SAFETY DATA SHEET
BARTOLINE METHYLATED SPIRITS

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

1.1. Product identifier

Product name BARTOLINE METHYLATED SPIRITS

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 Fuel for camping stoves and fondues. Glass cleaner.

Uses advised against Not to be used for cleaning skin as this may lead to skin disorders.

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 HSE MANAGER

1.4. Emergency telephone number

Emergency telephone 01482 678727 (0800-1700 Monday to Friday)

National emergency telephone number National Poisons Information Service (24hours) 0844 892 0111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Flam. Liq. 2 - H225

Health hazards Not Classified

Environmental hazards Not Classified

Physicochemical Highly Flammable

2.2. Label elements

Pictogram

Signal word Danger

Hazard statements H225 Highly flammable liquid and vapour.

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Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P243 Take precautionary measures against static discharge. 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/shower. P403+P235 Store in a well-ventilated place. Keep cool. P102 Keep out of reach of children. P101 If medical advice is needed, have product container or label at hand. Dispose of contents/container to hazardous waste collection point.
Supplemental label information	TO AVOID THE RISK OF SPILLAGE ALWAYS ENSURE THE LID IS SECURE AND THE CONTAINER IS SECURED UPRIGHT DURING TRANSPORTATION AND STORAGE.
Contains	ethanol

2.3. Other hazards

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

propan-2-ol **1-5%**

CAS number: 67-63-0	EC number: 200-661-7

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2 - H319
STOT SE 3 - H336
STOT SE 3 - H336

butanone **1-5%**

CAS number: 78-93-3	EC number: 201-159-0	REACH registration number: 01-2119457290-43-XXXX

Classification
Flam. Liq. 2 - H225
Eye Irrit. 2 - H319
STOT SE 3 - H336
STOT SE 3 - H336

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

Composition comments This product complies with the Denatured Alcohol Regulations 2013.

SECTION 4: First aid measures

4.1. Description of first aid measures

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General information	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE. 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.

5.2. Special hazards arising from the substance or mixture

BARTOLINE METHYLATED SPIRITS

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. The product is biodegradable but it must not be discharged into drains without permission from the authorities. 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.

6.3. Methods and material for containment and cleaning up

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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.

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 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.

BARTOLINE METHYLATED SPIRITS

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 PET or HDPE.
Avoid all contact with skin and eyes.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

ethanol

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

propan-2-ol

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m3
Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m3

butanone

Long-term exposure limit (8-hour TWA): WEL 200 ppm 600 mg/m³
Short-term exposure limit (15-minute): WEL 300 ppm 899 mg/m3
Sk

WEL = Workplace Exposure Limit
Sk = Can be absorbed through the skin.

Ingredient comments

There is no data for the product as a whole, see comments on individual constituents.

ethanol (CAS: 64-17-5)

DNEL

Workers - Inhalation; Short term local effects: 1900 mg/m³
Workers - Inhalation; Long term systemic effects: 950 mg/m³
General population - Inhalation; Short term local effects: 950 mg/m³
General population - Inhalation; Long term systemic effects: 114 mg/m³
Workers - Dermal; Long term systemic effects: 343 mg/kg/day
General population - Dermal; Long term systemic effects: 206 mg/kg/day
General population - Oral; Long term systemic effects: 87 mg/kg/day

PNEC

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

butanone (CAS: 78-93-3)

Biological limit values

70micromol per litre

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DNEL	Industry - Dermal; Long term systemic effects: 1161 mg/kg/day Industry - Inhalation; Long term systemic effects: 600 mg/m³ Consumer - Oral; Long term systemic effects: 31 mg/kg/day Consumer - Dermal; Long term systemic effects: 412 mg/kg/day Consumer - Inhalation; Long term systemic effects: 106 mg/kg/day
PNEC	Industry - Fresh water; Long term 55.8 mg/l Industry - Marine water; Long term 55.8 mg/l Industry - Sediment (Freshwater); Long term 284.7 mg/kg Industry - Sediment (Marinewater); Long term 287.7 mg/kg Industry - Soil; Long term 22.5 mg/kg

propan-2-ol (CAS: 67-63-0)

