Flammability (solid, gas)	Scientifically unjustified.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 3.5 % Upper flammable/explosive limit: 15 %
Other flammability	Not applicable.
Vapour pressure	59.5 hPa @ 20°C Data quoted for Ethanol
Vapour density	No specific test data are available.
Relative density	0.8-0.93 g/cm ³ @ 20°C
Bulk density	Not applicable.
Solubility(ies)	Insoluble in water.
Partition coefficient	log Pow: ~ 0.35
Auto-ignition temperature	363°C
Decomposition Temperature	No specific test data are available.
Viscosity	No specific test data are available.
Explosive properties	No specific test data are available.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	This product is not considered oxidising based on chemical structure considerations.
Comments	Information given is for the mixture as a whole unless stated otherwise. Information declared as "Not available" or "Not applicable" is not considered to be relevant to the implementation of the proper control measures.

9.2. Other information

Volatile organic compound EU: (cat A/h): 750 g/l . This product contains a maximum VOC content of 749 g/l.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Under normal conditions of storage and use, no hazardous reactions will occur.

10.4. Conditions to avoid

Conditions to avoid Avoid the following conditions: Heat, sparks, flames.

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10.5. Incompatible materials

Materials to avoid Concentrated acids and strong oxidising agents

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects No data for the product as a whole. See information on individual substances below. The data quoted is taken from the REACH registration portal for this substance and the suppliers MSDS.

Acute toxicity - oral

Notes (oral LD₅₀) OECD 420

ATE oral (mg/kg) 30,000.0

Acute toxicity - dermal

Notes (dermal LD₅₀) OECD 402

ATE dermal (mg/kg) 100,000.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Conclusive data but not sufficient for classification.

ATE inhalation (vapours mg/l) 1,000.0

Toxicological information on ingredients.

ethanol

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 10,470.0

Species Rat

ATE oral (mg/kg) 10,470.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 15,800.0

Species Rabbit

ATE dermal (mg/kg) 15,800.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 124.7

Species Rat

ATE inhalation (vapours mg/l) 124.7

Skin corrosion/irritation

Animal data Erythema/eschar score: No erythema (0). Oedema score: No oedema (0).

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Serious eye damage/irritation

Serious eye damage/irritation Irritation of eyes is assumed.

Respiratory sensitisation

Respiratory sensitisation Guinea pig: Not sensitising.

Skin sensitisation

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

Germ cell mutagenicity

Genotoxicity - in vitro Negative.

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.

Reproductive toxicity - development This substance has no evidence of toxicity to reproduction.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 1730 mg/kg, Oral, Rat

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation

Vapours inhaled in strong concentrations have a narcotic effect on the central nervous system. Irritation of the respiratory tract due to excessive fume. Causes headache, drowsiness or other effects to the central nervous system, loss of consciousness.

Ingestion

Liquid irritates mucous membranes and may cause abdominal pain if swallowed. Gastrointestinal symptoms, including upset stomach. Irritating. May be absorbed in the body and cause dizziness, nausea and vomiting.

Skin contact

Prolonged or repeated contact may dry skin and cause irritation. Frequent or prolonged skin contact destroys the lipid cutaneous layer and may cause dermatitis.

Eye contact

Extreme irritation of eyes and mucous membranes, including burning and tearing. Although not classified as irritating to eyes there is a risk of corneal damage.

Route of exposure

Inhalation Ingestion Skin and/or eye contact

Target organs

Central nervous system Eyes Gastro-intestinal tract Skin

Medical symptoms

Symptoms following overexposure may include the following: Behavioural changes. Central nervous system depression. Irritation of eyes and mucous membranes. Visual disturbances, including blurred vision. Headache. Nausea, vomiting.

Medical considerations

The following pre-existing or historic medical conditions of the worker may lead to an increased risk of adverse health effects following exposure to this product: History of alcoholism. History of smoking. Skin disorders and allergies.

