



Printing date 19.02.2021



version 6

Revision: 19.02.2021

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

- **1.1 Product identifier**
  - Trade name:  
060350 ETHANOL 100% PH.E., Eurodenat. 1/1/1  
060351 ETHANOL 100%, Eurodenat.  
060352 ETHANOL 96%, Eurodenat.  
060354 ETHANOL 96% PH.E., Eurodenat. 1/1/1  
063351 ETHANOL 100%, Eurodenat., Synthese  
063352 ETHANOL 96%, Eurodenat., Synthese  
ETHANOL Eurodenat.
  - UFI: DA4D-G5UW-Y003-N79J
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  - Application of the substance / the mixture  
Pharmaceutical industry  
Chemical production  
Solvents
  - Uses advised against Foodstuffs
- **1.3 Details of the supplier of the safety data sheet**
  - Manufacturer/Supplier:  
Brüggemann Alcohol Heilbronn GmbH  
Salzstraße 129  
74076 Heilbronn  
phone: +49 7131 1575-0  
fax: +49 7131 1575-888  
e-mail: alcohol@brueggemann.com
- Further information obtainable from: ehs@brueggemann.com
- **1.4 Emergency telephone number:** +49 761 19240 (english language)

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
  - Classification according to Regulation (EC) No 1272/2008  
Flam. Liq. 2 H225 Highly flammable liquid and vapour.  
Eye Irrit. 2 H319 Causes serious eye irritation.
- **2.2 Label elements**
  - Labelling according to Regulation (EC) No 1272/2008  
The product is classified and labelled according to the CLP regulation.
  - Hazard pictograms  
   
GHS02 GHS07
  - Signal word Danger
  - Hazard statements  
H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.
  - Precautionary statements  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P241 Use explosion-proof [electrical/ventilating/lighting] equipment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

(Contd. on page 2)


**Trade name: ETHANOL Eurodenat.**

(Contd. of page 1)

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

P501 Dispose of contents/container to an approved waste disposal plant.

**2.3 Other hazards**
**Results of PBT and vPvB assessment**

- **PBT:** Does not meet the PBT criteria according to annex XIII of Regulation (EC) No 1907/2006.
- **vPvB:** Does not meet the vPvB criteria according to annex XIII of Regulation (EC) No 1907/2006.

**SECTION 3: Composition/information on ingredients**
**3.1 Mixtures**
**Dangerous components:**

CAS: 64-17-5	ethanol	50-100%
EINECS: 200-578-6	Flam. Liq. 2, H225; Eye Irrit. 2, H319	
Index number: 603-002-00-5	Specific concentration limit: Eye Irrit. 2; H319: C ≥ 50 %	

CAS: 78-93-3	butanone	<1%
EINECS: 201-159-0	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336,	
Index number: 606-002-00-3	EUH066	

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

**SECTION 4: First aid measures**
**4.1 Description of first aid measures**
**General information:**

Take affected persons out of danger area and lay down.

Take affected persons out into the fresh air.

Keep warm, position comfortably and cover well.

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Seek medical treatment in case of complaints.

**After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing:**

Rinse out mouth and then drink plenty of water.

Seek medical treatment in case of complaints.

In case of unconsciousness place patient stably in side position for transportation.

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

Erythema.

Nausea

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

No further relevant information available.

**SECTION 5: Firefighting measures**
**5.1 Extinguishing media**
**Suitable extinguishing agents:**

Alcohol resistant foam

BC powder

Carbon dioxide

Water spray

(Contd. on page 3)


**Trade name: ETHANOL Eurodenat.**

(Contd. of page 2)

- **5.2 Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
CO<sub>2</sub>, CO
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.
- **Additional information**  
Remove persons from danger area.  
Cool endangered receptacles with water spray.  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Keep ignition sources away - Do not smoke.  
Take precautionary measures against static discharges.  
Ensure adequate ventilation  
Use explosion-proof apparatus / fittings and spark-proof tools.  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Prevent seepage into sewage system, workpits and cellars.
- **6.3 Methods and material for containment and cleaning up:**  
Wash away residuals with plenty of water.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Store in cool, dry place in tightly closed receptacles.  
Heating results in pressure increase, risk of burst.  
Provide solvent resistant, sealed floor.  
Prophylactic skin protection recommended.
- **Information about fire - and explosion protection:**  
Can form explosive gas-air mixtures.  
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).  
Take precautionary measures against static discharges.  
Keep ignition sources away - Do not smoke.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Suitable material for receptacles and pipes: Stainless steel.  
Store in a cool location.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

EU

(Contd. on page 4)



Trade name: ETHANOL Eurodenat.

