

08/29/2020

Product code	Description	
1632144	MicroRotofor TM Lysis Kit (Bacteria)	
Components:		
10000048962	Protein Solubilization Buffer (PSB)	
10000048963	PSB Diluent	
10005460	Bacterial Suspension Buffer	
10005461	Lysozyme Solution	

Kit Components





Printing date 08/29/2020 Reviewed on 08/07/2020

1 Identification

- · Product identifier
- · Trade name: Protein Solubilization Buffer (PSB)
- · Catalog or product number: 10000048962
- · Application of the substance / the mixture Laboratory chemicals
- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Laboratories, Life Science Group

2000 Alfred Nobel Drive Hercules, California 94547

(510)741-1000

- · Information department: lsg_techserv_us@bio-rad.com
- · Emergency telephone number:

1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.

510-741-1000

2 Hazard(s) identification

· Classification of the substance or mixture

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

- · Label elements
- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms



GHS08

- · Signal word Warning
- · Hazard-determining components of labeling:

thiourea

· Hazard statements

H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or 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.

- · Classification system
- · Special Hazards Reproductive toxin.

(Contd. on page 2)





Reviewed on 08/07/2020 Printing date 08/29/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 1)

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

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with non-hazardous additions.

· Listing of a	· Listing of dangerous and non-hazardous components:		
57-13-6	urea	50-100%	
62-56-6	thiourea Carc. 2, H351; Repr. 2, H361 Aquatic Chronic 2, H411 Acute Tox. 4, H302	25-35%	
15471-17-7	NDSB 201 (3-(1-pyridino)-1-propane sulfonate) Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	2.5-5%	

· Additional information For the wording of the listed risk phrases refer to section 15.

4 First-aid measures

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

5 Fire-fighting measures

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

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- · Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13. (Contd. on page 3)





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 2)

· 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.

Protective Action Criteria for Chemicals

· PAC-1:		
urea		30 mg/m³
thiourea		0.38 mg/m³
· PAC-2:		
57-13-6 urea		280 mg/m³
62-56-6 thiou	ırea	4.1 mg/m³
· PAC-3:		
57-13-6 urea		1,700 mg/m³
62-56-6 thiou	ırea	25 mg/m³

7 Handling and storage

- · Handling
- · Precautions for safe handling Open and handle receptacle with care.
- Information about protection against explosions and fires: Keep respiratory protective device available.
- · 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.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

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

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

57-13-6 urea

WEEL Long-term value: 10 mg/m³

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

(Contd. on page 4)





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 3)

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

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

· Eye protection: Safety glasses

9 Physical and chemical properties		
Information on basic physical and General Information	l chemical properties	
· Appearance: Form:	Solid	
Color:	White	
· Odor:	Odorless	
· Odor threshold:	Not determined.	
· pH-value at 20 °C:	6.5	
· Change in condition		
Melting point/Melting range:	undetermined	
Boiling point/Boiling range:	undetermined	
<u> </u>		
· Flash point:	Not applicable Not determined.	
	Not determined.	
· Flammability (solid, gaseous)	Not determined.	
· Ignition temperature:	440 ℃	
· Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Not determined.	
· Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
· Vapor pressure:	Not applicable.	
· Density:	Not determined	
· Relative density	Not determined.	
· Vapor density	Not applicable.	
· Evaporation rate	Not applicable.	
· Solubility in / Miscibility with		
Water:	Soluble	
· Partition coefficient (n-octanol/wa	ter): Not determined.	
· Viscosity:		
dynamic:	Not applicable.	
kinematic:	Not applicable.	





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 4)

· Solvent content:

Solids content: 100.0 %

No further relevant information available. Other information

10 Stability and reactivity

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

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

· LD/LC5	· LD/LC50 values for hazardous components per OSHA criteria:		
57-13-6	urea		
Oral	LD50	14,500 mg/kg (rat)	
62-56-6	62-56-6 thiourea		
Oral	LD50	1,750 mg/kg (rat)	
Dermal	LD50	2,800 mg/kg (rbt)	

- · Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: No irritant effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

· Carcinogenic categories

62-56-6 thiourea

- · IARC (International Agency for Research on Cancer) 62-56-6 thiourea 3
 - · NTP (National Toxicology Program)

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

(Contd. on page 6)

R





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 5)

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · **Mobility in soil** No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 2 (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.