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methanol

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 300.0

Species Rat

ATE oral (mg/kg) 300.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 1,000.0

Species Rabbit

ATE dermal (mg/kg) 1,000.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 10.0

Species Rat

ATE inhalation (vapours mg/l) 10.0

Skin corrosion/irritation

Skin corrosion/irritation Not irritating.

Animal data Erythema/eschar score: Severe erythema (beef redness) to eschar formation preventing grading of erythema (4).

Serious eye damage/irritation

Serious eye damage/irritation This screening test gave evidence of mild to moderate irritation of the mucous membrane on contact with pure methanol, which was fully reversible within 8 days. Therefore, there was no need for classification as eye irritating. Exposure to an atmosphere saturated by methanol vapours at 20°C produced severe irritation of mucous membranes and milky corneal opacity in rats (time not specified) and eventually led to mortality of all animals within 8 h.

Respiratory sensitisation

Respiratory sensitisation Not available.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity NOAEL 466-529 mg/kg/day, Oral, Rat

Reproductive toxicity

Reproductive toxicity - fertility Fertility - NOAEL <1000 mg/kg, Oral, Mouse P

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Reproductive toxicity - development Maternal toxicity: - NOAEC: 26.6 mg/l, Inhalation, Rat

Specific target organ toxicity - single exposure

STOT - single exposure Dose level: 4000 mg/kg, Intraperitoneal, Rat

Target organs Eyes

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not available.

Target organs Not available.

Aspiration hazard

Aspiration hazard Not available.

SECTION 12: Ecological information

Ecological information on ingredients.

ethanol

Ecotoxicity The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Ecological information on ingredients.

ethanol

Acute aquatic toxicity

Acute toxicity - fish EC₅₀, 96 hours: 14,200 mg/l, Pimephales promelas (Fat-head Minnow)
In a well reported 96 hour acute toxicity study, fathead minnows (Pimephales promelas) were exposed to ethanol at actual concentrations up to 20g/l using a flow through method. An LC₅₀ of 14.2g/l was established. Based on the results of this study, ethanol would be not be classified toxic to the environment according to the classification system of the EU.
This toxicity study is classified as acceptable as a supporting study the acute fish toxicity end point.

Acute toxicity - aquatic invertebrates LC₅₀, 48 hours: 5012 mg/l, Ceriodaphnia dubia

Acute toxicity - aquatic plants EC₅₀, 72 hour: 275 mg/l, Algae

Acute toxicity - microorganisms EC₅₀, 48 hour: 11963 mg/l, Tetrahymena pyriformis.

Acute toxicity - terrestrial LC₅₀, 48 hour: 0.1-1.0 mg/cm², Soil macroorganisms except arthropods

methanol

Toxicity The data quoted is taken from the REACH registration portal for this substance and the suppliers MSDS.

Acute aquatic toxicity

Acute toxicity - fish EC₅₀, 96 hours: 12700 mg/l, Lepomis macrochirus (Bluegill)

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Acute toxicity - aquatic invertebrates	EC ₅₀ , 96 hours: 18260 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 96 hours: 22000 mg/l, Pseudokirchneriella subcapitata
Acute toxicity - microorganisms	IC ₅₀ , 3 hours: >1000 mg/l, Activated sludge
Acute toxicity - terrestrial	LC ₅₀ , 48 hours: >1 mg/cm ² , Soil macroorganisms except arthropods

12.2. Persistence and degradability

Persistence and degradability The product is biodegradable. The product is degraded completely by photochemical oxidation.

