

29.08.2020 Kit components

| Product code | Description |
|--------------|---|
| 1632143 | MicroRotofor TM Cell Lysis Kit (Yeast) |
| Components: | |
| 10000048962 | Protein Solubilization Buffer (PSB) |
| 10000048963 | PSB Diluent |
| 10005458 | Yeast Suspension Buffer |
| 10005459 | Lyticase |





Safety data sheet according to 1907/2006/EC, Article 31

Printing date 29.08.2020 Revision: 07.08.2020

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

- · 1.1 Product identifier
- · Trade name: Protein Solubilization Buffer (PSB)
- · Article number: 10000048962
- · 1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

- · Application of the substance / the mixture Laboratory chemicals
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Laboratories Pvt. Ltd.

Bio-Rad House

86-87, Udyog Vihar Phase IV

Gurgaon 122005

Haryana

phone: 91-124-4029300 Fax: 91-124-2398115

- · Information department: support.india@bio-rad.com
- · 1.4 Emergency telephone number: 91-124-2398112/113/114

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361d Suspected of damaging the unborn child.

- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

· Hazard pictograms



- GHS08
- · Signal word Warning
- · Hazard-determining components of labelling:

thiourea

· Hazard statements

H351 Suspected of causing cancer.

H361d Suspected of damaging the unborn child.

· Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

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

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Trade name: Protein Solubilization Buffer (PSB)

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- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- · 3.2 Chemical characterisation: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

| · Dangerous | components: | |
|-------------|--|--------|
| 62-56-6 | thiourea | 25-35% |
| | Carc. 2, H351; Repr. 2, H361d Acute Tox. 4, H302 | |
| 15471-17-7 | NDSB 201 (3-(1-pyridino)-1-propane sulfonate) | 2.5-5% |
| | Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | |

· Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information No special measures required.
- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After eye contact Rinse opened eye for several minutes under running water.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.
- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

SECTION 6: Accidental release measures

- · 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · 6.3 Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13.

6.4 Reference to other sections

See Section 7 for information on safe handling

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Trade name: Protein Solubilization Buffer (PSB)

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See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION 7: Handling and storage

- · 7.1 Precautions for safe handling Open and handle receptacle with care.
- · Information about protection against explosions and fires: Keep respiratory protective device available.
- · 7.2 Conditions for safe storage, including any incompatibilities
- Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep receptacle tightly sealed.
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace:

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

- · Additional information: The lists that were valid during the creation were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

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

· Eye protection: Safety glasses

SECTION 9: Physical and chemical properties

- · 9.1 Information on basic physical and chemical properties
- · General Information
- · Appearance:

Form: Solid.
Colour: White
Odour: Odourless
Odour threshold: Not determined.

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Trade name: Protein Solubilization Buffer (PSB)

| | (Contd. of page |
|---|---|
| · pH-value at 20 °C: | 6.5 |
| · Change in condition Melting point/freezing point: Initial boiling point and boiling range | undetermined : undetermined |
| · Flash point: | Not applicable Not determined. |
| · Flammability (solid, gaseous) | Not determined. |
| · Ignition temperature: | 440 °C |
| · Decomposition temperature: | Not determined. |
| · Self igniting: | Product is not selfigniting. |
| · Explosive properties: | Not determined. |
| · Explosion limits: Lower: Upper: | Not determined. Not determined. |
| · Vapour pressure: | Not applicable. |
| · Density: · Relative density · Vapour density · Evaporation rate | Not determined Not determined. Not applicable. Not applicable. |
| · Solubility in / Miscibility with Water: | Soluble |
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity: dynamic: kinematic: | Not applicable. Not applicable. |
| · Solvent content: | |
| Solids content: · 9.2 Other information | 100.0 % No further relevant information available. |

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known
- 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: No further relevant information available.