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

13 Disposal considerations

- · Waste treatment methods
- · Recommendation Dispose of waste in accordance to applicable national, regional, or local regulations.
- · Uncleaned packagings:

· Label

- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information	
· UN-Number · DOT, ADR, IMDG, IATA	UN3077
· UN proper shipping name· DOT· ADR	Environmentally hazardous substance, solid, n.o.s. (thiourea) 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea) 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea)
· IMDG, IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea)
· Transport hazard class(es)	
· DOT, ADR, IMDG, IATA · Class	9 Miscellaneous dangerous substances and articles

(Contd. on page 7)





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

	(Contd. of page
· Packing group · DOT, ADR, IMDG, IATA	III
· Environmental hazards: · Special marking (ADR): · Special marking (IATA):	Symbol (fish and tree) Symbol (fish and tree)
· 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. and 7.7.3.9.
· Transport in bulk according to Annex II of MARPOL and the IBC Code	L 73/78 Not applicable.
· Transport/Additional information:	
· DOT · Quantity limitations	Void Void
· ADR · Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· 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 SUBSTANC SOLID, N.O.S. (THIOUREA), 9, III

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendents and Reauthorization Act of 1986 USA)
- · Section 302/304 (40CFR355.30 / 40CFR355.40):

None of the ingredients is listed.

- · Section 313 (40CFR372.65):
- 62-56-6 thiourea
- · TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is listed.

(Contd. on page 8)





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 7)

- · California Proposition 65:
- · Chemicals known to cause cancer:

62-56-6 thiourea

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Developmental Toxicity

None of the ingredients is listed.

- · Carcinogenic categories
- EPA (Environmental Protection Agency)

57-13-6 urea

11

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- · National regulations
- · Technical instructions (air):

Class	Share in %
I	20-35

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

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

- · Date of preparation / last revision 08/29/2020 / -
- · Abbreviations and acronvms:

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

(Contd. on page 9)



Page 9/9

Safety Data Sheet acc. to OSHA HCS

Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 8)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation - Category 2A

Carc. 2: Carcinogenicity - Category 2

Repr. 2: Reproductive toxicity – Category 2 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard - Category 2

* Data compared to the previous version altered.





Printing date 08/29/2020 Reviewed on 08/07/2020

1 Identification

- · Product identifier
- · Trade name: PSB Diluent
- · Catalog or product number: 10000048963
- · Application of the substance / the mixture Laboratory chemicals
- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Laboratories, Life Science Group

2000 Alfred Nobel Drive

Hercules, California 94547

(510)741-1000

- · Information department: lsg_techserv_us@bio-rad.com
- · Emergency telephone number:

1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.

510-741-1000

2 Hazard(s) identification

· Classification of the substance or mixture

The product is not classified, according to the Globally Harmonized System (GHS).

- · Label elements
- · GHS label elements Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · **Description**: Mixture of the substances listed below with non-hazardous additions.
- · Listing of dangerous and non-hazardous components: Not applicable.
- · Additional information For the wording of the listed risk phrases refer to section 15.

4 First-aid measures

- · 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.
- · Information for doctor
- · Most important symptoms and effects, both acute and delayed No further relevant information available.

(Contd. on page 2)





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: PSB Diluent

(Contd. of page 1)

· Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

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

6 Accidental release measures

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

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

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.

Protective Action Criteria for Chemicals

PAC-1:

None of the ingredients is listed.

· PAC-2:

None of the ingredients is listed.

PAC-3:

None of the ingredients is listed.

