

BIO-68026

JetSeq ER and Ligation Kit  
Safety Data Sheet



**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Product form : Mixture  
Product name : Ligation Buffer  
Cat. no. : BIO-68025

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.2.1. Relevant identified uses**

Industrial/Professional use spec : Industrial use  
Professional use  
Use of the substance/mixture : Laboratory use

**1.2.2. Uses advised against**

No additional information available

**1.3. Details of the supplier of the safety data sheet**

Meridian Bioscience / Bioline Reagents Ltd.  
Humber Road  
London  
NW2 6EW  
United Kingdom  
T: +44 (0)20 8830 5300  
F: +44 (0)20 8452 2822  
E-mail: info@meridianlifescience.com

**1.4. Emergency telephone number**

Emergency number : +44 (0)1865 407 333 – English speaking (24 hours, 7 days)

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

**Adverse physicochemical, human health and environmental effects**

No additional information available

**2.2. Label elements**

No labelling obligation.

**2.3. Other hazards**

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

**SECTION 3: Composition/information on ingredients****3.1. Substance**

Not applicable

**3.2. Mixture**

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH annex II

**SECTION 4: First aid measures****4.1. Description of first aid measures**

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

# Ligation Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

First-aid measures after inhalation	: Remove to fresh air, keep the patient warm and at rest. If symptoms persist, obtain medical attention.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If symptoms develop, obtain medical attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Ensure that folded skin of eyelids is thoroughly washed with water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth. Give 100 - 200 ml of water to drink. If symptoms develop, obtain medical attention.

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

Symptoms/injuries	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/injuries after eye contact	: May cause slight irritation to eyes.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: None known.

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

Fire hazard	: Not flammable.
Hazardous decomposition products in case of fire	: Carbon monoxide. Carbon dioxide.

### 5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire. Avoid fire-fighting water entering the environment.
Protection during firefighting	: As in any fire, wear self-contained breathing apparatus and full protective gear.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel. Avoid contact with skin, eyes and clothing.
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#### 6.1.2. For emergency responders

Protective equipment	: Wear suitable protective clothing and gloves.
Emergency procedures	: Avoid contact with eyes, skin and clothing.

### 6.2. Environmental precautions

Notify authorities if large amounts of the product enters sewers or public waters.

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

Methods for cleaning up	: Absorb with non-combustible material (sand or similar) and transfer to containers for later disposal.
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### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Provide adequate ventilation. Avoid contact with skin, eyes and clothing.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. Take off contaminated clothing and wash before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Storage conditions	: Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.
Incompatible materials	: Strong oxidizing agents.

### 7.3. Specific end use(s)

Laboratory use.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

# Ligation Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 8.2. Exposure controls

#### Appropriate engineering controls:

Provide adequate ventilation.

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### Hand protection:

Wear protective gloves. Standard EN 374 - Protective gloves against chemicals. The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves should be removed and replaced if there are any signs of degradation or breakthrough

#### Eye protection:

Wear safety glasses with side shields. Standard EN 166 - Personal eye-protection

#### Skin and body protection:

Long sleeved protective clothing

#### Respiratory protection:

Not required for normal conditions of use

#### Thermal hazard protection:

Not required for normal conditions of use.

#### Other information:

Do not eat, drink or smoke during use. Handle in accordance with good industrial hygiene and safety procedures.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: Odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: Not applicable.
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ≈ 1 (Water = 1)
Solubility	: Water: Miscible
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

# Ligation Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Skin corrosion/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
	Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Not expected to present a significant hazard under anticipated conditions of normal use.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Not classified.

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

<b>Ligation Buffer</b>	
Ecology - soil	Miscible with water.

