



BioAnalyt GmbH  
14513 Teltow

Date printed 01.03.2019, Revision 01.03.2019

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

### 1.1 Product identifier

**Vitamin E Standard**

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

#### 1.2.1 Relevant uses

Test reagent

#### 1.2.2 Uses advised against

None known.

### 1.3 Details of the supplier of the safety data sheet

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**Safety Data Sheet** sdb@chemiebuero.de

### 1.4 Emergency telephone number

**Company** +49 (0)3328-35150-00 Mo-Fr 8:30 - 17:30

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture [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

The product is required to be labelled in accordance with 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

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P280 Wear eye protection / face protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice / attention.

### 2.3 Other hazards

#### Physico-chemical hazards

Evolution of flammable gases/vapours.

#### Human health dangers

If swallowed or in the event of vomiting, risk of product entering the lungs.

#### Other hazards

Further hazards were not determined with the current level of knowledge.



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### SECTION 3: Composition / Information on ingredients

#### Product-type:

The product is a mixture.

Range [%]	Substance
99 - < 100	Ethanol
	CAS: 64-17-5, EINECS/ELINCS: 200-578-6, EU-INDEX: 603-002-00-5, Reg-No.: 01-2119457610-43-XXXX
	GHS/CLP: Flam. Liq. 2: H225 - Eye Irrit. 2: H319

#### Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.  
For full text of H-statements: see SECTION 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General information

Take off contaminated clothing and wash before reuse.

##### Inhalation

Ensure supply of fresh air.  
Remove the victim into fresh air and keep him calm.  
In the event of symptoms seek medical treatment.

##### Skin contact

When in contact with the skin, clean with soap and water.  
Consult a doctor if skin irritation persists.

##### Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

##### Ingestion

Seek medical advice.  
Do not induce vomiting.  
Rinse mouth.

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

Irritant effects  
Narcosis  
Vertigo  
Nausea, vomiting.

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

If swallowed or in the event of vomiting, risk of product entering the lungs.  
Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Alcohol-resistant foam.  
Carbon dioxide.  
Dry powder.  
Water spray jet.  
Fire extinguishing method of surrounding areas must be considered.

##### Extinguishing media that must not be used

Full water jet.

#### 5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.  
Carbon monoxide (CO)  
Carbon dioxide (CO<sub>2</sub>)



### 5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.

Use self-contained breathing apparatus.

Cool containers at risk with water spray jet.

Collect contaminated firefighting water separately, must not be discharged into the drains.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Keep away from all sources of ignition.

Ensure adequate ventilation.

Wear suitable protective equipment. For personal protection see SECTION 8.

### 6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

### 6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, universal absorbent, diatomaceous earth).

Dispose of absorbed material in accordance within the regulations.

### 6.4 Reference to other sections

See SECTION 8+13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Use only in well-ventilated areas.

Provide good room ventilation even at ground level (vapours are heavier than air).

Avoid contact with eyes and skin. Use personal protective equipment.

Use solvent-resistant equipment.

Keep away from open flames, hot surfaces and sources of ignition.

Take precautionary measures against static discharges.

Ignitable mixtures can be formed in the empty container.

Vapours can form an explosive mixture with air.

Ground/bond container and receiving equipment.

Use explosion-proofed equipment/fittings and non-sparkling tools.

Do not eat, drink, smoke or take drugs at work.

Take off contaminated clothing and wash before reuse.

Wash hands before breaks and after work.

Use barrier skin cream.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.

Provide solvent-resistant and impermeable floor.

Do not store together with oxidizing agents.

Do not store with combustible materials.

Do not store with oxidizing or self-igniting materials.

Keep container in a well-ventilated place.

Keep container tightly closed.

Protect from heat/overheating and from sun.

Recommended storage temperature: 15 - 25 °C

### 7.3 Specific end use(s)

See product use, SECTION 1.2



## SECTION 8: Exposure controls / personal protection

### 8.1 Control parameters

#### Ingredients with occupational exposure limits to be monitored (GB)

Substance
Ethanol
CAS: 64-17-5, EINECS/ELINCS: 200-578-6, EU-INDEX: 603-002-00-5, Reg-No.: 01-2119457610-43-XXXX
Long-term exposure: 1000 ppm, 1920 mg/m <sup>3</sup>

#### DNEL

Substance
Ethanol, CAS: 64-17-5
Industrial, inhalative, Acute - systemic effects: 1900 mg/m <sup>3</sup> .
Industrial, inhalative, Long-term - systemic effects: 1900 mg/m <sup>3</sup> .
Industrial, dermal, Long-term - systemic effects: 343 mg/kg.
general population, dermal, Acute - systemic effects: 950 mg/kg.
general population, dermal, Long-term - systemic effects: 206 mg/kg.
general population, oral, Long-term - systemic effects: 87 mg/kg.
general population, inhalative, Long-term - systemic effects: 114 mg/m <sup>3</sup> .
general population, inhalative, Acute - systemic effects: 950 mg/m <sup>3</sup> .

