

07/22/2015

Kit Components

Product code	Description	
1632141	MicroRotofor TM Lysis Kit (mammal)	
Components:		
10005456	Protein Solubilization Buffer (PSB)	
10005457	PSB Diluent	



Printing date 07/22/2015 Reviewed on 07/21/2015

1 Identification

- Product identifier
- · Trade name: Protein Solubilization Buffer (PSB)
- · Catalog or product number: 10005456
- · 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
- · 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:

Technical services, customer support

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



- · 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

P202 Do not handle until all safety precautions have been read and understood.

P201 Obtain special instructions before use.

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.

Additional information: Contact with acids may cause release of toxic gases

(Contd. on page 2)



Printing date 07/22/2015 Reviewed on 07/21/2015

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	20-35%	
15471-17-7	NDSB 201 (3-(1-pyridino)-1-propane sulfonate)	2.5-5%	
77-86-1	Tris(hydroxymethyl)aminomethane	0.01-0.1%	

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

4 First-aid measures

- · Description of first aid measures
- · 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 Induce vomiting and call for medical help.
- · 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

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · 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: Pick up mechanically.
- · Reference to other sections
- See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

(Contd. on page 3)



Printing date 07/22/2015 Reviewed on 07/21/2015

Trade name: Protein Solubilization Buffer (PSB)

See Section 13 for disposal information.

(Contd. of page 2)

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.
- · Control parameters
- · Components with limit values that require monitoring at the workplace:

57-13-6 urea

WEEL () 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 Wash hands before breaks and at the end of work.
- · 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 chemical properties
- · General Information
- · Appearance:

Form: Solid
Color: White
• Odor: Odorless
• Odour threshold: Not determined.

· pH-value at 20 °C: 6.5

· Change in condition

Melting point/Melting range: undetermined

(Contd. on page 4)



Printing date 07/22/2015 Reviewed on 07/21/2015

Trade name: Protein Solubilization Buffer (PSB)

		(Contd. of page
Boiling point/Boiling range:	undetermined	
· Flash point:	Not applicable	
· Flammability (solid, gaseous)	Not determined.	
· Ignition temperature:	440 °C	
Decomposition temperature:	Not determined.	
· Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
· Explosion limits: Lower: Upper:	Not determined. Not determined.	
· Vapor pressure:	Not applicable.	
Density: Relative density Vapour density Evaporation rate	Not determined Not determined. Not applicable. Not applicable.	
· Solubility in / Miscibility with Water:	Fully miscible	
Partition coefficient (n-octanol/wa	ter): Not determined.	
Viscosity: dynamic: kinematic:	Not applicable. Not applicable.	
· Solvent content: Organic solvents:	0.0 %	
Solids content: Other information	100.0 % 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



Printing date 07/22/2015 Reviewed on 07/21/2015

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 4)

Toxicological information Information on toxicological effects	
Acute toxicity:	
LD/LC50 values for hazardous components per OSHA criteria:	
57-13-6 urea	
Oral LD50 14500 mg/kg (rat)	
62-56-6 thiourea	
Oral LD50 1750 mg/kg (rat)	
Dermal LD50 2800 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:	
Carcinogenic categories	
IARC (International Agency for Research on Cancer)	
62-56-6 thiourea	
NTP (National Toxicology Program)	
62-56-6 thiourea	
OSHA-Ca (Occupational Safety & Health Administration)	
None of the ingredients is listed.	

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.



Printing date 07/22/2015 Reviewed on 07/21/2015

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 5)

13 Disposal considerations

- · Waste treatment methods
- · Recommendation

Hand over to hazardous waste disposers.