### 12.5. Results of PBT and vPvB assessment

<b>Ligation Buffer</b>	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

# Ligation Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR) : Not regulated  
UN-No. (IMDG) : Not regulated  
UN-No. (IATA) : Not regulated  
UN-No. (ADN) : Not regulated  
UN-No. (RID) : Not regulated

### 14.2. UN proper shipping name

Proper Shipping Name : Not regulated  
Proper Shipping Name (IMDG) : Not regulated  
Proper Shipping Name (IATA) : Not regulated  
Proper Shipping Name (ADN) : Not regulated  
Proper Shipping Name (RID) : Not regulated

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : Not regulated

#### IMDG

Transport hazard class(es) (IMDG) : Not regulated

#### IATA

Transport hazard class(es) (IATA) : Not regulated

#### ADN

Transport hazard class(es) (ADN) : Not regulated

#### RID

Transport hazard class(es) (RID) : Not regulated

### 14.4. Packing group

Packing group : Not regulated  
Packing group (IMDG) : Not regulated  
Packing group (IATA) : Not regulated  
Packing group (ADN) : Not regulated  
Packing group (RID) : Not regulated

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Not regulated

#### - Transport by sea

Not regulated

#### - Air transport

Not regulated

# Ligation Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### - Inland waterway transport

Not regulated

### - Rail transport

Not regulated

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:

	ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route)
	ATE (Acute Toxicity Estimate)
	CAS (Chemical Abstracts Service) number
	CLP (Classification, Labeling and Packaging)
	DNEL (Derived No effect Limit)
	EC (European Community)
	EC50 (Effective Concentration 50%)
	EN (European Norm)
	IARC (International Agency for Research on Cancer)
	IATA (International Air Transport Association)
	IBC (Intermediate Bulk Container)
	IMDG (International Maritime Dangerous Goods Code)
	IMO (International Maritime Organisation)
	LC50 (Lethal Concentration 50%)
	LD50 (Lethal Dose 50%)
	MAC (Maximal Allowed Concentration)
	O/W (Oil-in-Water (chemistry))
	OECD (Organisation for Economic Co-operation and Development)
	PBT (Persistent, bioaccumulative and toxic)
	PMcc (Pensky-Martens Closed Cup test)
	PNEC (predicted no effect concentration)
	REACH (Registration, Evaluation and Authorisation of CHemicals)
	RID (Règlement concernant le transport international ferroviaire de marchandises)
	STEL (Short Term Exposure Limit)
	TWA (Time Weighted Average)
	UNxxxx (Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods)
	vPvB (very persistent and very bioaccumulative)

Data sources : 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.

Other information : None.

# Ligation Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*

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

#### 1.1. Product identifier

Product form : Mixture  
 Product name : ER Enzyme Mix  
 Cat. no. : BIO-68025

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial use  
 Professional use  
 Use of the substance/mixture : Laboratory use

##### 1.2.2. Uses advised against

No additional information available

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

Meridian Bioscience / Bioline Reagents Ltd.  
 Humber Road  
 London  
 NW2 6EW  
 United Kingdom  
 T: +44 (0)20 8830 5300  
 F: +44 (0)20 8452 2822  
 E-mail: info@meridianlifescience.com

#### 1.4. Emergency telephone number

Emergency number : +44 (0)1865 407 333 – English speaking (24 hours, 7 days)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Not classified

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

No labelling obligation.

#### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII  
 This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Glycerol	(CAS No.) 56-81-5 (EC No.) 200-289-5	60 - 70	Not classified

Full text of H-statements: see section 16

# ER Enzyme Mix

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove to fresh air, keep the patient warm and at rest. If symptoms persist, obtain medical attention.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If symptoms develop, obtain medical attention.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Ensure that folded skin of eyelids is thoroughly washed with water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth. Give 100 - 200 ml of water to drink. If symptoms develop, obtain medical attention.

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

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.
- Symptoms/injuries after eye contact : May cause slight irritation to eyes.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

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

- Fire hazard : Not flammable.
- Hazardous decomposition products in case of fire : Carbon monoxide. Carbon dioxide.

#### 5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Avoid fire-fighting water entering the environment.
- Protection during firefighting : As in any fire, wear self-contained breathing apparatus and full protective gear.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel. Avoid contact with skin, eyes and clothing.

##### 6.1.2. For emergency responders

- Protective equipment : Wear suitable protective clothing and gloves.
- Emergency procedures : Avoid contact with eyes, skin and clothing.

#### 6.2. Environmental precautions

Notify authorities if large amounts of the product enters sewers or public waters.

