

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

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

1.1 Product identifier

Trade name/designation:	Ethanol absolute BAKER ANALYZED® Reagent Exceeds ACS Specifications.
Product No.:	8025
Index No.:	603-002-00-5
CAS No.:	64-17-5
EU REACH No.:	01-2119457610-43-XXXX
Other means of identification:	Ethyl alcohol, Hydroxy ethane, Methyl carbinol, Spirit

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

Relevant identified uses	For Laboratory, Research or Manufacturing Use.
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1.3 Details of the supplier of the safety data sheet

Supplier

Avantor Performance Materials Poland S.A.

Street	Sowinskiego 11str.
Postal code/City	44-101 Gliwice
Telephone	48 32 239-20-00
Telefax	48 32 239-23-70

Distributor

VWR International Ltd.

Street	Hunter Boulevard, Magna Park
Postal code/City	Lutterworth, LE17 4XN

Emergency phone number

Telephone	+44 (0) 1270 502894 (CareChem24)
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Preparation Information

Product Data Analytics

1.4 E-mail

SDS@avantorsciences.com

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Physical hazards

Flammable liquid, category 2

H225 - Highly flammable liquid and vapour.

Health hazards

Eye irritation, category 2

H319 - Causes serious eye irritation.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms



Signal word: Danger

Hazard statements

H225 - Highly flammable liquid and vapour.

H319 - Causes serious eye irritation.

Precautionary statements

Prevention:

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:

P403+P235 - Store in a well-ventilated place. Keep cool.

2.3 Other hazards

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

SECTION 3: Composition / information on ingredients

Substances

Substance name:	Ethanol absolute
Molecular formula:	C ₂ H ₅ OH
Molecular weight:	46.07 g/mol
CAS No.:	64-17-5
EU REACH registration No.:	01-2119457610-43-XXXX

EC No. 200-578-6
ATE, SCL and/or M-factor: none

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

IF exposed or if you feel unwell: Call a POISON CENTRE or doctor/physician. If unconscious but breathing normally, place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

After inhalation

Call a POISON CENTRE/doctor. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. Obtain medical attention if symptoms appear.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting. Give nothing to eat or drink.

Self-protection of the first aider

First aider: Pay attention to self-protection!

4.2 Most important symptoms and effects, both acute and delayed

Irritation. Vomiting. Nausea. Dizziness. Drowsiness.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Symptoms can occur only after several hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray
ABC-powder
Carbon dioxide (CO₂)
Alcohol resistant foam

Extinguishing media which must not be used for safety reasons

no restriction

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated:

Carbon monoxide
Carbon dioxide (CO₂)

5.3 Advice for firefighters

DO NOT fight fire when fire reaches explosives.
Special protective equipment for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing.

5.4 Additional information

Do not inhale explosion and combustion gases.
Vapour can form explosive mixtures with air.
Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen.
Use water spray jet to protect personnel and to cool endangered containers.
Do not allow run-off from fire-fighting to enter drains or water courses.
In case of fire: Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

In case of major fire and large quantities: Remove persons to safety. Remove all sources of ignition. Wear suitable protective clothing. Avoid breathing vapours. Stop leak if safe to do so.

6.2 Environmental precautions

Try to prevent the material from entering drains or water courses. Discharge into the environment must be avoided. Advise Authorities if spillage has entered water course or sewer or has contaminated soil or vegetation.

6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Collect in closed and suitable containers for disposal.

6.4 Additional information

Small spills: Allow to evaporate if it is safe to do so or contain and absorb using earth, sand or other inert material then transfer into suitable containers for recovery or disposal. Ventilate affected area. Large spills: Dike or dam to contain for later disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

All work processes must always be designed so that the following is as low as possible:

Inhalation

skin contact

Eye contact

Keep away from sources of ignition - No smoking.

Usual measures for fire prevention.

Take precautionary measures against static discharges.

Protect from moisture.

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: 15-25°C

Keep in a cool, well-ventilated place. Keep/Store away from combustible materials. Avoid high temperatures or direct sunlight. Keep away from sources of ignition - No smoking. Keep/Store only in original container. Incompatible materials: PVC (polyvinyl chloride) Brass plastic and rubber Compatible materials: Stainless steel Titanium PP (Polypropylene) Ceramic

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value
Ethanol absolute	EH40/2005 - Fourth Edition 2020	UK	LTV	1920 mg/m ³ - 1000 ppm

8.2 Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn.

Eye/face protection

Eye glasses with side protection DIN-/EN-Norms DIN EN 166

Skin protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. Recommended glove articles DIN-/EN-Norms EN ISO 374 In the case of wanting to use the gloves again, clean them before taking off and air them well.

By short-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	-
Breakthrough time:	240-480 min

By long-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,425 mm
Breakthrough time:	> 480 min

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Additional information

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Colour:	colourless
(b) Odour:	no data available
(c) Odour threshold:	no data available

Safety relevant basic data

(d) pH:	7 (20 °C)
(e) Melting point/freezing point:	-117 °C
(f) Initial boiling point and boiling range:	78.3 °C (1013 hPa)
(g) Flash point:	12 °C (closed cup)
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	Highly flammable liquid and vapour.
(j) Flammability or explosive limits	
Lower explosion limit:	3.3 % (v/v)
Upper explosion limit:	19 % (v/v)
(k) Vapour pressure:	59 hPa (20 °C)
(l) Vapour density:	1.59 (20 °C)
(m) Density:	0.7895 g/cm ³ (20 °C)
(n) Solubility(ies)	
Water solubility:	soluble (20 °C)
(o) Partition coefficient: n-octanol/water:	-0.31 (20 °C)
(p) Auto-ignition temperature:	425 °C
(q) Decomposition temperature:	not applicable
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	1.2 mPa*s (20 °C)
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable
(u) Particle characteristics	does not apply to liquids

9.2 Other information

Bulk density:	no data available
Refraction index:	1.3629 (589 nm; 20 °C)
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Reactive substance.