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Trade name: Protein Solubilization Buffer (PSB)

· 10.6 Hazardous decomposition products: No dangerous decomposition products known

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SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity Based on available data, the classification criteria are not met.
- · LD/LC50 values that are relevant for classification:

57-13-6 urea

Oral LD50 14,500 mg/kg (rat)

62-56-6 thiourea

Oral LD50 1,750 mg/kg (rat)

Dermal LD50 2,800 mg/kg (rbt)

- Primary irritant effect:
- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- Carcinogenicity

Suspected of causing cancer.

- · Reproductive toxicity
 - Suspected of damaging the unborn child.
- · STOT-single exposure Based on available data, the classification criteria are not met.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

- 12.5 Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

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Trade name: Protein Solubilization Buffer (PSB)

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SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation Dispose of waste in accordance to applicable national, regional, or local regulations.
- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

| 4.4.4.1M Number | |
|---|---|
| 14.1 UN-Number ADR, IMDG, IATA | UN3077 |
| 14.2 UN proper shipping name ADR IMDG, IATA | 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID, N.O.S. (thiourea) 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID, N.O.S. (thiourea) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID N.O.S. (thiourea) |
| 14.3 Transport hazard class(es) | |
| ADR, IMDG, IATA Class Label | 9 Miscellaneous dangerous substances and articles. 9 |
| 14.4 Packing group ADR, IMDG, IATA | III |
| 14.5 Environmental hazards: Special marking (ADR): Special marking (IATA): | Symbol (fish and tree) Symbol (fish and tree) |
| 14.6 Special precautions for user Hazard identification number (Kemler code): EMS Number: Stowage Category Stowage Code | Warning: Miscellaneous dangerous substances and articles. 90 F-A,S-F A SW23 When transported in BK3 bulk container, see 7.6.2.12 ar 7.7.3.9. |
| 14.7 Transport in bulk according to Annex II of Ma and the IBC Code | arpol Not applicable. |
| Transport/Additional information: | |
| ADR Limited quantities (LQ) Excepted quantities (EQ) | 5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g |





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Trade name: Protein Solubilization Buffer (PSB)

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|--|--|
| Transport categoryTunnel restriction code | 3 <i>E</i> |
| · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | 5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g |
| · UN "Model Regulation": | UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (THIOUREA), 9, III |

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- National regulations
- · Technical instructions (air):

| Class | Share in % |
|-------|------------|
| 1 | 20-35 |

- · Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.
- · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environmental Health and Safety.
- Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity - oral - Category 4

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Trade name: Protein Solubilization Buffer (PSB)

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Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Carc. 2: Carcinogenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* Data compared to the previous version altered.



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Printing date 29.08.2020 Revision: 07.08.2020

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

· 1.1 Product identifier

· Trade name: PSB Diluent

· Article number: 10000048963

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

No further relevant information available.

· Application of the substance / the mixture Laboratory chemicals

· 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Bio-Rad Laboratories Pvt. Ltd.

Bio-Rad House

86-87, Udyog Vihar Phase IV

Gurgaon 122005

Haryana

phone: 91-124-4029300 Fax: 91-124-2398115

- · Information department: support.india@bio-rad.com
- · 1.4 Emergency telephone number: 91-124-2398112/113/114

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008 The product is not classified, according to the CLP regulation.
- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008 Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- · 3.2 Chemical characterisation: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.
- · Dangerous components: Not applicable.
- · Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information No special measures required.
- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After eye contact Rinse opened eye for several minutes under running water.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.

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Trade name: PSB Diluent

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- · 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- · 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

SECTION 6: Accidental release measures

- · 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- 6.2 Environmental precautions: Dilute with plenty of water.
- · 6.3 Methods and material for containment and cleaning up:

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

· 6.4 Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

- · 7.1 Precautions for safe handling No special precautions are necessary if used correctly.
- · Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace:

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

· Additional information: The lists that were valid during the creation were used as basis.

