

13.07.2022	Kit Components	
Product code	Description	
E8340	Enzytec TM Liquid Ethanol	
Components:		

E8340E11	Enzytec [™] Liquid Ethanol Reagent 1
E8340E12	Enzytec [™] Liquid Ethanol Reagent 2



according to 1907/2006/EC, Article 31

Printing date 13.07.2022

Version number 2.0

Revision: 13.07.2022

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

1.1 Product identifier

Trade name: Enzytec™ Liquid Ethanol Reagent 1

Article number: E8340E11

1.2 Relevant identified uses of the substance or mixture and uses advised against No further relevant information available. **Application of the substance / the preparation:** In vitro

1.3 Details of the supplier of the safety data sheet Manufacturer/Supplier:

R-Biopharm AG An der neuen Bergstraße 17 D-64297 Darmstadt

Further information obtainable from: e-mail: info@r-biopharm.de 1.4 Emergency telephone number: CHEMTREC (worldwide): +1 703-741-5970 / 1-800-424-9300

CHEMTREC (worldwide): +1 703-741-5970 / 1-800-424-9300 CHEMTREC (United Kingdom): 44-870-8200418 and 44-2038073798 (toll free) For additional worldwide local emergency numbers refer to section 16.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 The product is not classified, according to the CLP regulation.

2.2 Label elements Labelling according to Regulation (EC) No 1272/2008 Void Hazard pictograms Void Signal word Void Hazard statements Void 2.3 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures Description: Mixture of substances with nonhazardous additions.

Dangerous components: Void **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: No special measures required.

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

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

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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: Use fire extinguishing methods suitable to surrounding conditions. 5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Protective equipment: No special measures required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective clothing.

6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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 No special measures required. **Information about fire - and explosion protection:** No special measures required.

7.2 Conditions for safe storage, including any incompatibilities Storage:

Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Not required. Further information about storage conditions: None.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Additional information about design of technical facilities: No further data; see item 7.

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals. **Respiratory protection:** Not required.

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Protection of hands:

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

Material of gloves

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

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

For the permanent contact gloves made of the following materials are suitable:

The exact break trough 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:

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

Eye protection: Goggles recommended during refilling

SECTION 9: Physical and chemical properties	
9.1 Information on basic physical and chemical properties General Information Appearance:	
Form:	Fluid
Colour: Odour:	Colourless Characteristic
Odour threshold:	Not determined.
pH-value at 20 °C:	9.45 – 9.75
Change in condition Melting point/freezing point: Initial boiling point and boiling range:	Undetermined. 100 °C
Flash point:	Not applicable.
Flammability (solid, gas):	Not applicable.
Decomposition temperature:	Not determined.
Auto-ignition temperature:	Product is not selfigniting.
Explosive properties:	Product does not present an explosion hazard.
Explosion limits: Lower: Upper:	Not determined. Not determined.
Vapour pressure at 20 °C:	23 hPa
Density at 20 °C:	1.06473 g/cm³
Relative density	Not determined.
Vapour density	Not determined.



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Evaporation rate	Not determined.
Solubility in / Miscibility with water:	Fully miscible.
Partition coefficient: n-octanol/water:	Not determined.
Viscosity: Dynamic: Kinematic:	Not determined. Not determined.
Solvent content: Water:	81.6 %
Solids content:	18.4 %
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions No dangerous reactions known.

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

77-86-1 trometamol

Oral	LD50	> 5,000 mg/kg (rat)
Dermal	LD50	> 5,000 mg/kg (rat)

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met. Serious eye damage/irritation Based on available data, the classification criteria are not met. Respiratory or skin sensitisation Based on available data, the classification criteria are not met. Additional toxicological information:

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)

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.

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.

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7-86-1 trometamol C50/48h > 980 mg/l (aquatic invertebrates) ErC50/48h 473 mg/l (Algae) 2.2 Persistence and degradability No further relevant information available. 2.3 Bioaccumulative potential No further relevant information available. 2.4 Mobility in soil No further relevant information available. Additional ecological information: Seneral notes: Vater hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water bo not allow undiluted product or large quantities of it to reach ground water, water coursewage system. 2.5 Results of PBT and vPvB assessment 2BT: Not applicable.	12.1 Toxicity	
 Solvas > 980 mg/l (aquatic invertebrates) StrC50/48h > 980 mg/l (Algae) 2.2 Persistence and degradability No further relevant information available. 2.3 Bioaccumulative potential No further relevant information available. 2.4 Mobility in soil No further relevant information available. Additional ecological information: Seneral notes: Vater hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water coursewage system. 2.5 Results of PBT and vPvB assessment PBT: Not applicable. 	Aquatic toxicity:	
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	 12.4 Mobility in soil No further releval Additional ecological information: General notes: Water hazard class 1 (German Regula Do not allow undiluted product or laisewage system. 12.5 Results of PBT and vPvB asses PBT: Not applicable. vPvB: Not applicable. 	nt information available. ation) (Self-assessment): slightly hazardous for water rge quantities of it to reach ground water, water cou ssment
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UN "Model Regulation":

Void

SECTION 15: Regulatory information

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

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

National regulations:

Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water. **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not 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.