7 Handling and storage

- · Handling
- · Precautions for safe handling No special precautions are necessary if used correctly.
- · Information about protection against explosions and fires: No special measures required.
- · 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.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

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

(Contd. on page 3)





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: PSB Diluent

(Contd. of page 2)

- · 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.
- · Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed.
- · Breathing equipment: Not required.
- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

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

· Eye protection: Safety glasses

9 Ph	ysical	and	chemi	cal	prop	erti	es
	,						

9 Physical and chemical properties		
· Information on basic physical and · General Information	chemical properties	
· Appearance:		
Form:	Liquid	
Color:	Colorless	
· Odor:	Odorless	
· Odor threshold:	Not determined.	
· pH-value at 20 °C:	6.5	
· Change in condition		
Melting point/Melting range:	undetermined	
Boiling point/Boiling range:	undetermined	
· Flash point:	Not applicable	
•	Not determined.	
· Flammability (solid, gaseous)	Not applicable.	
· Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Not determined.	
· Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
· Vapor pressure at 20 °C:	23 hPa	
· Density:	Not determined	
· Relative density	Not determined.	
· Vapor density	Not determined.	

(Contd. on page 4)





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: PSB Diluent

(Contd. of page 3)

• **Evaporation rate** Not determined.

· Solubility in / Miscibility with

Water: Fully miscible

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

· Viscosity:

dynamic: Not determined. kinematic: Not determined.

· Solvent content:

Water: 95.0 %

Other information
 No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: No irritant effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Target organs: Not applicable.





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: PSB Diluent

(Contd. of page 4)

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes: Generally not hazardous for water.
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · 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.

UN-Number		
DOT, ADR, ADN, IMDG, IATA	Not Regulated	
UN proper shipping name		
DOT, ADN, IMDG, IATA	Not Regulated	
ADR	Not Regulated	
	Not Regulated	
Transport hazard class(es)		
DOT, ADR, ADN, IMDG, IATA		
Class	Not Regulated	
Packing group		
DOT, ADR, IMDG, IATA	Not Regulated	
Environmental hazards:	Not applicable.	
Special precautions for user	Not applicable.	
Transport in bulk according to Annex II of I	MARPOL73/78	
and the IBC Code	Not applicable.	

(Contd. on page 6)





Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: PSB Diluent

(Contd. of page 5)

· UN "Model Regulation":

Not Regulated

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendents and Reauthorization Act of 1986 USA)
- Section 302/304 (40CFR355.30 / 40CFR355.40):

None of the ingredients is listed.

Section 313 (40CFR372.65):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

7732-18-5 water ACTIVE

· Hazardous Air Pollutants

None of the ingredients is listed.

- · California Proposition 65:
- · Chemicals known to cause cancer:

The product does not contain listed components.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Developmental Toxicity

None of the ingredients is listed.

- · Carcinogenic categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

- · National regulations
- · Water hazard class: Generally not hazardous for water.
- · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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.

(Contd. on page 7)



Page 7/7

Safety Data Sheet acc. to OSHA HCS

Printing date 08/29/2020 Reviewed on 08/07/2020

Trade name: PSB Diluent

(Contd. of page 6)

- · **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

- · Date of preparation / last revision 08/29/2020 / -
- · 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

DOT: US Department of Transportation IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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 NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health TLV: Threshold Limit Value

PEL: Permissible Exposure Limit REL: Recommended Exposure Limit

· * Data compared to the previous version altered.

US





Printing date 08/29/2020 Reviewed on 08/11/2020

1 Identification

- · Product identifier
- · Trade name: Bacterial Suspension Buffer
- · Catalog or product number: 10005460
- · Application of the substance / the mixture Laboratory chemicals
- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Laboratories, Life Science Group

2000 Alfred Nobel Drive

Hercules, California 94547

(510)741-1000

- · Information department: lsg_techserv_us@bio-rad.com
- · Emergency telephone number:

1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.

510-741-1000

2 Hazard(s) identification

· Classification of the substance or mixture

The product is not classified, according to the Globally Harmonized System (GHS).

- · Label elements
- · GHS label elements Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · **Description**: Mixture of the substances listed below with non-hazardous additions.
- · Listing of dangerous and non-hazardous components: Not applicable.
- · Additional information For the wording of the listed risk phrases refer to section 15.