Ecological information on ingredients.

ethanol

Persistence and degradability	The product is biodegradable. The product is degraded completely by photochemical oxidation.
Phototransformation	Water - Half-life : 11.5 hours
Stability (hydrolysis)	Ethanol is stable to hydrolysis in water. The estimated half life in the absence of biodegradation is around 1 -36 years. It should be noted that since ethanol is readily biodegradable, this is not an issue of concern.
Biodegradation	The biodegradation of ethanol was assessed at a number of concentrations using a non-adapted domestic sewage inoculum in a freshwater medium using a 20 day study. Rapid degradation was observed. Based on the results of this study, ethanol meets the criteria to be classified as readily biodegradable. This study is classified as acceptable and satisfies the guideline requirement for a ready biodegradation study.
Biological oxygen demand	BOD5 74 %
Chemical oxygen demand	95 %

methanol

Phototransformation	- Degradation 50: 17.2 days
Stability (hydrolysis)	Not available.
Biodegradation	Water - Degradation 91: 15 days
Biological oxygen demand	BOD5 1067 g O ₂ /g substance
Chemical oxygen demand	Not available.

12.3. Bioaccumulative potential

Partition coefficient log Pow: ~ 0.35

Ecological information on ingredients.

ethanol

Bioaccumulative potential	Not available.
Partition coefficient	log Pow: ~ 0.35

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methanol

Bioaccumulative potential	BCF: 0.2, Leuciscus idus melanotus (Golden Ide)
Partition coefficient	Not available.

12.4. Mobility in soil

Mobility	The product is water-soluble and may spread in water systems. Large volumes may penetrate soil and could contaminate groundwater. If product enters soil it will be mobile and may contaminate groundwater.
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Ecological information on ingredients.

ethanol

Mobility	The product is water-soluble and may spread in water systems. Large volumes may penetrate soil and could contaminate groundwater. If product enters soil it will be mobile and may contaminate groundwater.
Adsorption/desorption coefficient	Not available.
Henry's law constant	Not available.
Surface tension	Not available.

methanol

Mobility	No data available.
Adsorption/desorption coefficient	Lokke (1984) studied the adsorption of methanol onto three different soil types at 6 deg C. Only slight methanol adsorption occurred with the two sandy soils tested (percentage organic matter of 0.09% and 0.1% in the samples) and with the clay soil (percentage organic matter was 0.22%). Methanol solutions of concentration 0.1, 1.0, 9 and 90 mg/l were used in 1 hour exposure adsorption studies and adsorption coefficients of between 0.13 and 0.61 were measured for all soil types and at all concentrations. These coefficients indicate that methanol has a low adsorptive capacity on soils.
Henry's law constant	0.461 Pa m ³ /mol @ 25°C With a Henry's law constant of 0.461 Pa m ³ /mol (or: 220 mol/L*atm), methanol is not expected to significantly volatilize from the aquatic compartment.
Surface tension	Not available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This substance is considered not to be PBT and vPvB.
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Ecological information on ingredients.

ethanol

Results of PBT and vPvB assessment	This substance is considered not to be PBT and vPvB.
-------------------------------------------	------------------------------------------------------

methanol

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Results of PBT and vPvB assessment According to REACH Registration portal this substance is not PBT/vPvB

12.6. Other adverse effects

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

Ecological information on ingredients.

ethanol

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	The generation of waste should be minimised or avoided wherever possible. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Do not pierce or burn, even after use. Do not pressurise, cut, weld, drill, grind or otherwise expose containers to heat or sources of ignition.
Disposal methods	Waste material and any included combustible absorbent and containers should be suitable for incineration at an approved facility. Reuse or recycle products wherever possible. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. This material and its container must be disposed of as hazardous waste. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions. Containers should be thoroughly emptied before disposal because of the risk of an explosion.
Waste class	<p>Empty used containers should be disposed of as waste code 15 01 10 packaging containing residues of or contaminated by dangerous substances. Note For a waste container to be classed as a packaging waste (15 01) it must be effectively 'empty'.</p> <p>It is usually obvious if a container is 'empty', for example a half empty tin of solidified paint is not empty, but where there is a small amount of residual material a container will not be empty if that residual material can be removed by physical or mechanical means by applying normal industry standards or processes.</p> <p>This means that all reasonable efforts must have been made to remove any left-over contents from the container. This may involve for example washing, draining or scraping. The method of emptying will depend on the container and the type of material it contains. Note: if the design of the packaging, its aperture, or the adherent nature of the material does not permit it to be emptied then it will not be a packaging waste.</p> <p>If a container is not 'empty' it is not packaging waste. It should be classified on the basis of its contents and the source or activity that produced it. For example 08 01 11* waste paint and varnish containing organic solvents or other dangerous substances. Absorbents, wiping cloths and contaminated protective clothing should be disposed of under the following waste code: 15 02 02* - Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances.</p>