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

- Methods for cleaning up : Absorb with non-combustible material (sand or similar) and transfer to containers for later disposal.

#### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Provide adequate ventilation. Avoid contact with skin, eyes and clothing.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Take off contaminated clothing and wash before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

- Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.
- Incompatible materials : Strong oxidizing agents.

# ER Enzyme Mix

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 7.3. Specific end use(s)

Laboratory use.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Glycerol (56-81-5)		
United Kingdom	Local name	Glycerol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> mist

### 8.2. Exposure controls

#### Appropriate engineering controls:

Provide adequate ventilation.

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### Hand protection:

Wear protective gloves. Standard EN 374 - Protective gloves against chemicals. The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves should be removed and replaced if there are any signs of degradation or breakthrough

#### Eye protection:

Wear safety glasses with side shields. Standard EN 166 - Personal eye-protection

#### Skin and body protection:

Long sleeved protective clothing

#### Respiratory protection:

Not required for normal conditions of use

#### Thermal hazard protection:

Not required for normal conditions of use.

#### Other information:

Do not eat, drink or smoke during use. Handle in accordance with good industrial hygiene and safety procedures.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: Odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: Not applicable.
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ≈ 1 (Water = 1)
Solubility	: Water: Miscible
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.

# ER Enzyme Mix

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Oxidising properties : No data available

Explosive limits : No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Glycerol (56-81-5)	
LD50 oral rat	27200 mg/kg
LD50 dermal	56750 mg/kg (Guinea pig)
LC50 inhalation rat (mg/l)	> 2.75 mg/l/4h

Skin corrosion/irritation : Not classified

Additional information : Based on available data, the classification criteria are not met

Serious eye damage/irritation : Not classified

Additional information : Based on available data, the classification criteria are not met

Respiratory or skin sensitisation : Not classified

Additional information : Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Reproductive toxicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified

Additional information : Based on available data, the classification criteria are not met

Specific target organ toxicity (repeated exposure) : Not classified

Additional information : Based on available data, the classification criteria are not met

Aspiration hazard : Not classified

Additional information : Based on available data, the classification criteria are not met

Potential adverse human health effects and symptoms : Not expected to present a significant hazard under anticipated conditions of normal use.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Not classified.

Glycerol (56-81-5)	
LC50 fish	54000 mg/l 96 Hours (Salmo gairdneri)

# ER Enzyme Mix

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

ER Enzyme Mix	
Ecology - soil	Miscible with water.

### 12.5. Results of PBT and vPvB assessment

ER Enzyme Mix	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR) : Not regulated  
UN-No. (IMDG) : Not regulated  
UN-No. (IATA) : Not regulated  
UN-No. (ADN) : Not regulated  
UN-No. (RID) : Not regulated

### 14.2. UN proper shipping name

Proper Shipping Name : Not regulated  
Proper Shipping Name (IMDG) : Not regulated  
Proper Shipping Name (IATA) : Not regulated  
Proper Shipping Name (ADN) : Not regulated  
Proper Shipping Name (RID) : Not regulated

### 14.3. Transport hazard class(es)

**ADR**  
Transport hazard class(es) (ADR) : Not regulated

**IMDG**  
Transport hazard class(es) (IMDG) : Not regulated

**IATA**  
Transport hazard class(es) (IATA) : Not regulated

**ADN**  
Transport hazard class(es) (ADN) : Not regulated

**RID**  
Transport hazard class(es) (RID) : Not regulated

### 14.4. Packing group

Packing group : Not regulated  
Packing group (IMDG) : Not regulated  
Packing group (IATA) : Not regulated  
Packing group (ADN) : Not regulated  
Packing group (RID) : Not regulated

# ER Enzyme Mix

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Not regulated

#### - Transport by sea

Not regulated

#### - Air transport

Not regulated

#### - Inland waterway transport

Not regulated

#### - Rail transport

Not regulated

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:

	ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route)
	ATE (Acute Toxicity Estimate)
	CAS (Chemical Abstracts Service) number
	CLP (Classification, Labeling and Packaging)
	DNEL (Derived No effect Limit)
	EC (European Community)
	EC50 (Effective Concentration 50%)
	EN (European Norm)
	IARC (International Agency for Research on Cancer)
	IATA (International Air Transport Association)
	IBC (Intermediate Bulk Container)
	IMDG (International Maritime Dangerous Goods Code)
	IMO (International Maritime Organisation)
	LC50 (Lethal Concentration 50%)
	LD50 (Lethal Dose 50%)
	MAC (Maximal Allowed Concentration)
	O/W (Oil-in-Water (chemistry))
	OECD (Organisation for Economic Co-operation and Development)
	PBT (Persistent, bioaccumulative and toxic)
	PMcc (Pensky-Martens Closed Cup test)
	PNEC (predicted no effect concentration)

# ER Enzyme Mix

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

	REACH (Registration, Evaluation and Authorisation of CHemicals)
	RID (Règlement concernant le transport international ferroviaire de marchandises)
	STEL (Short Term Exposure Limit)
	TWA (Time Weighted Average)
	UNxxxx (Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods)
	vPvB (very persistent and very bioaccumulative)

Data sources : 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.

Other information : None.

NCEC SDS EU BlackandWhite

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*



# ER Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

First-aid measures after inhalation	: Remove to fresh air, keep the patient warm and at rest. If symptoms persist, obtain medical attention.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If symptoms develop, obtain medical attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Ensure that folded skin of eyelids is thoroughly washed with water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth. Give 100 - 200 ml of water to drink. If symptoms develop, obtain medical attention.

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

Symptoms/injuries	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/injuries after eye contact	: May cause slight irritation to eyes.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: None known.

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

Fire hazard	: Not flammable.
Hazardous decomposition products in case of fire	: Carbon monoxide. Carbon dioxide.

### 5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire. Avoid fire-fighting water entering the environment.
Protection during firefighting	: As in any fire, wear self-contained breathing apparatus and full protective gear.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel. Avoid contact with skin, eyes and clothing.
----------------------	---

#### 6.1.2. For emergency responders

Protective equipment	: Wear suitable protective clothing and gloves.
Emergency procedures	: Avoid contact with eyes, skin and clothing.

### 6.2. Environmental precautions

Notify authorities if large amounts of the product enters sewers or public waters.

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

Methods for cleaning up	: Absorb with non-combustible material (sand or similar) and transfer to containers for later disposal.
-------------------------	---

### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Provide adequate ventilation. Avoid contact with skin, eyes and clothing.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. Take off contaminated clothing and wash before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Storage conditions	: Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.
Incompatible materials	: Strong oxidizing agents.

### 7.3. Specific end use(s)

Laboratory use.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

# ER Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 8.2. Exposure controls

#### Appropriate engineering controls:

Provide adequate ventilation.

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### Hand protection:

Wear protective gloves. Standard EN 374 - Protective gloves against chemicals. The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves should be removed and replaced if there are any signs of degradation or breakthrough

#### Eye protection:

Wear safety glasses with side shields. Standard EN 166 - Personal eye-protection

#### Skin and body protection:

Long sleeved protective clothing

#### Respiratory protection:

Not required for normal conditions of use

#### Thermal hazard protection:

Not required for normal conditions of use.

#### Other information:

Do not eat, drink or smoke during use. Handle in accordance with good industrial hygiene and safety procedures.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: Odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: Not applicable.
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ≈ 1 (Water = 1)
Solubility	: Water: Miscible
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

# ER Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Skin corrosion/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
	Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Not expected to present a significant hazard under anticipated conditions of normal use.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Not classified.

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

<b>ER Buffer</b>	
Ecology - soil	Miscible with water.