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Trade name: PSB Diluent

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- · 8.2 Exposure controls
- Personal protective equipment
- · General protective and hygienic measures

The usual precautionary measures should be adhered to when handling chemicals.

- · Breathing equipment: Not required.
- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

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

· Eye protection: Safety glasses

| 9.1 Information on basic physical a | nd chemical properties | |
|--------------------------------------|------------------------------|--|
| General Information | | |
| Appearance: | | |
| Form: | Liquid | |
| Colour: | Colourless | |
| Odour: | Odourless | |
| Odour threshold: | Not determined. | |
| pH-value at 20 °C: | 6.5 | |
| Change in condition | | |
| Melting point/freezing point: | undetermined | |
| Initial boiling point and boiling ra | nge: undetermined | |
| Flash point: | Not applicable | |
| , , | Not determined. | |
| Flammability (solid, gaseous) | Not applicable. | |
| Decomposition temperature: | Not determined. | |
| Self igniting: | Product is not selfigniting. | |
| Explosive properties: | Not determined. | |
| Explosion limits: | | |
| Lower: | Not determined. | |
| Upper: | Not determined. | |
| Vapour pressure at 20 °C: | 23 hPa | |
| Density: | Not determined | |
| Relative density | Not determined. | |
| Vapour density | Not determined. | |
| Evaporation rate | Not determined. | |
| Solubility in / Miscibility with | | |
| Water: | Fully miscible | |

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Trade name: PSB Diluent

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· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

dynamic: Not determined. kinematic: Not determined.

· Solvent content:

Water: 95.0 %

• 9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known
- · 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known

SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity Based on available data, the classification criteria are not met.
- · Primary irritant effect:
- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure Based on available data, the classification criteria are not met.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes: Generally not hazardous for water.

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Trade name: PSB Diluent

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- · 12.5 Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- · 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation Dispose of waste in accordance to applicable national, regional, or local regulations.
- · Uncleaned packagings:
- · **Recommendation:** Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

| SECTION 14: Transport information | | |
|--|--|--|
| · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Not Reguated | |
| 14.2 UN proper shipping name ADR ADN, IMDG, IATA | Not Reguated Not Reguated Not Reguated | |
| · 14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA · Class | Not Reguated | |
| · 14.4 Packing group · ADR, IMDG, IATA | Not Reguated | |
| · 14.5 Environmental hazards: | Not applicable. | |
| · 14.6 Special precautions for user | Not applicable. | |
| · 14.7 Transport in bulk according to Annex I and the IBC Code | Il of Marpol Not applicable. | |
| · UN "Model Regulation": | Not Reguated | |

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · National regulations
- · Water hazard class: Generally not hazardous for water.

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Trade name: PSB Diluent

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· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environmental Health and Safety.
- · Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

· * Data compared to the previous version altered.

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Printing date 29.08.2020 Revision: 11.08.2020

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

- · 1.1 Product identifier
- · Trade name: Yeast Suspension Buffer
- · Article number: 10005458
- · 1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

- · Application of the substance / the mixture Laboratory chemicals
- · 1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier:

Bio-Rad Laboratories Pvt. Ltd.

Bio-Rad House

86-87, Udyog Vihar Phase IV

Gurgaon 122005

Haryana

phone: 91-124-4029300 Fax: 91-124-2398115

- · Information department: support.india@bio-rad.com
- · 1.4 Emergency telephone number: 91-124-2398112/113/114

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008 The product is not classified, according to the CLP regulation.
- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008 Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- · 3.2 Chemical characterisation: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.
- · Dangerous components: Not applicable.
- · Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information No special measures required.
- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After skin contact Generally the product does not irritate the skin.
- · After eye contact Rinse opened eye for several minutes under running water.

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Trade name: Yeast Suspension Buffer

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- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.
- · 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

SECTION 6: Accidental release measures

- · 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- 6.2 Environmental precautions: Dilute with plenty of water.
- · 6.3 Methods and material for containment and cleaning up:

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

- 6.4 Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

- · 7.1 Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace:

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

· Additional information: The lists that were valid during the creation were used as basis.