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SECTION 14: Transport information

General Limited quantity size 5 litres (LQ 7).

14.1. UN number

UN No. (ADR/RID) 1263

UN No. (IMDG) 1263

UN No. (ICAO) 1263

UN No. (ADN) 1263

14.2. UN proper shipping name

Proper shipping name (ADR/RID) PAINT

Proper shipping name (IMDG) PAINT

Proper shipping name (ICAO) PAINT

Proper shipping name (ADN) PAINT

14.3. Transport hazard class(es)

ADR/RID class 3

ADR/RID classification code F1

ADR/RID label 3

IMDG class 3

ICAO class/division 3

ADN class 3

Transport labels



14.4. Packing group

ADR/RID packing group II

IMDG packing group II

ICAO packing group II

ADN packing group II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

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14.6. Special precautions for user

EmS	F-E, S-E
ADR transport category	2
Emergency Action Code	•3YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

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 Not applicable.

SECTION 15: Regulatory information

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

National regulations	Control of Substances Hazardous to Health Regulations 2002 (as amended). Dangerous Substances and Explosive Atmospheres Regulations 2002. EH40/2005 Workplace exposure limits. Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). Users of this product are reminded of their duties under the current Control of Substances Hazardous to Health Regulations and a suitable and sufficient assessment of all the risk should be undertaken before using this product. The guidelines given in the HSE publication COSHH ESSENTIALS - Easy Steps To Control Chemicals gives sound advice for deciding safe working control measures.
EU legislation	Commission Decision 2000/532/EC as amended by Decision 2001/118/EC establishing a list of wastes and hazardous waste pursuant to Council Directive 75/442/EEC on waste and Directive 91/689/EEC on hazardous waste with amendments. Commission Regulation (EU) No 453/2010 of 20 May 2010. 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).
Guidance	Workplace Exposure Limits EH40. Labelling and Packaging in accordance with Regulation (EC) No 1272/2008.
Authorisations (Annex XIV Regulation 1907/2006)	No specific authorisations are known for this product.
Restrictions (Annex XVII Regulation 1907/2006)	No specific restrictions on use are known for this product.

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15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008 : On basis of test data.

Training advice The information on directions for use can be found on the product label. It is important to ensure that anyone using this product in the workplace has been adequately trained and in particular: The use of personal protective equipment, methods of cleaning up and disposal of waste. The basic first aid arrangements.

Revision comments DUE TO CHANGE OF CLASSIFICATION DATABASE THE REVISION NUMBERING HAS BEEN RESET. You should therefore look at the revision date rather than the revision number to ensure you have the most up to date version. NOTE: Lines within the margin indicate significant changes from the previous revision.

Issued by Product Compliance Assistant

Revision date 23/11/2018

Revision 2

Supersedes date 24/11/2015

SDS number 4813

Hazard statements in full H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H370 Causes damage to organs .

The information contained in this data sheet is provided in accordance with the requirements of the Regulation (EC) No 1907/2006 Annex II as amended by Regulation (EU) 2015/830 and Regulation (EC) No 1272/2008 (CLP). The product should not be used for purposes other than those shown in Section 1.2. As the specific conditions of use are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. The information contained in this safety data sheet is based on the present knowledge and the current EU and UK Legislation. It provides guidance on health, safety and environmental aspects of the product and should not be taken as a product specification.