

**SAFETY DATA SHEET
ETHANOL ABSOLUTE**

According to Regulation (EC) No 1907/2006, Annex II

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product name	ETHANOL ABSOLUTE
Product number	2123
REACH registration number	01-2119457610-43-0000
CAS number	64-17-5
EU index number	603-002-00-5
EC number	200-578-6

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

Identified uses	Laboratory reagent. Cleaning agent. Antifreeze liquid.
Uses advised against	No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet**Supplier**

Reagent Chemical Services
18 Aston Fields Road
Whitehouse Industrial Estate
Runcorn
Cheshire WA7 3DL

T: 01928 716903 (08.30 - 17.00)
F: 01928 716425
E: info@reagent.co.uk

1.4. Emergency telephone number

Emergency telephone	OHES Environmental Ltd 24-7 Tel. 0333 333 9939 (24 hour)
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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	Not Classified
Environmental hazards	Not Classified

2.2. Label elements

EC number	200-578-6
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ETHANOL ABSOLUTE

Pictogram



Signal word	Danger
Hazard statements	H225 Highly flammable liquid and vapour.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233 Keep container tightly closed. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P501 Dispose of contents / container to hazardous waste depot.
Supplementary precautionary statements	P240 Ground/ bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating /lighting/.../ equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P370+P378 In case of fire: Use ... for extinction. P403+P235 Store in a well-ventilated place. Keep cool.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

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SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Keep affected person away from heat, sparks and flames.
Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.
Ingestion	Remove affected person from source of contamination. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms are severe or persist.
Skin contact	Remove affected person from source of contamination. Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.

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Eye contact Remove affected person from source of contamination. Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists after washing.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue.

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.

Inhalation May cause respiratory irritation. Coughing, chest tightness, feeling of chest pressure.

Ingestion May cause nausea, headache, dizziness and intoxication. Pneumonia may be the result if vomited material containing solvents reaches the lungs.

Skin contact Liquid may irritate skin. Dry skin.

Eye contact Repeated exposure may cause chronic eye irritation.

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

Notes for the doctor Have facilities in place to wash skin and eyes in case of exposure.

Specific treatments Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Small fires: Extinguish with alcohol-resistant foam, carbon dioxide or dry powder. Large fires: Dry powder, foam or water spray/mist.

Unsuitable extinguishing media Do not use water jet as this can spread the fire. Do not use carbon dioxide in enclosed spaces with insufficient ventilation.

5.2. Special hazards arising from the substance or mixture

Specific hazards Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Vapours may form explosive mixtures with air. Containers can burst violently or explode when heated, due to excessive pressure build-up.

Hazardous combustion products Carbon monoxide (CO). Carbon dioxide (CO₂).

5.3. Advice for firefighters

Protective actions during firefighting Fight fire with normal precautions from a reasonable distance. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Do not use water jet as an extinguisher, as this will spread the fire. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No smoking, sparks, flames or other sources of ignition near spillage. Take precautionary measures against static discharges. Evacuate area. Do not touch or walk into spilled material.

For emergency responders Wear protective clothing as described in Section 8 of this safety data sheet.

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6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Avoid the spillage or runoff entering drains, sewers or watercourses. To prevent release, place container with damaged side up.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Eliminate all sources of ignition. Small Spillages: Absorb small quantities with paper towels and evaporate in a safe place. Large Spillages: Stop leak if safe to do so. Collect and place in suitable waste disposal containers and seal securely. Contain and absorb spillage with sand, earth or other non-combustible material. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Collect and dispose of spillage as indicated in Section 13. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

Reference to other sections Refer to sections 8 and 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from heat, sparks and open flame. Static electricity and formation of sparks must be prevented. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours. Eye wash facilities and emergency shower must be available when handling this product.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

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 away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Earth container and transfer equipment to eliminate sparks from static electricity. Keep away from food, drink and animal feeding stuffs. Store away from incompatible materials (see Section 10).

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.

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

WEL = Workplace Exposure Limit

DNEL

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

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PNEC	- Fresh water; 0.96 mg/l
	- Marine water; 0.79 mg/l
	- STP; 580 mg/l
	- Fresh water, Sediment; 3.6 mg/kg
	- Marine water, Sediment; 2.9 mg/kg
	- Soil; 0.63 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Use explosion-proof general and local exhaust ventilation.

Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. The breakthrough time for any glove material may be different for different glove manufacturers. For exposure up to 8 hours, wear gloves made of the following material: Butyl rubber. Thickness: ~ 0.7 mm Viton rubber (fluoro rubber). Thickness: ~ 0.4 mm

Other skin and body protection

Wear anti-static protective clothing if there is a risk of ignition from static electricity. Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Wear suitable protective clothing made of the following material: Butyl rubber. Viton rubber (fluoro rubber).

Hygiene measures

Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and wash the skin thoroughly with soap and water after work. Contaminated clothing should be placed in a closed container for disposal or decontamination.