DNEL	Industry - Dermal; Long term systemic effects: 888 mg/kg/day Industry - Inhalation; Long term systemic effects: 500 mg/m³ Consumer - Dermal; Long term systemic effects: 319 mg/kg/day Consumer - Inhalation; Long term systemic effects: 89 mg/m³ Consumer - Oral; Long term systemic effects: 26 mg/kg/day
PNEC	Industry - Fresh water; Long term 140.9 mg/l Industry - Marine water; Long term 140.9 mg/l Industry - Sediment; Long term 552 mg/kg Industry - Soil; Long term 28 mg/kg

8.2. Exposure controls

Protective equipment

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 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.

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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	Violet.
Odour	Alcoholic.
Odour threshold	No specific test data are available.
pH	Not available.
Melting point	Not available.
Initial boiling point and range	78°C @ 1013 hPa
Flash point	~ 12°C CC (Closed cup).
Evaporation rate	~ 3.4 (butyl acetate = 1)
Evaporation factor	Not available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 3.5 % Upper flammable/explosive limit: 19 %
Vapour pressure	5.8 kPa @ 20°C
Vapour density	~ 1.03
Relative density	~ 0.800 - 0.820 @ 20°C
Solubility(ies)	Soluble in water.
Auto-ignition temperature	363°C
Decomposition Temperature	Not available.
Viscosity	1.2 mPa s @ 20°C

BARTOLINE METHYLATED SPIRITS

Explosive properties	Not available.
Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.
Comments	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

Refractive index	1.3614
Molecular weight	46.07
Volatile organic compound	This product contains a maximum VOC content of 820 .

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	May react with: Strong acids. Strong oxidising agents.

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	The following materials may react with the product: Strong acids. Oxidising agents.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Materials to avoid	Strong acids. Oxidising materials.

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.

Toxicological information on ingredients.

ethanol

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	10,470.0
Species	Rat
ATE oral (mg/kg)	10,470.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	15,800.0
Species	Rabbit

BARTOLINE METHYLATED SPIRITS

ATE dermal (mg/kg)	15,800.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC_{50} 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).
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 lipacid cutaneous layer and may cause dermatitis.

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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 entry	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.

propan-2-ol

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	5,840.0
Species	Rat
ATE oral (mg/kg)	5,840.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	13,185.6
Species	Rat
ATE dermal (mg/kg)	13,185.6

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l)	21.0
Species	Rat
ATE inhalation (vapours mg/l)	21.0

Skin corrosion/irritation

Animal data	Primary dermal irritation index: 0 Based on available data the classification criteria are not met.

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	Buehler test - Guinea pig: Not sensitising. One group of 20 test animals was treated with undiluted Isopropyl alcohol for a period of 6 hours weekly for 3 induction exposures. The test animals and control animals were challenged with undiluted Isopropyl alcohol. No skin reactions were observed in the test and control animals therefore, it was concluded that Isopropyl alcohol is not a sensitizer.

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Germ cell mutagenicity

Genotoxicity - in vitro	Gene mutation: Negative.
Genotoxicity - in vivo	Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity	NOAEL 5000 ppm, Inhalation, 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.

butanone

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	3,460.0
Species	Rat
ATE oral (mg/kg)	3,460.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	6,480.0
Species	Rabbit
ATE dermal (mg/kg)	6,480.0

Serious eye damage/irritation

Serious eye damage/irritation	Irritation of eyes is assumed.

Respiratory sensitisation

Respiratory sensitisation	No specific test data are available.

Skin sensitisation

Skin sensitisation	Undiluted methyl ethyl ketone elicited a slight erythematous response in one of the test animals following the challenge application. This response was deemed inconclusive. The results for the remaining guinea pigs were negative. Under the conditions of the study, MEK was not considered to be a skin sensitiser in guinea pigs.

Carcinogenicity

Carcinogenicity	Based on available data the classification criteria are not met.
IARC carcinogenicity	Not listed.

Specific target organ toxicity - single exposure

STOT - single exposure	A single exposure may cause the following adverse effects: Vapours may cause drowsiness and dizziness.