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Trade name: Yeast Suspension Buffer

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- · 8.2 Exposure controls
- · Personal protective equipment
- General protective and hygienic measures

The usual precautionary measures should be adhered to when handling chemicals.

- · Breathing equipment: Not required.
- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

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

· Eye protection: Safety glasses

| 9.1 Information on basic physical a | nd chemical properties | |
|--------------------------------------|------------------------------|--|
| General Information | • • | |
| Appearance: | | |
| Form: | Fluid | |
| Colour: | Colourless | |
| Odour: | Odourless | |
| Odour threshold: | Not determined. | |
| pH-value at 20 °C: | 7 | |
| Change in condition | | |
| Melting point/freezing point: | 0 ℃ | |
| Initial boiling point and boiling ra | nge: undetermined | |
| Flash point: | Not applicable | |
| • | Not determined. | |
| Flammability (solid, gaseous) | Not applicable. | |
| Decomposition temperature: | Not determined. | |
| Self igniting: | Product is not selfigniting. | |
| Explosive properties: | Not determined. | |
| Explosion limits: | | |
| Lower: | Not determined. | |
| Upper: | Not determined. | |
| Vapour pressure at 20 °C: | 23 hPa | |
| Density at 20 °C: | 1.00791 g/cm³ | |
| Relative density | Not determined. | |
| Vapour density | Not determined. | |
| Evaporation rate | Not determined. | |
| Solubility in / Miscibility with | | |
| Water: | Fully miscible | |

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Trade name: Yeast Suspension Buffer

| | | (Contd. of page 3) |
|---|---|--------------------|
| · Partition coefficient: n-octanol/water: | Not determined. | |
| · Viscosity: dynamic: kinematic: | Not determined. Not determined. | |
| · Solvent content: Water: | 97.5 % | |
| Solids content: - 9.2 Other information | 2.5 % No further relevant information available. | |

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known
- 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known

SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity Based on available data, the classification criteria are not met.
- · Primary irritant effect:
- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure Based on available data, the classification criteria are not met.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- · 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.

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Trade name: Yeast Suspension Buffer

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- Additional ecological information:
- · General notes: Generally not hazardous for water.
- · 12.5 Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · **vPvB:** Not applicable.
- 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation Dispose of waste in accordance to applicable national, regional, or local regulations.
- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

| SECTION 14: Transport information | |
|---|--|
| · 14.1 UN-Number · ADR, ADN, IMDG, IATA | Not Reguated |
| · 14.2 UN proper shipping name · ADR | Not Reguated Not Reguated |
| · ADN, IMDG, IATA · 14.3 Transport hazard class(es) | Not Reguated |
| · ADR, ADN, IMDG, IATA · Class | Not Reguated |
| · 14.4 Packing group · ADR, IMDG, IATA | Not Reguated |
| · 14.5 Environmental hazards: · Marine pollutant: | No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II and the IBC Code | of Marpol Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | Not Reguated |

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Trade name: Yeast Suspension Buffer

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SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · National regulations
- · Water hazard class: Generally not hazardous for water.
- · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environmental Health and Safety.
- · Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

N ·



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

· 1.1 Product identifier

· Trade name: Lyticase

· Article number: 10005459

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

No further relevant information available.

· Application of the substance / the mixture Laboratory chemicals

· 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Bio-Rad Laboratories Pvt. Ltd.

Bio-Rad House

86-87, Udyog Vihar Phase IV

Gurgaon 122005

Haryana

phone: 91-124-4029300 Fax: 91-124-2398115

- · Information department: support.india@bio-rad.com
- · 1.4 Emergency telephone number: 91-124-2398112/113/114

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008 The product is not classified, according to the CLP regulation.
- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008 Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

- · 3.2 Chemical characterisation: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.
- · Dangerous components: Not applicable.
- · Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information No special measures required.
- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After skin contact Generally the product does not irritate the skin.
- · After eye contact Rinse opened eye for several minutes under running water.