Department issuing SDS: QS 0049-6151-8102-0

Contact: QS 0049-6151-8102-0 Worldwide local emergency numbers Argentina Spanish Local (City) Buenos Aires Americas 54-1159839431 Australia English Local (City) Sydney Oceania 61-290372994 Austria German Local (City) Vienna Europe 43-13649237 Belgium French Local (City) Brussels Europe 32-28083237 Brazil Portuguese Local (City) Rio De Janeiro Americas 55-2139581449 Brazil Portuguese Local (City) Sao Paulo Americas 55-1143491359 Brazil - Toll Free Portuguese Toll free Mobile-Enabled Americas 0800 892 0479 Bulgaria Bulgarian Local (City) Plovdiv Europe 359-32570104 Cayman Islands English Local (National) Americas 345-749-8392 Chile Spanish Local (City) Santiago Americas 56 2 2581 4934 China Mandarin Local (National) Asia 4001-204937 Colombia Spanish Toll Free Americas 01800-710-2151 Costa Rica Spanish Local (National) Americas 506-40003869 Croatia Croatian Local (City) Zagreb Europe 385-17776920 Czech Republic Czech Local (City) Prague Europe 420-228880039 Denmark Danish Local (National) Europe 45-69918573 Dominican Republic Spanish Local (City) Santo Domingo Americas (829) 956-7588 El Salvador Spanish Local (City) San Salvador Americas 503 2136 7633 Estonia Estonian Local (National) Europe 372-6681294 Finland Finnish Local (City) Helsinki Europe 358-942419014 France French National Europe 33-975181407 Germany German Local (City) Frankfurt Europe 49-69643508409 0800-181-7059 Greece Greek Local (City) Athens Europe 30-2111768478 Grenada English Local (Čity) St George Americas 1 (473) 230-0165 Guinea French Americas 224 660 71 03 00 Hong Kong Toll Free Asia 800-968-793 Hungary Hungarian Local (City) Budapest Europe 36-18088425 Iceland Icelandic Local (City) Reykjavik Europe 354 539 0655 India Hindi, Bengali, English Asia 000-800-100-7141 Indonesia Indonesian Toll Free Asia 001-803-017-9114 Ireland English Local (City) Dublin Europe 353-19014670 Israel Hebrew Local (City) Tel Aviv Asia 972-37630639



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

1.1 Product identifier

Trade name: Enzytec™ Liquid Ethanol Reagent 2

Article number: E8340E12

1.2 Relevant identified uses of the substance or mixture and uses advised against No further relevant information available. **Application of the substance / the preparation:** In vitro

1.3 Details of the supplier of the safety data sheet Manufacturer/Supplier:

R-Biopharm AG An der neuen Bergstraße 17 D-64297 Darmstadt

Further information obtainable from: e-mail: info@r-biopharm.de 1.4 Emergency telephone number: CHEMTREC (worldwide): +1 703-741-5970 / 1-800-424-9300

CHEMTREC (worldwide): +1 703-741-5970 / 1-800-424-9300 CHEMTREC (United Kingdom): 44-870-8200418 and 44-2038073798 (toll free) For additional worldwide local emergency numbers refer to section 16.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 The product is not classified, according to the CLP regulation.

2.2 Label elements Labelling according to Regulation (EC) No 1272/2008 Void Hazard pictograms Void Signal word Void Hazard statements Void 2.3 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures Description: Mixture of substances with nonhazardous additions.

Dangerous components: Void **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: No special measures required.

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

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

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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: Use fire extinguishing methods suitable to surrounding conditions. 5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Protective equipment: No special measures required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective clothing.

6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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 No special measures required. **Information about fire - and explosion protection:** No special measures required.

7.2 Conditions for safe storage, including any incompatibilities Storage:

Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Not required. Further information about storage conditions: None.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Additional information about design of technical facilities: No further data; see item 7.

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals. **Respiratory protection:** Not required.