Respiratory protection

Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Wear a respirator fitted with the following cartridge: Organic vapour filter. 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. 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	Liquid.
Colour	Colourless.
Odour	Alcoholic.
Odour threshold	93 ppm

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pH	pH (concentrated solution): 5.3
Melting point	-114°C
Initial boiling point and range	78°C @ 760 mm Hg
Flash point	13°C CC (Closed cup).
Evaporation rate	1.4 (butyl acetate = 1)
Evaporation factor	No information available.
Flammability (solid, gas)	Scientifically unjustified.
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 19 % Lower flammable/explosive limit: 3.5 %
Vapour pressure	59 hPa @ 20°C 79 hPa @ 25°C
Vapour density	1.6
Relative density	0.79 - 0.80 @ 20°C
Bulk density	No information available.
Solubility(ies)	Soluble in water.
Partition coefficient	log Kow: -0.35
Auto-ignition temperature	363 - 425°C
Decomposition Temperature	>700°C
Viscosity	1.26 mPa s @ 20°C
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Molecular weight 46.07 g/mol

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity The reactivity data for this product will be typical of those for the following class of materials: Alcohols.

10.2. Chemical stability

Stability Stable under the prescribed storage conditions. Avoid contact with acids. Avoid contact with alkalis. Avoid contact with strong oxidising agents.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions The following materials may react strongly with the product: Strong acids. Alkali metals. Strong alkalis. Strong oxidising agents. Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Static electricity and formation of sparks must be prevented. Avoid the accumulation of vapours in low or confined areas.

10.5. Incompatible materials

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Materials to avoid Avoid contact with the following materials: Strong acids. Strong alkalis. Alkaline earth metals. Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Will decompose at temperatures exceeding >700°C.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects The toxicity of this substance has been assessed during REACH registration.

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 10470 mg/kg, Oral, Rat

Acute toxicity - dermal

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

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 124.7

Species Rat

ATE inhalation (vapours mg/l) 124.7

Skin corrosion/irritation

Skin corrosion/irritation Not irritating.

Animal data Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Irritating

Respiratory sensitisation

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

Skin sensitisation

Skin sensitisation - Guinea pig: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Bacterial reverse mutation test: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity NOAEL > 4250 mg/kg/day, Oral, Mouse

Reproductive toxicity

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

Specific target organ toxicity - single exposure

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

Specific target organ toxicity - repeated exposure

STOT - repeated exposure LOAEL 3160 mg/kg, Oral, Rat

Target organs Kidneys

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Inhalation	Vapours may cause drowsiness and dizziness.
Ingestion	May cause nausea, headache, dizziness and intoxication. May cause stomach pain or vomiting. Unconsciousness, possibly death.
Skin contact	May be absorbed through the skin. Product has a defatting effect on skin. May cause irritation.
Eye contact	Irritating to eyes.
Target organs	Central nervous system

SECTION 12: Ecological Information

Ecotoxicity The ecotoxicity of this substance has been assessed during REACH registration

12.1. Toxicity

Acute toxicity - fish LC₅₀, 96 hours: 11,200 mg/l, Freshwater fish

Acute toxicity - aquatic invertebrates LC₅₀, 48 hours: 12340 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 12,900 mg/l, Selenastrum capricornutum

Chronic toxicity - aquatic invertebrates EC₅₀, 10 days: 454 mg/l, Daphnia magna

12.2. Persistence and degradability

Phototransformation Air - Half-life : 38 hours

Stability (hydrolysis) Scientifically unjustified.

Biodegradation Water - Degradation (%) 75: 20 days
The substance is readily biodegradable.

Biological oxygen demand No information available.

12.3. Bioaccumulative potential

Bioaccumulative potential BCF: 1 - 4.5, Bioaccumulation is unlikely.

Partition coefficient log Kow: -0.35

12.4. Mobility in soil

Mobility The product is miscible with water and may spread in water systems.

Adsorption/desorption coefficient Expected to have a low potential for adsorption.

Henry's law constant No specific test data are available.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information When handling waste, the safety precautions applying to handling of the product should be considered.

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Disposal methods Reuse or recycle products wherever possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

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

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID label	3
IMDG class	3
ICAO class/division	3

Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG 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
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 MARPOL and the IBC Code

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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).
EU legislation	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). 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). Commission Regulation (EU) No 2015/830 of 28 May 2015.
Guidance	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

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS
Present.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. DNEL: Derived No Effect Level. DMEL: Derived Minimal Effect Level. IATA: International Air Transport Association. IMDG: International Maritime Dangerous Goods. Kow: Octanol-water partition coefficient. PNEC: Predicted No Effect Concentration. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative.
Classification abbreviations and acronyms	Flam. Liq. = Flammable liquid Eye Irrit. = Eye irritation
General information	Only trained personnel should use this material.
Key literature references and sources for data	Source: European Chemicals Agency, http://echa.europa.eu/ Supplier's information. REACH dossier information.

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Classification procedures according to Regulation (EC) 1272/2008	Eye Irrit. 2 - H319, Flam. Liq. 2 - H225: On basis of test data.
Revision comments	Revised classification.
Revision date	06/12/2017
Revision	4
Supersedes date	04/08/2016
SDS number	20385
SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.