4 First-aid measures

- · 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.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.

(Contd. on page 2)





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Bacterial Suspension Buffer

(Contd. of page 1)

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

5 Fire-fighting measures

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

6 Accidental release measures

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

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

· 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.

- · Protective Action Criteria for Chemicals
- · PAC-1:

None of the ingredients is listed.

· PAC-2:

None of the ingredients is listed.

· PAC-3:

None of the ingredients is listed.

7 Handling and storage

- · Handling
- · Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · 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.
- · Specific end use(s) No further relevant information available.

110





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Bacterial Suspension Buffer

(Contd. of page 2)

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · 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.
- · Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed.
- · Breathing equipment: Not required.
- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

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

· Eye protection: Safety glasses

9 Physical and chemical properties		
· Information on basic physical and o · General Information	chemical properties	
· Appearance:		
Form:	Liquid	
Color:	Colorless	
· Odor:	Odorless	
· Odor threshold:	Not determined.	
· pH-value at 20 °C:	7	
· Change in condition Melting point/Melting range: Boiling point/Boiling range:	0 °C undetermined	
· Flash point:	Not applicable Not determined.	
· Flammability (solid, gaseous)	Not applicable.	
· Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Not determined.	
· Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
· Vapor pressure at 20 °C:	23 hPa	

(Contd. on page 4)





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Bacterial Suspension Buffer

(Contd. of page 3)

		(Contd. of page 3)
· Density at 20 °C: · Relative density	1.00791 g/cm³ Not determined.	
· Vapor density	Not determined.	
· Evaporation rate	Not determined.	
· Solubility in / Miscibility with		
Water:	Fully miscible	
· Partition coefficient (n-octanol/	water): Not determined.	
· Viscosity:		
dynamic:	Not determined.	
kinematic:	Not determined.	
· Solvent content:		
Water:	97.5 %	
Solids content:	2.5 %	

No further relevant information available.

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability

· Other information

- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: No irritant effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- · Carcinogenic categories
- IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

(Contd. on page 5)





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Bacterial Suspension Buffer

(Contd. of page 4)

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Target organs: Not applicable.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes: Generally not hazardous for water.
- Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation

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

14 Transport information		
· UN-Number · DOT, ADR, ADN, IMDG, IATA	Not Regulated	
· UN proper shipping name · DOT, ADN, IMDG, IATA · ADR	Not Regulated Not Regulated Not Regulated	
· Transport hazard class(es)		
· DOT, ADR, ADN, IMDG, IATA · Class	Not Regulated	
· Packing group · DOT, ADR, IMDG, IATA	Not Regulated	
	(Contd	on page





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Bacterial Suspension Buffer

(Contd. of page 5)

	(, , , ,
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.	
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Not Regulated

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · SARA (Superfund Amendents and Reauthorization Act of 1986 USA)
- Section 302/304 (40CFR355.30 / 40CFR355.40):

None of the ingredients is listed.

- Section 313 (40CFR372.65):
- None of the ingredients is listed.
- · TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

- · Hazardous Air Pollutants
- None of the ingredients is listed.
- · California Proposition 65:
- · Chemicals known to cause cancer:

The product does not contain listed components.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Developmental Toxicity

None of the ingredients is listed.

- · Carcinogenic categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

(Contd. on page 7)





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Bacterial Suspension Buffer

(Contd. of page 6)

- · National regulations
- · Water hazard class: Generally not hazardous for water.
- · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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

- · Date of preparation / last revision 08/29/2020 / -
- · 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

DOT: US Department of Transportation IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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 NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended Exposure Limit

· * Data compared to the previous version altered.

US





Printing date 08/29/2020 Reviewed on 08/11/2020

1 Identification

- · Product identifier
- · Trade name: Lysozyme Solution
- · Catalog or product number: 10005461
- · Application of the substance / the mixture Laboratory chemicals
- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Laboratories, Life Science Group

2000 Alfred Nobel Drive

Hercules, California 94547

(510)741-1000

- · Information department: lsg_techserv_us@bio-rad.com
- · Emergency telephone number:

1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.