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- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.
- · 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- · 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

SECTION 6: Accidental release measures

- · 6.1 Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · 6.3 Methods and material for containment and cleaning up: Pick up mechanically.
- · 6.4 Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

- · 7.1 Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · 8.1 Control parameters
- · Components with limit values that require monitoring at the workplace:

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

· Additional information: The lists that were valid during the creation were used as basis.

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Trade name: Lyticase

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- · 8.2 Exposure controls
- Personal protective equipment
- · General protective and hygienic measures

The usual precautionary measures should be adhered to when handling chemicals.

- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

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

· Eye protection: Safety glasses

| 9.1 Information on basic physical and o | chemical properties | |
|---|------------------------------|--|
| General Information | • • | |
| Appearance: | | |
| Form: | Solid. | |
| Colour: | White | |
| Odour throat ald | Odourless | |
| Odour threshold: | Not determined. | |
| pH-value: | Not applicable. | |
| Change in condition | | |
| Melting point/freezing point: | undetermined | |
| Initial boiling point and boiling range | : undetermined | |
| Flash point: | Not applicable | |
| , | Not determined. | |
| Flammability (solid, gaseous) | Not determined. | |
| Decomposition temperature: | Not determined. | |
| Self igniting: | Product is not selfigniting. | |
| Explosive properties: | Not determined. | |
| Explosion limits: | | |
| Lower: | Not determined. | |
| Upper: | Not determined. | |
| Vapour pressure at 20 °C: | 23 hPa | |
| Density: | Not determined | |
| Relative density | Not determined. | |
| Vapour density | Not applicable. | |
| Evaporation rate | Not applicable. | |
| Solubility in / Miscibility with | | |
| Water: | Fully miscible | |
| Partition coefficient: n-octanol/water: | Not determined. | |



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Trade name: Lyticase

| | (Conta. of page 3 |
|--|---|
| · Viscosity: dynamic: kinematic: | Not applicable. Not applicable. |
| · Solvent content: Water: | 50.0 % |
| Solids content: 9.2 Other information | 100.0 % No further relevant information available. |

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known
- · 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known

SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- · Acute toxicity Based on available data, the classification criteria are not met.
- · LD/LC50 values that are relevant for classification:

7783-20-2 Ammonium Sulfate

Oral LD50 3,000 mg/kg (rat)

- · Primary irritant effect:
- · Skin corrosion/irritation Based on available data, the classification criteria are not met.
- · Serious eye damage/irritation Based on available data, the classification criteria are not met.
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure Based on available data, the classification criteria are not met.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.

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Trade name: Lyticase

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- 12.4 Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

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

- 12.5 Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation Dispose of waste in accordance to applicable national, regional, or local regulations.
- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

| SECTION 14: Transport information | |
|--|--|
| 14.1 UN-Number ADR, ADN, IMDG, IATA | Not Reguated |
| 14.2 UN proper shipping name ADR ADN, IMDG, IATA | Not Reguated Not Reguated Not Reguated |
| 14.3 Transport hazard class(es) | |
| ADR, ADN, IMDG, IATA Class | Not Reguated |
| 14.4 Packing group ADR, IMDG, IATA | Not Reguated |
| 14.5 Environmental hazards: Marine pollutant: | No |
| 14.6 Special precautions for user | Not applicable. |
| 14.7 Transport in bulk according to Annex and the IBC Code | II of Marpol Not applicable. |
| Transport/Additional information: | Not dangerous according to the above specifications. |
| UN "Model Regulation": | Not Reguated |

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Trade name: Lyticase

(Contd. of page 5)

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · National regulations
- · Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environmental Health and Safety.
- · Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

IN