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Protection of hands:

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

Material of gloves

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

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

For the permanent contact gloves made of the following materials are suitable:

The exact break trough 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:

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

Eye protection: Goggles recommended during refilling

SECTION 9: Physical and chemic	SECTION 9: Physical and chemical properties	
9.1 Information on basic physical and c General Information	hemical properties	
Appearance: Form: Colour: Odour: Odour threshold:	Fluid Colourless Characteristic Not determined.	
pH-value at 20 °C:	6	
Change in condition Melting point/freezing point: Initial boiling point and boiling range:	Undetermined. 100 °C	
Flash point:	> 100 °C	
Flammability (solid, gas):	Not applicable.	
Ignition temperature:	150 °C	
Decomposition temperature:	Not determined.	
Auto-ignition temperature:	Product is not selfigniting.	
Explosive properties:	Product does not present an explosion hazard.	
Explosion limits: Lower: Upper:	Not determined. Not determined.	
Vapour pressure at 20 °C:	23 hPa	
Density at 20 °C:	1.09452 g/cm³	
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Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
water:	Fully miscible.
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Water:	66.9 %
Solids content:	33.1 %
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions No dangerous reactions known.

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

50-70-4 D-glucitol

Oral LD50 15,900 mg/kg (rat)

6132-04-3 Tri-Natriumcitrat-Dihydrat

Oral LD50 > 8,000 mg/kg (rat)

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met. Serious eye damage/irritation Based on available data, the classification criteria are not met. Respiratory or skin sensitisation Based on available data, the classification criteria are not met. Additional toxicological information:

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)

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.

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

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Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation Disposal must be made according to official regulations.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport informatio	n
14.1 UN-Number ADR, ADN, IMDG, IATA	Void
14.2 UN proper shipping name ADR, ADN, IMDG, IATA	Void
14.3 Transport hazard class(es)	
ADR, ADN, IMDG, IATA Class	Void
14.4 Packing group ADR, IMDG, IATA	Void
14.5 Environmental hazards:	Not applicable.
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Annex of Marpol and the IBC Code	k II Not applicable.
Transport/Additional information:	Not dangerous according to the above specifications.
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UN "Model Regulation":

Void

SECTION 15: Regulatory information

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

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

National regulations:

Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water. **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not 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.

Department issuing SDS: QS 0049-6151-8102-0

Contact: QS 0049-6151-8102-0 Worldwide local emergency numbers Argentina Spanish Local (City) Buenos Aires Americas 54-1159839431 Australia English Local (City) Sydney Oceania 61-290372994 Austria German Local (City) Vienna Europe 43-13649237 Belgium French Local (City) Brussels Europe 32-28083237 Brazil Portuguese Local (City) Rio De Janeiro Americas 55-2139581449 Brazil Portuguese Local (City) Sao Paulo Americas 55-1143491359 Brazil - Toll Free Portuguese Toll free Mobile-Enabled Americas 0800 892 0479 Bulgaria Bulgarian Local (City) Plovdiv Europe 359-32570104 Cayman Islands English Local (National) Americas 345-749-8392 Chile Spanish Local (City) Santiago Americas 56 2 2581 4934 China Mandarin Local (National) Asia 4001-204937 Colombia Spanish Toll Free Americas 01800-710-2151 Costa Rica Spanish Local (National) Americas 506-40003869 Croatia Croatian Local (City) Zagreb Europe 385-17776920 Czech Republic Czech Local (City) Prague Europe 420-228880039 Denmark Danish Local (National) Europe 45-69918573 Dominican Republic Spanish Local (City) Santo Domingo Americas (829) 956-7588 El Salvador Spanish Local (City) San Salvador Americas 503 2136 7633 Estonia Estonian Local (National) Europe 372-6681294 Finland Finnish Local (City) Helsinki Europe 358-942419014 France French National Europe 33-975181407 Germany German Local (City) Frankfurt Europe 49-69643508409 0800-181-7059 Greece Greek Local (City) Athens Europe 30-2111768478 Grenada English Local (Čity) St George Americas 1 (473) 230-0165 Guinea French Americas 224 660 71 03 00 Hong Kong Toll Free Asia 800-968-793 Hungary Hungarian Local (City) Budapest Europe 36-18088425 Iceland Icelandic Local (City) Reykjavik Europe 354 539 0655 India Hindi, Bengali, English Asia 000-800-100-7141 Indonesia Indonesian Toll Free Asia 001-803-017-9114 Ireland English Local (City) Dublin Europe 353-19014670 Israel Hebrew Local (City) Tel Aviv Asia 972-37630639



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