#### PNEC

Substance
Ethanol, CAS: 64-17-5
sediment (freshwater), 3,6 mg/kg.
freshwater, 0,96 mg/l.
seawater, 0,79 mg/l.
sewage treatment plants (STP), 580 mg/l.
soil, 0,63 mg/kg.

### 8.2 Exposure controls

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
<b>Eye protection</b>	Safety glasses. (EN 166:2001)
<b>Hand protection</b>	The details concerned are recommendations. Please contact the glove supplier for further information. 0,7 mm, Butyl rubber, >480 min (EN 374-1/-2/-3).
<b>Skin protection</b>	Solvent-resistant protective clothing (EN 340) Flame retardant antistatic protective clothing.
<b>Other</b>	Do not inhale gases/vapours/aerosols. Avoid contact with eyes and skin. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
<b>Respiratory protection</b>	Respiratory protection mask in the event of high concentrations. Short term: filter apparatus, filter A. (DIN EN 14387)
<b>Thermal hazards</b>	not applicable
<b>Delimitation and monitoring of the environmental exposition</b>	Protect the environment by applying appropriate control measures to prevent or limit emissions.



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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	liquid
Color	colourless
Odor	alcoholic
Odour threshold	No information available.
pH-value	not applicable
pH-value [1%]	7 (20°C) (Ethanol)
Boiling point [°C]	78 (Ethanol)
Flash point [°C]	12 (Ethanol)
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	3,5 Vol.% (Ethanol)
Upper explosion limit	15 Vol.% (Ethanol)
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	5,9 (20°C) (Ethanol)
Density [g/ml]	0,79 (20°C) (Ethanol)
Bulk density [kg/m <sup>3</sup> ]	not applicable
Solubility in water	soluble
Partition coefficient [n-octanol/water]	-0,31 (Ethanol)
Viscosity	1,2 mPas (20°C) (Ethanol)
Relative vapour density determined in air	No information available.
Evaporation speed	No information available.
Melting point [°C]	-114 (Ethanol)
Autoignition temperature [°C]	425 (Ethanol)
Decomposition temperature [°C]	No information available.

### 9.2 Other information

Temperature class (ATEX): T2 (Ethanol)

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Vapours can form an explosive mixture with air.

Uncleaned empty vessels may contain product gases which can form explosive mixtures with air.

### 10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Reactions with alkali metals.

Reactions with peroxides.

Reactions with strong oxidizing agents.

Reactions with strong acids.

### 10.4 Conditions to avoid

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



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## 10.5 Incompatible materials

Rubber, various plastics  
See SECTION 10.3.

## 10.6 Hazardous decomposition products

Flammable gases/vapours.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Substance
Ethanol, CAS: 64-17-5
LD50, oral, Rat: 7060 mg/kg (TOXNET).
LC50, inhalative, Rat: 95,6 mg/l/4h (RTECS).

<b>Serious eye damage/irritation</b>	Irritant Calculation method
<b>Skin corrosion/irritation</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Respiratory or skin sensitisation</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Specific target organ toxicity — single exposure</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Specific target organ toxicity — repeated exposure</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Mutagenicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Reproduction toxicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Carcinogenicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Aspiration hazard</b>	Based on the available information, the classification criteria are not fulfilled.
<b>General remarks</b>	

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

## SECTION 12: Ecological information

### 12.1 Toxicity

Substance
Ethanol, CAS: 64-17-5
LC50, (96h), <i>Leuciscus idus</i> : 8140 mg/l (IUCLID).
EC50, (48h), <i>Daphnia magna</i> : > 9000 -< 15000 mg/l (IUCLID).
EC5, (16h), <i>Pseudomonas putida</i> : 6500 mg/l (IUCLID).
IC5, <i>Scenedesmus quadricauda</i> (alga): 5000 mg/l (Lit.).