(Contd. of page 3)

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with limit values that require monitoring at the workplace:

##### 64-17-5 ethanol

AGW (Germany) Long-term value: 380 mg/m<sup>3</sup>, 200 ppm  
4(II);DFG, Y

##### 78-93-3 butanone

IOELV (EU) Short-term value: 900 mg/m<sup>3</sup>, 300 ppm  
Long-term value: 600 mg/m<sup>3</sup>, 200 ppm

AGW (Germany) Long-term value: 600 mg/m<sup>3</sup>, 200 ppm  
1(I);DFG, EU, H, Y

#### DNELs

##### 64-17-5 ethanol

Oral syst. 87 mg/kg<sub>bw</sub>/d (consumer, long-term)

Dermal syst. 206 mg/kg<sub>bw</sub>/d (consumer, long-term)  
343 mg/kg<sub>bw</sub>/d (worker, long-term)

Inhalative syst. 114 mg/m<sup>3</sup> (consumer, long-term)  
950 mg/m<sup>3</sup> (worker, long-term)

#### PNECs

##### 64-17-5 ethanol

Aquatic 0,96 mg/L (freshwater)  
2,75 mg/L (freshwater (intermittent releases))  
0,79 mg/L (marine water)

STP 580 mg/L (STP)

Terrestrial 0,63 mg/kg<sub>dw</sub> (soil)

oral 0,38 g/kg (food)

Sedimentary 3,6 mg/kg<sub>dw</sub> (freshwater)  
2,9 mg/kg<sub>dw</sub> (marine water)

#### Ingredients with biological limit values:

##### 78-93-3 butanone

BGW (Germany) 2 mg/l

Untersuchungsmaterial: Urin

Probennahmezeitpunkt: Expositionsende bzw. Schichtende

Parameter: 2-Butanon

### 8.2 Exposure controls

#### Appropriate engineering controls

No further data; see item 7.

#### Individual protection measures, such as personal protective equipment

General protective and hygienic measures: Wash hands before breaks and at the end of work.

#### Respiratory protection:

Use suitable respiratory protective device when high concentrations are present.

#### Hand protection

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.



Protective gloves

(Contd. on page 5)

EU



Printing date 19.02.2021

version 6

Revision: 19.02.2021

Trade name: ETHANOL Eurodenat.

(Contd. of page 4)

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

Butyl rubber, BR

Recommended thickness of the material:  $\geq 0,7$  mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

Value for the permeation: Level  $\leq 8$  h

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

- **Eye/face protection**



Safety glasses with side shields (EN 166).

- **Body protection:**

Solvent resistant protective clothing

Protective work clothing

## SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

· <b>Colour:</b>	Colourless
· <b>Odour:</b>	Alcohol-like
· <b>Melting point/freezing point:</b>	-114,5 °C (OECD 102, Ethanol)
· <b>Boiling point or initial boiling point and boiling range</b>	78 °C (OECD 103, Ethanol)
· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	2,5 Vol % (ASTM E681-94, Ethanol)
· <b>Upper:</b>	13,5 Vol % (ASTM E681-94, Ethanol)
· <b>Flash point:</b>	10-13 °C (DIN 51755)
· <b>Auto-ignition temperature:</b>	Product is not selfigniting. (EU A.16)
· <b>pH at 20 °C</b>	5,7 (DIN EN ISO 10523)
· <b>Solubility</b>	
· <b>water:</b>	Soluble.
· <b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
· <b>Vapour pressure at 20 °C:</b>	57,3 hPa (OECD 104, Ethanol)
· <b>Density and/or relative density</b>	
· <b>Density at 20 °C:</b>	0,79 g/cm <sup>3</sup> (DIN EN ISO 787-10)

- **9.2 Other information**

- **Appearance:**

- **Form:**

Liquid

- **Important information on protection of health and environment, and on safety.**

- **Ignition temperature:**

363-425 °C (Ethanol, CSA)

(Contd. on page 6)



Printing date 19.02.2021

version 6

Revision: 19.02.2021

Trade name: ETHANOL Eurodenat.

(Contd. of page 5)

**Information with regard to physical hazard classes**

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	
Highly flammable liquid and vapour.	
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

**SECTION 10: Stability and reactivity**

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**  
Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions:**  
Reacts with strong acids.  
Reacts with oxidising agents.
- **10.4 Conditions to avoid:** Storage temperatures > 40 °C
- **10.5 Incompatible materials:**  
alkaline metals  
alkaline earth metals
- **10.6 Hazardous decomposition products:** Flammable gases/vapours

**SECTION 11: Toxicological information**

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**  
**64-17-5 ethanol**  
Oral LD<sub>50</sub> 10.470 mg/kg (rat) (OECD 401)  
Inhalative LC<sub>50</sub>/4h 116,9 mg/L (rat) (OECD 403)
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.

(Contd. on page 7)



Printing date 19.02.2021

version 6

Revision: 19.02.2021

Trade name: ETHANOL Eurodenat.