510-741-1000

2 Hazard(s) identification

· Classification of the substance or mixture

The product is not classified, according to the Globally Harmonized System (GHS).

- · Label elements
- · GHS label elements Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · **Description**: Mixture of the substances listed below with non-hazardous additions.
- · Listing of dangerous and non-hazardous components: Not applicable.
- · Additional information For the wording of the listed risk phrases refer to section 15.

4 First-aid measures

- · 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.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.

(Contd. on page 2)

Page 2/7

Safety Data Sheet acc. to OSHA HCS

Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Lysozyme Solution

(Contd. of page 1)

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

5 Fire-fighting measures

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

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- · Environmental precautions:

Dilute with plenty of water.

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

- · Methods and material for containment and cleaning up:
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- · 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.

7 Handling and storage

- · Handling
- · Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- 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.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

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

(Contd. on page 3)





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Lysozyme Solution

(Contd. of page 2)

- · 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.
- · Exposure controls

· Density:

· Relative density

· Vapor density

- · Personal protective equipment
- · General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed.
- · Breathing equipment: Not required.
- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

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

· Eye protection: Safety glasses

9 Physical and chemical properties		
Information on basic physical and General Information	chemical properties	
· Appearance:	I family	
Form: Color:	Liquid Colorless	
· Odor:	Odorless	
· Odor threshold:	Not determined.	
· pH-value at 20 °C:	7	
· Change in condition Melting point/Melting range: Boiling point/Boiling range:	undetermined undetermined	
· Flash point:	Not applicable Not determined.	
· Flammability (solid, gaseous)	Not applicable.	
· Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
· Danger of explosion:	Not determined.	
· Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
· Vapor pressure at 20 °C:	23 hPa	

Not determined

Not determined.

Not determined.

(Contd. on page 4)





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Lysozyme Solution

		(Contd. of page 3)
· Evaporation rate	Not determined.	
· Solubility in / Miscibility with		
Water:	Fully miscible	
· Partition coefficient (n-octand	ol/water): Not determined.	
· Viscosity:		
dynamic:	Not determined.	
kinematic:	Not determined.	
· Solvent content:		
Water:	50.0 %	
Solids content:	30.0 %	
· Other information	No further relevant information available.	

10 Stability and reactivity

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

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · LD/LC50 values for hazardous components per OSHA criteria:

7783-20-2 Ammonium Sulfate

Oral LD50 3,000 mg/kg (rat)

- · Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: No irritant effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

(Contd. on page 5)





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Lysozyme Solution

(Contd. of page 4)

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Target organs: Not applicable.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · 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.

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

13 Disposal considerations

- · Waste treatment methods
- · Recommendation

· Class

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

UN-Number DOT, ADR, ADN, IMDG, IATA	Not Regulated	
UN proper shipping name		
DOT, ADN, IMDG, IATA	Not Regulated	
ADR	Not Regulated	
	Not Regulated	

Not Regulated

(Contd. on page 6)





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Lysozyme Solution

	(Contd. of page 5)
· Packing group · DOT, ADR, IMDG, IATA	Not Regulated
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.	
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Not Regulated

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · SARA (Superfund Amendents and Reauthorization Act of 1986 USA)
- Section 302/304 (40CFR355.30 / 40CFR355.40):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is listed.

- · California Proposition 65:
- · Chemicals known to cause cancer:

The product does not contain listed components.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Developmental Toxicity

None of the ingredients is listed.

- · Carcinogenic categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

(Contd. on page 7)





Printing date 08/29/2020 Reviewed on 08/11/2020

Trade name: Lysozyme Solution

(Contd. of page 6)

- · National regulations
- · Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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

- · Date of preparation / last revision 08/29/2020 / -
- 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

DOT: US Department of Transportation IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health

JSAA. Occupational Salety & Health

TLV: Threshold Limit Value PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

· * Data compared to the previous version altered.

US