### 12.2 Persistence and degradability

<b>Behaviour in environment compartments</b>	No information available.
<b>Behaviour in sewage plant</b>	No information available.
<b>Biological degradability</b>	CAS 64-17-5: 94%

### 12.3 Bioaccumulative potential

CAS 64-17-5: log Pow -0,31



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#### 12.4 Mobility in soil

No information available.

#### 12.5 Results of PBT and vPvB assessment

not applicable

#### 12.6 Other adverse effects

Ecological data of complete product are not available.

Do not discharge product unmonitored into the environment or into the drainage.

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Waste material c It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

##### Product

Dispose of as hazardous waste.

Disposal in an incineration plant in accordance with the regulations of the local authorities.

##### Waste no. (recommended)

070704\*

160506\*

160508\*

##### Contaminated packaging

Untaminated packaging may be taken for recycling.

Packaging that cannot be cleaned should be disposed of as for product.

##### Waste no. (recommended)

150110\*

### SECTION 14: Transport information

#### 14.1 UN number

Transport by land according to ADR/RID 1170

Inland navigation (ADN) 1170

Marine transport in accordance with IMDG 1170

Air transport in accordance with IATA 1170




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#### 14.2 UN proper shipping name

Transport by land according to ADR/RID Ethanol  
- Classification Code F1  
- Label   
- ADR LQ 1 I  
- ADR 1.1.3.6 (8.6) Transport category (tunnel restriction code) 2 (D/E)

Inland navigation (ADN) Ethanol  
- Classification Code F1  
- Label 

Marine transport in accordance with IMDG Ethanol  
- EMS F-E, S-D  
- Label   
- IMDG LQ 1 I

Air transport in accordance with IATA Ethanol  
- Label 

#### 14.3 Transport hazard class(es)

Transport by land according to ADR/RID 3

Inland navigation (ADN) 3

Marine transport in accordance with IMDG 3

Air transport in accordance with IATA 3

#### 14.4 Packing group

Transport by land according to ADR/RID II

Inland navigation (ADN) II

Marine transport in accordance with IMDG II

Air transport in accordance with IATA II





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**14.5 Environmental hazards**

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

**14.6 Special precautions for user**

Relevant information under SECTION 6 to 8.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**

No information available.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**EEC-REGULATIONS** 1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2016/2037/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014

**TRANSPORT-REGULATIONS** ADR (2019); IMDG-Code (2019, 39. Amdt.); IATA-DGR (2019)

**NATIONAL REGULATIONS (GB):** EH40/2005 Workplace exposure limits (Second edition, published December 2011).

- Observe employment restrictions for people Observe employment restrictions for young people.

- VOC (2010/75/CE) 100 %

**15.2 Chemical safety assessment**

For the following substances of this preparation a chemical safety assessment has been carried out:  
CAS 64-17-5

**SECTION 16: Other information****16.1 Hazard statements (SECTION 03)**

H319 Causes serious eye irritation.  
H225 Highly flammable liquid and vapour.

**16.2 Abbreviations and acronyms:**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
 ATE = acute toxicity estimate  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging  
 DMEL = Derived Minimum Effect Level  
 DNEL = Derived No Effect Level  
 EC50 = Median effective concentration  
 ECB = European Chemicals Bureau  
 EEC = European Economic Community  
 EINECS = European Inventory of Existing Commercial Chemical Substances  
 ELINCS = European List of Notified Chemical Substances  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
 IC50 = Inhibition concentration, 50%  
 IMDG = International Maritime Code for Dangerous Goods  
 IUCLID = International Uniform Chemical Information Database  
 LC50 = Lethal concentration, 50%  
 LD50 = Median lethal dose  
 LC0 = lethal concentration, 0%  
 LOAEL = lowest-observed-adverse-effect level  
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
 NOAEL = No Observed Adverse Effect Level  
 NOEC = No Observed Effect Concentration  
 PBT = Persistent, Bioaccumulative and Toxic substance  
 PNEC = Predicted No-Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
 STP = Sewage Treatment Plant  
 TLV@/TWA = Threshold limit value – time-weighted average  
 TLV@STEL = Threshold limit value – short-time exposure limit  
 VOC = Volatile Organic Compounds  
 vPvB = very Persistent and very Bioaccumulative

**16.3 Other information****Classification procedure**

Flam. Liq. 2: H225 Highly flammable liquid and vapour. (On basis of test data)  
 Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)

**Modified position**

none



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