

# Safety data sheet

according to 1907/2006/EC, Article 31



Printing date 26.09.2016

Version number 1

Revision: 26.09.2016

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

### 1.1 Product identifier

**Trade name:** Enzytec™ Liquid SO<sub>2</sub>-free Reagent 2

**Article number:** E8610E12

### 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:** FE e-mail: info@r-biopharm.de

**1.4 Emergency telephone number:** FE 0049-6151-8102-0

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.

### 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, GHS05, GHS07

**Signal word** Danger

**Hazard-determining components of labelling:**

propan-1-ol

**Hazard statements**

H226 Flammable liquid and vapour.

H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

**Precautionary statements**

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

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

P310 Immediately call a POISON CENTER/doctor.

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P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**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: consisting of the following components.**Dangerous components:**

|                   |             |                    |        |
|-------------------|-------------|--------------------|--------|
| CAS: 71-23-8      | propan-1-ol | Flam. Liq. 2, H225 | 25-50% |
| EINECS: 200-746-9 |             | Eye Dam. 1, H318   |        |
|                   |             | STOT SE 3, H336    |        |

**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:** Immediately remove any clothing soiled by the product.**After inhalation:** Supply fresh air; consult doctor in case of complaints.**After skin contact:** Immediately rinse with water.**After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing:** If symptoms persist consult doctor.**4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**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:**CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.**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 equipment. Keep unprotected persons away.

**6.2 Environmental precautions:**

Prevent seepage into sewage system, workpits and cellars.

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).

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Use neutralising agent.

Dispose contaminated material as waste according to item 13.

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**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

**Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

**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:** Keep container tightly sealed.**7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

**Additional information about design of technical facilities:** No further data; see item 7.**8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:****71-23-8 propan-1-ol**

|     |   |
|-----|---|
| WEL | Short-term value: 625 mg/m <sup>3</sup> , 250 ppm |
|     | Long-term value: 500 mg/m <sup>3</sup> , 200 ppm  |
| Sk  |   |

**Additional information:** The lists valid during the making were used as basis.**8.2 Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

**Respiratory protection:** Not required.**Protection of hands:**

Protective gloves

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

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

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**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 through 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:**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mmValue for the permeation: Level  $\leq 480$ **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mmValue for the permeation: Level  $\leq 480$ **Eye protection:**

Tightly sealed goggles

## SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties****General Information****Appearance:**

|                         |                 |
|-------------------------|-----------------|
| <b>Form:</b>            | Fluid           |
| <b>Colour:</b>          | Colourless      |
| <b>Odour:</b>           | Characteristic  |
| <b>Odour threshold:</b> | Not determined. |

|                           |     |
|---------------------------|-----|
| <b>pH-value at 20 °C:</b> | 7.8 |
|---------------------------|-----|

**Change in condition**

|                                     |               |
|-------------------------------------|---------------|
| <b>Melting point/Melting range:</b> | Undetermined. |
| <b>Boiling point/Boiling range:</b> | 96 °C         |

|                     |       |
|---------------------|-------|
| <b>Flash point:</b> | 31 °C |
|---------------------|-------|

|                                       |                 |
|---------------------------------------|-----------------|
| <b>Flammability (solid, gaseous):</b> | Not applicable. |
|---------------------------------------|-----------------|

|                              |        |
|------------------------------|--------|
| <b>Ignition temperature:</b> | 360 °C |
|------------------------------|--------|

|                                   |                 |
|-----------------------------------|-----------------|
| <b>Decomposition temperature:</b> | Not determined. |
|-----------------------------------|-----------------|

|                       |                              |
|-----------------------|------------------------------|
| <b>Self-igniting:</b> | Product is not selfigniting. |
|-----------------------|------------------------------|

|                             |   |
|-----------------------------|---|
| <b>Danger of explosion:</b> | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
|-----------------------------|---|

**Explosion limits:**

|               |            |
|---------------|------------|
| <b>Lower:</b> | 2.1 Vol %  |
| <b>Upper:</b> | 13.5 Vol % |

|                                  |        |
|----------------------------------|--------|
| <b>Vapour pressure at 20 °C:</b> | 23 hPa |
|----------------------------------|--------|

|                         |                 |
|-------------------------|-----------------|
| <b>Density:</b>         | Not determined. |
| <b>Relative density</b> | Not determined. |

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|                  |                 |
|------------------|-----------------|
| 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:      |  |
| Organic solvents:     | 40.0 %                                     |
| Water:                | 60.0 %                                     |
| 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:**

**71-23-8 propan-1-ol**

|        |      |                     |
|--------|------|---------------------|
| Oral   | LD50 | 1870 mg/kg (rat)    |
| Dermal | LD50 | 5040 mg/kg (rabbit) |

**Primary irritant effect:**

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation**

Causes serious eye damage.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

**CMR effects (carcinogenicity, 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**

May cause drowsiness or dizziness.

**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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### 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.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

#### 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

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

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 information

**14.1 UN-Number**  
**ADR, IMDG, IATA**

UN1993

**14.2 UN proper shipping name**  
**ADR**

1993 FLAMMABLE LIQUID, N.O.S., special provision 640E (n-PROPANOL (PROPYL ALCOHOL, NORMAL))

**IMDG, IATA**

FLAMMABLE LIQUID, N.O.S. (n-PROPANOL (PROPYL ALCOHOL, NORMAL))

**14.3 Transport hazard class(es)**

**ADR**



**Class**

3 (F1) Flammable liquids.

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|  |  |
|--|--|
| <b>Label</b>   | 3  |
| <b>IMDG, IATA</b>  |  |
|   |  |
| <b>Class</b>   | 3 Flammable liquids.   |
| <b>Label</b>   | 3  |
| <b>14.4 Packing group<br/>ADR, IMDG, IATA</b>                                      | III  |
| <b>14.5 Environmental hazards:</b>   | Not applicable.  |
| <b>14.6 Special precautions for user</b>   | Warning: Flammable liquids.  |
| <b>Danger code (Kemler):</b>   | 30   |
| <b>EMS Number:</b>   | F-E, S-E   |
| <b>Stowage Category</b>  | A  |
| <b>14.7 Transport in bulk according to Annex II<br/>of Marpol and the IBC Code</b> | Not applicable.  |
| <b>Transport/Additional information:</b>   |  |
| <b>ADR</b>   |  |
| <b>Limited quantities (LQ)</b>   | 5L   |
| <b>Excepted quantities (EQ)</b>  | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml |
| <b>Transport category</b>  | 3  |
| <b>Tunnel restriction code</b>   | D/E  |
| <b>IMDG</b>  |  |
| <b>Limited quantities (LQ)</b>   | 5L   |
| <b>Excepted quantities (EQ)</b>  | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml |
| <b>UN "Model Regulation":</b>  | UN 1993 FLAMMABLE LIQUID, N.O.S., SPECIAL PROVISION 640E (N-PROPANOL (PROPYL ALCOHOL, NORMAL)), 3, III           |

## 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.

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 (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

National regulations:

Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

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**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.

### Relevant phrases

H225 Highly flammable liquid and vapour.

H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

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

**Contact:** QS 0049-6151-8102-0

### Abbreviations and acronyms:

ADR: Accord européen sur le transport 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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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

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