### 12.5. Results of PBT and vPvB assessment

<b>ER Buffer</b>	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

# ER Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR) : Not regulated  
UN-No. (IMDG) : Not regulated  
UN-No. (IATA) : Not regulated  
UN-No. (ADN) : Not regulated  
UN-No. (RID) : Not regulated

### 14.2. UN proper shipping name

Proper Shipping Name : Not regulated  
Proper Shipping Name (IMDG) : Not regulated  
Proper Shipping Name (IATA) : Not regulated  
Proper Shipping Name (ADN) : Not regulated  
Proper Shipping Name (RID) : Not regulated

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : Not regulated

#### IMDG

Transport hazard class(es) (IMDG) : Not regulated

#### IATA

Transport hazard class(es) (IATA) : Not regulated

#### ADN

Transport hazard class(es) (ADN) : Not regulated

#### RID

Transport hazard class(es) (RID) : Not regulated

### 14.4. Packing group

Packing group : Not regulated  
Packing group (IMDG) : Not regulated  
Packing group (IATA) : Not regulated  
Packing group (ADN) : Not regulated  
Packing group (RID) : Not regulated

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Not regulated

#### - Transport by sea

Not regulated

#### - Air transport

Not regulated

# ER Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### - Inland waterway transport

Not regulated

### - Rail transport

Not regulated

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:

	ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route)
	ATE (Acute Toxicity Estimate)
	CAS (Chemical Abstracts Service) number
	CLP (Classification, Labeling and Packaging)
	DNEL (Derived No effect Limit)
	EC (European Community)
	EC50 (Effective Concentration 50%)
	EN (European Norm)
	IARC (International Agency for Research on Cancer)
	IATA (International Air Transport Association)
	IBC (Intermediate Bulk Container)
	IMDG (International Maritime Dangerous Goods Code)
	IMO (International Maritime Organisation)
	LC50 (Lethal Concentration 50%)
	LD50 (Lethal Dose 50%)
	MAC (Maximal Allowed Concentration)
	O/W (Oil-in-Water (chemistry))
	OECD (Organisation for Economic Co-operation and Development)
	PBT (Persistent, bioaccumulative and toxic)
	PMcc (Pensky-Martens Closed Cup test)
	PNEC (predicted no effect concentration)
	REACH (Registration, Evaluation and Authorisation of CHemicals)
	RID (Règlement concernant le transport international ferroviaire de marchandises)
	STEL (Short Term Exposure Limit)
	TWA (Time Weighted Average)
	UNxxxx (Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods)
	vPvB (very persistent and very bioaccumulative)

Data sources : 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.

Other information : None.

# ER Buffer

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : Ligase  
Cat. no. : BIO-68025

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial use  
Professional use  
Use of the substance/mixture : Laboratory use

##### 1.2.2. Uses advised against

No additional information available

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

Meridian Bioscience / Bioline Reagents Ltd.  
Humber Road  
London  
NW2 6EW  
United Kingdom  
T: +44 (0)20 8830 5300  
F: +44 (0)20 8452 2822  
E-mail: info@meridianlifescience.com

#### 1.4. Emergency telephone number

Emergency number : +44 (0)1865 407 333 – English speaking (24 hours, 7 days)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Not classified

#### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

No labelling obligation.

#### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Glycerol	(CAS No.) 56-81-5 (EC No.) 200-289-5	50 - 60	Not classified

Full text of H-statements: see section 16

# Ligase

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove to fresh air, keep the patient warm and at rest. If symptoms persist, obtain medical attention.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If symptoms develop, obtain medical attention.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Ensure that folded skin of eyelids is thoroughly washed with water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth. Give 100 - 200 ml of water to drink. If symptoms develop, obtain medical attention.

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

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.
- Symptoms/injuries after eye contact : May cause slight irritation to eyes.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

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

- Fire hazard : Not flammable.
- Hazardous decomposition products in case of fire : Carbon monoxide. Carbon dioxide.

#### 5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Avoid fire-fighting water entering the environment.
- Protection during firefighting : As in any fire, wear self-contained breathing apparatus and full protective gear.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel. Avoid contact with skin, eyes and clothing.

##### 6.1.2. For emergency responders

- Protective equipment : Wear suitable protective clothing and gloves.
- Emergency procedures : Avoid contact with eyes, skin and clothing.

#### 6.2. Environmental precautions

Notify authorities if large amounts of the product enters sewers or public waters.

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

- Methods for cleaning up : Absorb with non-combustible material (sand or similar) and transfer to containers for later disposal.

#### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Provide adequate ventilation. Avoid contact with skin, eyes and clothing.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Take off contaminated clothing and wash before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

- Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.
- Incompatible materials : Strong oxidizing agents.