Vapours can form explosive mixtures with air.

Risk of ignition.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Violent reaction with:

Alkali metals

Acetic anhydride

Peroxides

Nitric acid

Phosphorus oxides (e.g. P₂O₅)

Perchlorates

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials

See section 7 of the safety data sheet.

10.6 Hazardous decomposition products

Decomposition products in case of fire: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

LD₅₀: > 6200 mg/kg - Rat - (Merck KGaA)

Acute dermal toxicity:

LD₅₀: < 20000 mg/kg - Rabbit - (CHP)

Acute inhalation toxicity:

LC₅₀: < 8000 mg/l (4 h) - Rat - (CHP)

Irritant and corrosive effects

Primary irritation to the skin:

not applicable

Irritation to eyes:

Causes serious eye irritation.

Irritation to respiratory tract:

not applicable

Respiratory or skin sensitisation

In case of skin contact: not sensitising

After inhalation: not sensitising

STOT-single exposure

not applicable

STOT-repeated exposure

not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**Carcinogenicity**

No indication of human carcinogenicity.

Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

not applicable

Other adverse effects

no data available

SECTION 12: Ecological information

12.1 Ecotoxicity**Fish toxicity:**

LC50: 11000 mg/l (96 h) - Bengtsson, B.E., L. Renberg, and M. Tarkpea 1984. Molecular Structure and Aquatic Toxicity - an Example with C1-C13 Aliphatic Alcohols. Chemosphere 13(5/6):613-622

Daphnia toxicity:

LC50: 9280 mg/l (48 h) - Takahashi, I.T., U.M. Cowgill, and P.G. Murphy 1987. Comparison of Ethanol Toxicity to Daphnia magna and Ceriodaphnia dubia Tested at Two Different Temperatures: Static Acute Toxicity Test Results. Bull.Environ.Contam.Toxicol. 39(2):229-236

EC50: 9950 mg/l (48 h) - Barera, Y., and W.J. Adams 1983. Resolving Some Practical Questions About Daphnia Acute Toxicity Tests. In: W.E.Bishop (Ed.), Aquatic Toxicology and Hazard Assessment, 6th Symposium, ASTM STP 802, Philadelphia, PA :509-518

Algae toxicity:

no data available

Bacteria toxicity:

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: -0.31 (20 °C)

12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to local legislation. Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package

Dispose according to local legislation. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1	UN-No.:	1170
14.2	Proper Shipping Name:	ETHANOL
14.3	Class(es):	3
	Classification code:	F1
	Hazard label(s):	3
14.4	Packing group:	II
14.5	Environmental hazards:	No
14.6	Special precautions for user:	
	Hazard identification number (Kemler No.):	33
	tunnel restriction code:	D/E
		(Passage forbidden through tunnels of category D when carried in bulk or in tanks. Passage forbidden through tunnels of category E.)

Sea transport (IMDG)

14.1	UN-No.:	1170
14.2	Proper Shipping Name:	ETHANOL
14.3	Class(es):	3
	Classification code:	
	Hazard label(s):	3
14.4	Packing group:	II
14.5	Environmental hazards:	No
	Marine pollutant:	No
14.6	Special precautions for user:	
	Segregation group:	-
	EmS-No.	F-E S-D
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	

not relevant

Air transport (ICAO-TI / IATA-DGR)

14.1	UN-No.:	1170
14.2	Proper Shipping Name:	ETHANOL
14.3	Class(es):	3
	Classification code:	
	Hazard label(s):	3
14.4	Packing group:	II
14.5	Special precautions for user:	

SECTION 15: Regulatory information

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

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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Text with EEA relevance)
- 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance)
- Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (Text with EEA relevance)
- Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

National regulations

no data available

Water hazard class: slightly hazardous to water

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
AGS - Committee on Hazardous Substances (Ausschuss für Gefahrstoffe)
CLP - Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DFG - German Research Foundation (Deutsche Forschungsgemeinschaft)
DNEL - Derived No Effect Level
Gestis - Information system on hazardous substances of the German Social Accident Insurance (Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung)
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
KOSHA - Korea Occupational Safety and Health Agency
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
PNEC - Predicted No Effect Concentration
RID - Regulation concerning the International Carriage of Dangerous Goods by Rail
STV - Short Term Value
SVHC - Substances of Very High Concern
vPvB - very Persistent, very Bioaccumulative

Training advice: Provide adequate information, instruction and training for operators.

Key literature references and sources for data

This Safety Data Sheet has been prepared based on information available for public as TOXNET information, European Chemicals Agency (ECHA) substance dossier, papers from international cancer research institutes (IARC Monographs), U.S. National Toxicology Program data, U.S. Agency for Toxic Substances and Disease Control (ATSDR), PubChem websites and SDS from our raw material manufacturers.

Additional information

Indication of changes: Section 2

If you need an explanation of the change, contact the supplier (SDS@avantorsciences.com).

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