

BIO-68026

JetSeq Flex DNA Library Preparation Kit
Safety Data Sheet



A Meridian Life Science® Company

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, BIO-68026, BIO-68027

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

Bioline (Aust) Pty Ltd
 Suite 111, National Innovation Centre Building
 Australian Technology Park, Eveleigh, NSW 2015
 Australia

Phone: +61 (0)2 9209 4180

Fax: +61 (0)2 9209 4763

E-mail: tech@bioline.com

1.4. Emergency telephone number

Emergency number : +61 2 8014 4558 (Australia)
 (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

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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.

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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 ³) | 10 mg/m ³ mist |
| Australia | Local name | Glycerin mist |
| Australia | TWA (mg/m ³) | 10 mg/m ³ |
| Australia | Remark (AU) | (a) |

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 |

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| | |
|----------------------|---------------------|
| 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.

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. |
|-----------------|-------------------|

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

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

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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

- 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) |

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| | |
|--|---|
| | 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.

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



A Meridian Life Science® Company

ER Buffer

Safety Data Sheet

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

Date of issue: 09/02/17 Version: 1.1

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

1.1. Product identifier

Product form : Mixture
Product name : ER Buffer
Cat. no. : BIO-68025, BIO-68026, BIO-68027

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

Bioline (Aust) Pty Ltd
Suite 111, National Innovation Centre Building
Australian Technology Park, Eveleigh, NSW 2015
Australia

Phone: +61 (0)2 9209 4180

Fax: +61 (0)2 9209 4763

E-mail: tech@bioline.com

1.4. Emergency telephone number

Emergency number : +61 2 8014 4558 (Australia)
(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).

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

| | |
|------------------|----------------------|
| ER Buffer | |
| Ecology - soil | Miscible with water. |

12.5. Results of PBT and vPvB assessment

| | |
|--|--|
| ER Buffer | |
| 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

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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

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 : Substance
 Substance name : Nuclease Free Water
 EC No. : 231-791-2
 CAS No : 7732-18-5
 Cat. no. : BIO-68025, BIO-68026, BIO-68027
 REACH authorisation exemptions : 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 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

Bioline (Aust) Pty Ltd
 Suite 111, National Innovation Centre Building
 Australian Technology Park, Eveleigh, NSW 2015
 Australia

Phone: +61 (0)2 9209 4180

Fax: +61 (0)2 9209 4763

E-mail: tech@bioline.com

1.4. Emergency telephone number

Emergency number : +61 2 8014 4558 (Australia)
 (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

| Name | Product identifier | % |
|---------------------|--|-----|
| Nuclease Free Water | (CAS No) 7732-18-5 (EC No.) 231-791-2 | 100 |

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

Nuclease Free Water

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 : 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 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 : 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 : Keep 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

Nuclease Free Water

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 |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : ≈ 0 °C |
| Boiling point | : ≈ 100 °C |
| Flash point | : Not applicable |
| Auto-ignition temperature | : Not applicable |
| Decomposition temperature | : Not applicable |
| 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 | : 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.

Nuclease Free Water

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 |
| 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

| Nuclease Free Water (7732-18-5) | |
|---------------------------------|-----------------|
| Persistence and degradability | Not applicable. |

12.3. Bioaccumulative potential

| Nuclease Free Water (7732-18-5) | |
|---------------------------------|-----------------|
| Bioaccumulative potential | Not applicable. |

12.4. Mobility in soil

| Nuclease Free Water (7732-18-5) | |
|---------------------------------|----------------------|
| Ecology - soil | Miscible with water. |

12.5. Results of PBT and vPvB assessment

| Nuclease Free Water (7732-18-5) | |
|--|--|
| 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 | |

Nuclease Free Water

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 / 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

Nuclease Free Water

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 XVII restrictions

Nuclease Free Water is not on the REACH Candidate List

Nuclease Free Water is not on the REACH Annex XIV 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

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.

Nuclease Free Water

Safety Data Sheet

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

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



A Meridian Life Science® Company

Ligation Buffer

Safety Data Sheet

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

Date of issue: 09/02/17 Version: 1.1

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, BIO-68026, BIO-68027

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

Bioline (Aust) Pty Ltd
Suite 111, National Innovation Centre Building
Australian Technology Park, Eveleigh, NSW 2015
Australia

Phone: +61 (0)2 9209 4180

Fax: +61 (0)2 9209 4763

E-mail: tech@bioline.com

1.4. Emergency telephone number

Emergency number : +61 2 8014 4558 (Australia)
(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. |
|----------------------|---|

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

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

| | |
|------------------------|----------------------|
| Ligation Buffer | |
| Ecology - soil | Miscible with water. |

12.5. Results of PBT and vPvB assessment

| | |
|--|--|
| Ligation Buffer | |
| 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.

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

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, BIO-68026, BIO-68027

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

Bioline (Aust) Pty Ltd
Suite 111, National Innovation Centre Building
Australian Technology Park, Eveleigh, NSW 2015
Australia

Phone: +61 (0)2 9209 4180

Fax: +61 (0)2 9209 4763

E-mail: tech@bioline.com

1.4. Emergency telephone number

Emergency number : +61 2 8014 4558 (Australia)
(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

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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.

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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 ³) | 10 mg/m ³ mist |
| Australia | Local name | Glycerin mist |
| Australia | TWA (mg/m ³) | 10 mg/m ³ |
| Australia | Remark (AU) | (a) |

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 |

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| | |
|----------------------|---------------------|
| 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.

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. |
|-----------------|-------------------|

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

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

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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

- 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) |

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| | |
|--|---|
| | 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.

NCEC SDS EU BlackandWhite

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