(Contd. of page 6)

- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

- **Subacute to chronic toxicity:**

**64-17-5 ethanol**Oral NOAEL (90d) 1.730 mg/kg<sub>bw</sub>/d (rat) (OECD 408)

Inhalative NOAEL (20d) &gt;20 mg/L (rat) (OECD 403)

- **11.2 Information on other hazards**

- **Endocrine disrupting properties**

None of the ingredients is listed.

**SECTION 12: Ecological information**

- **12.1 Toxicity**

- **Aquatic toxicity:**

**64-17-5 ethanol**EC<sub>50</sub> 275 mg/L /72h (chlorella vulgaris)EC<sub>10</sub> 11,5 mg/L /72h (chlorella vulgaris)EC<sub>50</sub> 857 mg/L (artemia salina, marine water, 48h)

5.012 mg/L (ceriodaphnia dubia, freshwater, 48h)

NOEC 9,6 mg/L (ceriodaphnia dubia, freshwater 10d)

79 mg/L /10d (palaemonetes pugio, marine water)

NOEC 250 mg/L (fish) (OECD 212)

LC<sub>50</sub> 11.200 mg/L (oncorhynchus mykiss) (ASTN E729-80)

- **12.2 Persistence and degradability**

Biodegradability (ethanol):

Readily biodegradable (OECD 301 B), &gt;60% in 10d, freshwater)

- **12.3 Bioaccumulative potential**

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

- **12.4 Mobility in soil** No further relevant information available.

- **12.5 Results of PBT and vPvB assessment**

· **PBT:** Does not meet the PBT criteria according to annex XIII of Regulation (EC) No 1907/2006.· **vPvB:** Does not meet the vPvB criteria according to annex XIII of Regulation (EC) No 1907/2006.

- **12.6 Endocrine disrupting properties**

For information on endocrine disrupting properties see section 11.

- **12.7 Other adverse effects:**

- **Behaviour in sewage processing plants:**

**64-17-5 ethanol**EC<sub>50</sub>(4h) 5.800 mg/L (paramaecium caudatum) (non-guideline study)EC<sub>5</sub>(72h) 65 mg/L (entosiphon sulcatumi) (DIN 38412, part 8)

- **Additional ecological information:**

· **According to the formulation contains the following heavy metals and compounds from the EU guideline 2006/11/EC:**

None.

**SECTION 13: Disposal considerations**

- **13.1 Waste treatment methods**

- **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Disposal must be made according to official regulations.

(Contd. on page 8)



Trade name: ETHANOL Eurodenat.

(Contd. of page 7)

- **Uncleaned packaging:**
- **Recommendation:** Dispose of packaging according to regulations on the disposal of packagings.

## SECTION 14: Transport information

- **14.1 UN number or ID number**  
· ADR, IMDG, IATA UN1170
- **14.2 UN proper shipping name**  
· ADR 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
· IMDG ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
· IATA ETHANOL SOLUTION
- **14.3 Transport hazard class(es)**  
· ADR, IMDG, IATA



- **Class** 3 Flammable liquids.
- **Label** 3
- **14.4 Packing group**  
· ADR, IMDG, IATA II
- **14.5 Environmental hazards:**  
· **Marine pollutant:** No
- **14.6 Special precautions for user** Warning: Flammable liquids.
- **Hazard identification number (Kemler code):** 33
- **EMS Number:** F-E, S-D
- **Stowage Category** A
- **14.7 Maritime transport in bulk according to IMO instruments** Not applicable.

### · Transport/Additional information:

- **ADR**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml
- **Transport category** 2
- **Tunnel restriction code** D/E

- **ADN**
- **Remarks:** not tested

- **IMDG**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

(Contd. on page 9)





Printing date 19.02.2021

version 6

Revision: 19.02.2021

Trade name: ETHANOL Eurodenat.

· UN "Model Regulation":

(Contd. of page 8)  
UN 1170 ETHANOL SOLUTION (ETHYL  
ALCOHOL SOLUTION), 3, II**SECTION 15: Regulatory information**· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Ozone layer depleting substances: Not subject to regulation (EC) No. 1005/2009.

· **Directive 2012/18/EU**· **Named dangerous substances - ANNEX I** None of the ingredients is listed.· **Seveso category P5c FLAMMABLE LIQUIDS**· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5.000 t· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50.000 t· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**

None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

None of the ingredients is listed.

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3· **Regulation (EU) No 649/2012**

None of the ingredients is listed.

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

· **REGULATION (EU) 2019/1148**· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**· **Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients is listed.

· **National regulations:**· **Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

· **15.2 Chemical safety assessment:**

Ethanol:

A Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 (CLP)**· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

· **Classification according to Regulation (EC) No 1272/2008**

Flammable liquids

Bridging principles

Serious eye damage/eye irritation The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

· **Date of previous version:** 15.10.2020

(Contd. on page 10)



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.02.2021

version 6

Revision: 19.02.2021

**Trade name: ETHANOL Eurodenat.**

(Contd. of page 9)

**· Version number of previous version: 5****· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

**· \* Data compared to the previous version altered.**

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