# Ligase

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 7.3. Specific end use(s)

Laboratory use.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Glycerol (56-81-5)		
United Kingdom	Local name	Glycerol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> mist

### 8.2. Exposure controls

#### Appropriate engineering controls:

Provide adequate ventilation.

#### Personal protective equipment:

Avoid all unnecessary exposure.

#### Hand protection:

Wear protective gloves. Standard EN 374 - Protective gloves against chemicals. The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed. Gloves should be removed and replaced if there are any signs of degradation or breakthrough

#### Eye protection:

Wear safety glasses with side shields. Standard EN 166 - Personal eye-protection

#### Skin and body protection:

Long sleeved protective clothing

#### Respiratory protection:

Not required for normal conditions of use

#### Thermal hazard protection:

Not required for normal conditions of use.

#### Other information:

Do not eat, drink or smoke during use. Handle in accordance with good industrial hygiene and safety procedures.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: Odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: Not applicable.
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ≈ 1 (Water = 1)
Solubility	: Water: Miscible
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.

# Ligase

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Oxidising properties : No data available

Explosive limits : No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Glycerol (56-81-5)	
LD50 oral rat	27200 mg/kg
LD50 dermal	56750 mg/kg (Guinea pig)
LC50 inhalation rat (mg/l)	> 2.75 mg/l/4h

Skin corrosion/irritation : Not classified

Additional information : Based on available data, the classification criteria are not met

Serious eye damage/irritation : Not classified

Additional information : Based on available data, the classification criteria are not met

Respiratory or skin sensitisation : Not classified

Additional information : Based on available data, the classification criteria are not met

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Reproductive toxicity : Not classified

Additional information : Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified

Additional information : Based on available data, the classification criteria are not met

Specific target organ toxicity (repeated exposure) : Not classified

Additional information : Based on available data, the classification criteria are not met

Aspiration hazard : Not classified

Additional information : Based on available data, the classification criteria are not met

Potential adverse human health effects and symptoms : Not expected to present a significant hazard under anticipated conditions of normal use.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Not classified.

Glycerol (56-81-5)	
LC50 fish	54000 mg/l 96 Hours (Salmo gairdneri)

# Ligase

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

Ligase	
Ecology - soil	Miscible with water.

### 12.5. Results of PBT and vPvB assessment

Ligase	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR) : Not regulated  
UN-No. (IMDG) : Not regulated  
UN-No. (IATA) : Not regulated  
UN-No. (ADN) : Not regulated  
UN-No. (RID) : Not regulated

### 14.2. UN proper shipping name

Proper Shipping Name : Not regulated  
Proper Shipping Name (IMDG) : Not regulated  
Proper Shipping Name (IATA) : Not regulated  
Proper Shipping Name (ADN) : Not regulated  
Proper Shipping Name (RID) : Not regulated

### 14.3. Transport hazard class(es)

**ADR**  
Transport hazard class(es) (ADR) : Not regulated

**IMDG**  
Transport hazard class(es) (IMDG) : Not regulated

**IATA**  
Transport hazard class(es) (IATA) : Not regulated

**ADN**  
Transport hazard class(es) (ADN) : Not regulated

**RID**  
Transport hazard class(es) (RID) : Not regulated

### 14.4. Packing group

Packing group : Not regulated  
Packing group (IMDG) : Not regulated  
Packing group (IATA) : Not regulated  
Packing group (ADN) : Not regulated  
Packing group (RID) : Not regulated

# Ligase

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Not regulated

#### - Transport by sea

Not regulated

#### - Air transport

Not regulated

#### - Inland waterway transport

Not regulated

#### - Rail transport

Not regulated

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:

	ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route)
	ATE (Acute Toxicity Estimate)
	CAS (Chemical Abstracts Service) number
	CLP (Classification, Labeling and Packaging)
	DNEL (Derived No effect Limit)
	EC (European Community)
	EC50 (Effective Concentration 50%)
	EN (European Norm)
	IARC (International Agency for Research on Cancer)
	IATA (International Air Transport Association)
	IBC (Intermediate Bulk Container)
	IMDG (International Maritime Dangerous Goods Code)
	IMO (International Maritime Organisation)
	LC50 (Lethal Concentration 50%)
	LD50 (Lethal Dose 50%)
	MAC (Maximal Allowed Concentration)
	O/W (Oil-in-Water (chemistry))
	OECD (Organisation for Economic Co-operation and Development)
	PBT (Persistent, bioaccumulative and toxic)
	PMcc (Pensky-Martens Closed Cup test)
	PNEC (predicted no effect concentration)

# Ligase

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

	REACH (Registration, Evaluation and Authorisation of CHemicals)
	RID (Règlement concernant le transport international ferroviaire de marchandises)
	STEL (Short Term Exposure Limit)
	TWA (Time Weighted Average)
	UNxxxx (Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods)
	vPvB (very persistent and very bioaccumulative)

Data sources : 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.

Other information : None.

NCEC SDS EU BlackandWhite

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*

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

#### 1.1. Product identifier

Product code : Substance  
 Substance name : EPC H2O  
 EC No : 2010912  
 CAS No : 2185  
 Cat no : BI 65042, BI 65043, BI 65048, BI 65049, BI 2001, BI 2005, BI 0001, BI 0005, BI 4001, BI 4005, BI 5001, BI 5005, BI 6001, BI 6005, BI 0001, BI 0005, BI 8001, BI 8005, CSA 01201  
 REACH authorisation requirements : Exempted from REACH registration

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use : Industrial use  
 Professional use  
 Use of the substance/mixture : Laboratory use

##### 1.2.2. Uses advised against

No additional information available

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

Meridian Bioscience / Bioline Reagents Ltd.  
 Humber Road  
 London  
 NW2 6EW  
 United Kingdom  
 T: +44 (0)20 8830 5300  
 F: +44 (0)20 8452 2822  
 E-mail: info@meridianlifescience.com

#### 1.4. Emergency telephone number

Emergency number : +44 (0)1865 407 333 – English speaking (24 hours, 7 days)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Not classified

#### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

No labelling obligation

#### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex III

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex III

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Name	Product identifier	%
EPC H2O	(CAS No) 2185 (EC No) 2010912	100

Full text of phrases: see section 16

# DEPC-H2O

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First aid measures general : Not expected to present a significant hazard under anticipated conditions of normal use

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

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use

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

Treat symptomatically

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire

Unsuitable extinguishing media : None known

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

Fire hazard : Not flammable

Hazardous decomposition products in case of fire : None

### 5.3. Advice for firefighters

Firefighting instructions : Fight fire with normal precautions from a reasonable distance

Protection during firefighting : As in any fire, wear self-contained breathing apparatus and full protective gear

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures : Not applicable

#### 6.1.2. For emergency responders

Protective equipment : Not normally required

Emergency procedures : Not applicable

### 6.2. Environmental precautions

Not normally required

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

Methods for cleaning up : Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal

### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection; SECTION 11: Disposal considerations

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : No special requirements

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work

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

Storage conditions : Store only in the original container in a cool well ventilated place. Keep container closed when not in use

Incompatible materials : Water reactive materials

### 7.3. Specific end use(s)

Laboratory use

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

# DEPC-H2O

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 8.2. Exposure controls

#### Appropriate engineering controls:

Not required for normal conditions of use

#### Personal protective equipment:

Not required for normal conditions of use

#### Hand protection:

Not required for normal conditions of use

#### Eye protection:

Not required for normal conditions of use

#### Skin and body protection:

Not required for normal conditions of use

#### Respiratory protection:

Not required for normal conditions of use

#### Thermal hazard protection:

Not required for normal conditions of use

#### Other information:

Handle in accordance with good industrial hygiene and safety procedures

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless
Odour	: Odourless
Odour threshold	: No data available
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: ≈ 0 °C
Boiling point	: ≈ 100 °C
Boiling point	: Not applicable
Autoignition temperature	: Not applicable
Decomposition temperature	: Not applicable
Density (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ≈ 1 (Water = 1)
Solubility	: Water: Miscible
Log P <sub>ow</sub>	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive
Oxidising properties	: Not oxidising
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Stable under normal conditions