SECTION 12: Ecological Information

BARTOLINE METHYLATED SPIRITS

Ecotoxicity There is no Ecotoxicity data for the product as a whole. See data for individual constituents below.

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 toxicity - fish EC_{50}, 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 LC_{50}, 48 hours: 5012 mg/l, Ceriodaphnia dubia

Acute toxicity - aquatic plants EC_{50}, 72 hour: 275 mg/l, Algae

Acute toxicity - microorganisms EC_{50}, 48 hour: 11963 mg/l, Tetrahymena pyriformis.

Acute toxicity - terrestrial LC_{50}, 48 hour: 0.1-1.0 mg/cm², Soil macroorganisms except arthropods

propan-2-ol

Acute toxicity - fish LC_{80}, 48 hours: 9280 mg/l, Leuciscus idus (Golden orfe)

Acute toxicity - aquatic invertebrates LC_{80}, 24 hours: >10000 mg/l, Daphnia magna

Acute toxicity - microorganisms Not determined.

Acute toxicity - terrestrial IC_{50}, 3 days: 95 %, Lactuca sativa

butanone

Acute toxicity - fish LC_{80}, 96 hours: 2993 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC_{80}, 48 hours: 308 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC_{80}, 48 hours: 1726-2278 mg/l, Pseudokirchneriella subcapitata

12.2. Persistence and degradability

Ecological information on ingredients.

BARTOLINE METHYLATED SPIRITS

ethanol

Persistence and degradability	The product is biodegradable. The product is degraded completely by photochemical oxidation.
Phototransformation	Air - 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 innoculum 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 %

propan-2-ol

Persistence and degradability	The product is readily biodegradable.
Biological oxygen demand	≥ 1.72 g O_2/g substance

butanone

Biodegradation	The substance is readily biodegradable.

12.3. Bioaccumulative potential

Ecological information on ingredients.

ethanol

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

butanone

Bioaccumulative potential	The product is not bioaccumulating.
Partition coefficient	log Pow: 0.3

12.4. Mobility in soil

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.

butanone

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.
Surface tension	24.8 mN/m @ 20°C

12.5. Results of PBT and vPvB assessment

Ecological information on ingredients.

ethanol

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

propan-2-ol

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

butanone

Results of PBT and vPvB assessment	Not Classified as PBT/vPvB by current EU criteria.

12.6. Other adverse effects

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. Waste material and any included combustible absorbent and containers should be suitable for incineration at an approved facility.
Disposal methods	Allow small quantities to evaporate to the atmosphere in a safe, open place. Waste material and any included combustible absorbent and containers should be suitable for incineration at an approved facility.

BARTOLINE METHYLATED SPIRITS

Waste class

Unused Liquid waste: 07 01 04* Other organic solvents, washing liquids and mother liquors. 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'.

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.

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.

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. Any absorbents used for clearing up spills should be disposed of using waste code:

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1170
UN No. (IMDG)	1170
UN No. (ICAO)	1170
UN No. (ADN)	1170

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Proper shipping name (IMDG)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Proper shipping name (ICAO)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Proper shipping name (ADN)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

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

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14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ADN packing group	II
ICAO packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

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

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Cat Z

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. Dangerous Substances Directive 67/548/EEC. 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).

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Guidance	CHIP for everyone HSG228. Workplace Exposure Limits EH40.
Authorisations (Title VII Regulation 1907/2006)	No specific authorisations are known for this product.
Restrictions (Title VIII Regulation 1907/2006)	No specific restrictions on use are known for this product.

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.

US - TSCA 12(b) Export Notification
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

General information	This product complies with the Denatured Alcohol Regulations 2013
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	HS&E Manager.
Revision date	23/03/2015
Revision	1
SDS number	4665

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SDS status	Approved.
Risk phrases in full	R11 Highly flammable. R36 Irritating to eyes. R66 Repeated exposure may cause skin dryness or cracking. R67 Vapours may cause drowsiness and dizziness.
Hazard statements in full	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.

The information contained in this data sheet is provided in accordance with the requirements of the Regulation (EC) No 1907/2006 (REACH) 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 suppliers 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 EC and UK Legislation. It provides guidance on health, safety and environmental aspects of the product and should not be taken as a product specification.