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

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

UN-Number	
DOT, ADR, IMDG, IATA	UN3077
UN proper shipping name DOT, IMDG, IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLI. N.O.S. (thiourea)
ADR	3077 ENVIRONMENTALLY HAZARDOUS SUBSTANC SOLID, N.O.S. (thiourea)
Transport hazard class(es)	
DOT, ADR, IMDG, IATA Class Label	9 Miscellaneous dangerous substances and articles 9
Packing group DOT, ADR, IMDG, IATA	III
Environmental hazards: Marine pollutant: Special marking (ADR): Special marking (IATA):	No Symbol (fish and tree) Symbol (fish and tree)
Special precautions for user Danger code (Kemler): EMS Number:	Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F
Transport in bulk according to Annex II of I and the IBC Code	MARPOL73/78 Not applicable.
UN "Model Regulation":	UN3077; ENVIRONMENTALLY HAZARDOUS SUBSTANC SOLID, N.O.S.; 9; III

(Contd. on page 7)



Printing date 07/22/2015 Reviewed on 07/21/2015

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 6)

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 ingredients are listed.

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

62-56-6 thiourea

- · 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.

· MAK (German Maximum Workplace Concentration)

62-56-6 thiourea

3B

· 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 07/22/2015 / -
- · 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)

(Contd. on page 8)



Printing date 07/22/2015 Reviewed on 07/21/2015

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 7)

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 Carc. 2: Carcinogenicity, Hazard Category 2 Repr. 2: Reproductive toxicity, Hazard Category 2

· * Data compared to the previous version altered.



Printing date 07/22/2015 Reviewed on 07/22/2015

1 Identification

- · Product identifier
- · Trade name: PSB Diluent
- · Catalog or product number: 10005457
- · 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
- · 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:

Technical services, customer support

Isg 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 Void
- · Hazard pictograms Void
- · Signal word Void
- · Hazard statements Void
- · Additional information: Contact with acids may cause release of toxic gases
- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Substances
- · CAS No. Description:

7732-18-5 water

- · Identification number(s):
- · EC number: 231-791-2
- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with non-hazardous additions.
- Listing of dangerous and non-hazardous components:

	,	
	Proprietary Reagent BS 7	2.5-5%
7732-18-5	water	50-100%

(Contd. on page 2)



Safety Data Sheet

Printing date 07/22/2015 Reviewed on 07/22/2015

Trade name: PSB Diluent

(Contd. of page 1)

· 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 Induce vomiting and call for medical help.
- · 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

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · 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: No special measures required.
- · 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.

(Contd. on page 3)



Printing date 07/22/2015 Reviewed on 07/22/2015

Trade name: PSB Diluent

(Contd. of page 2)

· 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 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

Physical and chemical properties on basic physical and		
Information on basic physical and General Information	chemical properties	
Appearance:		
Form:	Liquid	
Color:	Colorless	
Odor:	Odorless	
Odour threshold:	Not determined.	
pH-value at 20 °C:	6.5	
Change in condition		
Melting point/Melting range:	0 ℃	
Boiling point/Boiling range:	undetermined	
Flash point:	Not applicable	
Flammability (solid, gaseous)	Not applicable.	
Ignition temperature:		
Decomposition temperature:	Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	

(Contd. on page 4



Printing date 07/22/2015 Reviewed on 07/22/2015

Trade name: PSB Diluent

(Contd. of page 3)

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· Vapor 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
· Partition coefficient (n-octanol/wat	ter): Not determined.
· Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
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:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

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.

(Contd. on page 5)



Printing date 07/22/2015 Reviewed on 07/22/2015

Trade name: PSB Diluent

(Contd. of page 4)

· 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.

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

Hand over to hazardous waste disposers.

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

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

· UN-Number		
· ADR, ADN, IMDG, IATA	Void	
· UN proper shipping name		
· ADR, ADN, IMDG, IATA	Void	
· Transport hazard class(es)		
· ADR, ADN, IMDG, IATA		
Class	Void	
· Packing group		
· ADR, IMDG, IATA	Void	



Printing date 07/22/2015 Reviewed on 07/22/2015

No

Trade name: PSB Diluent

(Contd. of page 5)

· Environmental hazards:

· Marine pollutant:

· 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.

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

- · 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.

· MAK (German Maximum Workplace Concentration)

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.

- · 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 07/22/2015 / -

(Contd. on page 7)



Printing date 07/22/2015 Reviewed on 07/22/2015

Trade name: PSB Diluent

(Contd. of page 6)

· 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
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

* Data compared to the previous version altered.