# DEPC-H2O

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 10.3. Possibility of hazardous reactions

None known

### 10.4. Conditions to avoid

None known

### 10.5. Incompatible materials

Water reactive materials

### 10.6. Hazardous decomposition products

None

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Skin corrosion/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Genotoxic cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Not expected to present a significant hazard under anticipated conditions of normal use

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology water : Not classified

### 12.2. Persistence and degradability

<b>DEPC-H2O (7732-18-5)</b>	
Persistence and degradability	Not applicable

### 12.3. Bioaccumulative potential

<b>DEPC-H2O (7732-18-5)</b>	
Bioaccumulative potential	Not applicable

### 12.4. Mobility in soil

<b>DEPC-H2O (7732-18-5)</b>	
Ecology soil	Miscible with water

### 12.5. Results of PBT and vPvB assessment

<b>DEPC-H2O (7732-18-5)</b>	
This substance does not meet the PBT criteria of REACH regulation, annex III	
This substance does not meet the vPvB criteria of REACH regulation, annex III	

# DEPC-H2O

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 12.6. Other adverse effects

Other adverse effects : None

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations

## SECTION 14: Transport information

In accordance with ADR, IMDG, IATA, ADN

### 14.1. UN number

UN No (ADR) : Not regulated  
UN No (IMDG) : Not regulated  
UN No (IATA) : Not regulated  
UN No (ADN) : Not regulated  
UN No (RID) : Not regulated

### 14.2. UN proper shipping name

Proper Shipping Name : Not regulated  
Proper Shipping Name (IMDG) : Not regulated  
Proper Shipping Name (IATA) : Not regulated  
Proper Shipping Name (ADN) : Not regulated  
Proper Shipping Name (RID) : Not regulated

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : Not regulated

#### IMDG

Transport hazard class(es) (IMDG) : Not regulated

#### IATA

Transport hazard class(es) (IATA) : Not regulated

#### ADN

Transport hazard class(es) (ADN) : Not regulated

#### RID

Transport hazard class(es) (RID) : Not regulated

### 14.4. Packing group

Packing group : Not regulated  
Packing group (IMDG) : Not regulated  
Packing group (IATA) : Not regulated  
Packing group (ADN) : Not regulated  
Packing group (RID) : Not regulated

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Not regulated

#### - Transport by sea

Not regulated

#### - Air transport

Not regulated

# DEPC-H2O

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### - Inland waterway transport

Not regulated

### - Rail transport

Not regulated

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

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex II restrictions

DEPC-H2O is not on the REACH Candidate list

DEPC-H2O is not on the REACH Annex III list

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Indication of changes:

1	Product identifier	Modified
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Abbreviations and acronyms:

	AEOU (Accord européen relatif au transport international des marchandises dangereuses par route)
	ATE (Acute Toxicity Estimate)
	CAS (Chemical Abstracts Service) number
	CLP (Classification, Labeling and Packaging)
	DNE (Derived No Effect Limit)
	EC (European Community)
	EC50 (Effective Concentration 50%)
	EN (European Norm)
	IARC (International Agency for Research on Cancer)
	IATA (International Air Transport Association)
	IBC (Intermediate Bulk Container)
	IMDG (International Maritime Dangerous Goods Code)
	IMO (International Maritime Organisation)
	LC50 (Lethal Concentration 50%)
	LD50 (Lethal Dose 50%)
	MAC (Maximal Allowed Concentration)
	MW (Molecular Weight (chemistry))
	OECD (Organisation for Economic Co-operation and Development)
	PBT (Persistent, Bioaccumulative and Toxic)
	PMCC (Pensky-Martens Closed Cup test)
	PNEC (Predicted No Effect Concentration)
	REACH (Registration, Evaluation and Authorisation of Chemicals)
	RII (Règlement concernant le transport international ferroviaire de marchandises)
	STEL (Short Term Exposure Limit)
	TWA (Time Weighted Average)
	UN (Number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods)
	vPvB (very Persistent and very Bioaccumulative)

Data sources

: REACH (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 609/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

Other information

: None

# DEPC-H2O

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*