



06/14/2017

Kit Components

Product code	Description
1632142	MicroRotor™ Cell Lysis Kit (Plant)

Components:

10000048962	Protein Solubilization Buffer (PSB)
10000048963	PSB Diluent
10005505	Precipitation Agent 1
10005485	Precipitation Agent 2
L004490	Wash Reagent 1
10005487	Wash Reagent 2
10005488	Wash 2 Additive

Safety Data Sheet

acc. to OSHA HCS


Printing date 06/14/2017

Reviewed on 06/09/2017

1 Identification

- **Product identifier**
- **Trade name:** Protein Solubilization Buffer (PSB)
- **Catalog or product number:** 10005456
- **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.
 - **Additional information:** Contact with acids may cause release of toxic gases
 - **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 1)

· **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:**

57-13-6	urea	50-100%
62-56-6	thiourea Carc. 2, H351; Repr. 2, H361 Acute Tox. 4, H302	20-35%
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%
77-86-1	Tris(hydroxymethyl)aminomethane Eye Irrit. 2A, H319	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)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

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
Odor threshold:	Not determined.

· **pH-value at 20 °C:** 6.5

· **Change in condition**

Melting point/Melting range: undetermined

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 3)

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:	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:	Fully miscible
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
· Solvent content:	
Organic solvents:	0.0 %
Solids content:	100.0 %
· 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

US

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 4)

11 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)
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62-56-6 thiourea

Oral	LD50	1750 mg/kg (rat)
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Dermal	LD50	2800 mg/kg (rbt)
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- 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	3
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3

· NTP (National Toxicology Program)

62-56-6	thiourea	R
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R

· 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.

US

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

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.

14 Transport information

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

US

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

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 Amendments 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** 06/14/2017 / -

· **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)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

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
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

*** Data compared to the previous version altered.**

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/17/2015

1 Identification

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

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

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/17/2015

Trade name: PSB Diluent

(Contd. of page 1)

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.
- **Specific end use(s)** No further relevant information available.

US

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/17/2015

Trade name: **PSB Diluent**

(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 chemical properties**
- **General Information**
- **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:	0 °C
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.
- **Vapor pressure at 20 °C:** 23 hPa
- **Density:** Not determined

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/17/2015

Trade name: PSB Diluent

(Contd. of page 3)

- **Relative density** 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:**
 - 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.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/17/2015

Trade name: PSB Diluent

(Contd. of page 4)

· **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.

14 Transport information

- | | |
|--|-----------------|
| · 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 |
| · 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. |

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/17/2015

Trade name: PSB Diluent

(Contd. of page 5)

· **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 Amendments 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** 06/14/2017 / -

· **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

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/17/2015

Trade name: PSB Diluent

(Contd. of page 6)

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

Safety Data Sheet

acc. to OSHA HCS


Printing date 06/14/2017

Reviewed on 06/09/2017

1 Identification

- **Product identifier**
- **Trade name:** Precipitation Agent 1
- **Catalog or product number:** 10005505
- **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**
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Carc. 2 H351 Suspected of causing cancer.
STOT SE 3 H335 May cause respiratory irritation.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable
- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**


GHS05 GHS07 GHS08
- **Signal word** Danger
- **Hazard-determining components of labeling:**
trichloroacetic acid
- **Hazard statements**
H314 Causes severe skin burns and eye damage.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.

(Contd. on page 2)

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 1

(Contd. of page 1)

Precautionary statements

- P260 Do not breathe dusts or mists.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER/doctor.
- 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

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:

Component 1			
		Xi R36/38 Skin Irrit. 2, H315; Eye Irrit. 2A, H319	20-35%
76-03-9	trichloroacetic acid	C R35 N R50/53 Carc. 2, H351 Skin Corr. 1A, H314	5-10%
Component 2			
7732-18-5	water		50-100%

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 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.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 1

(Contd. of page 2)

- **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:**
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.

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.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

76-03-9 trichloroacetic acid

REL () 7 mg/m³, 1 ppm

TLV () 6.7 mg/m³, 1 ppm

- **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.
- **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.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 1

(Contd. of page 3)

· **Eye protection:** Safety glasses

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Liquid

· **Color:** White

· **Odor:** Recognizable

· **Odor threshold:** Not determined.

· **pH-value at 20 °C:** 1

· **Change in condition**

· **Melting point/Melting range:** undetermined

· **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.

· **Vapor pressure at 20 °C:** 23 hPa

· **Density at 20 °C:** 1.35585 g/cm³

· **Relative density** 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:**

· **Organic solvents:** 0.0 %

· **Water:** 55.3 %

· **Solids content:** 55.0 %

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 1

(Contd. of page 4)

· **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:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

76-03-9 trichloroacetic acid

3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **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.
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 1

(Contd. of page 5)

- **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.

14 Transport information

· UN-Number	UN2564
· DOT, ADR, IMDG, IATA	
· UN proper shipping name	TRICHLOROACETIC ACID SOLUTION
· DOT, IMDG, IATA	2564 TRICHLOROACETIC ACID SOLUTION
· ADR	
· Transport hazard class(es)	
· DOT, ADR, IMDG, IATA	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Acids
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S., 8, III

US

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 1

(Contd. of page 6)

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendants 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 ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

76-03-9 trichloroacetic acid

C

· **TLV (Threshold Limit Value established by ACGIH)**

76-03-9 trichloroacetic acid

A3

· **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:** 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** 06/14/2017 / -

· **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

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 1

(Contd. of page 7)

OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Carc. 2: Carcinogenicity – Category 2
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
* **Data compared to the previous version altered.**

US

Safety Data Sheet

acc. to OSHA HCS


Printing date 06/14/2017

Reviewed on 06/09/2017

1 Identification

- **Product identifier**
- **Trade name:** Precipitation Agent 2
- **Catalog or product number:** 10005485
- **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**
Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2A H319 Causes serious eye irritation.
 - **Label elements**
 - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
 - **Hazard pictograms**
- 

GHS07
- **Signal word** Warning
 - **Hazard-determining components of labeling:**
Component 5
 - **Hazard statements**
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
 - **Precautionary statements**
P264 Wash thoroughly after handling.
P280 Wear eye protection / face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
 - **Additional information:** Contact with acids may cause release of toxic gases
 - **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 2

(Contd. of page 1)

· **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:**

	Component 1	Skin Irrit. 2, H315; Eye Irrit. 2A, H319	2.5-5%
	Component 2		2.5-5%
	Component 3	Eye Irrit. 2A, H319	2.5-5%
	Component 10		2.5-5%
	Component 5	Acute Tox. 3, H301	2.5-5%
7732-18-5	water		50-100%

· **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:**
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).

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 2

(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.

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.
- **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** Wash hands before breaks and at the end of work.
- **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 chemical properties**
- **General Information**
- **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Odorless
Odor threshold:	Not determined.
- **pH-value:** Not determined.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 2

(Contd. of page 3)

· Change in condition	
Melting point/Melting range:	undetermined
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.
· Vapor pressure at 20 °C:	23 hPa
· Density:	Not determined
· Relative density	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:	
Organic solvents:	0.0 %
Water:	75.0 %
Solids content:	100.0 %
· 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

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: **Precipitation Agent 2**

(Contd. of page 4)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values for hazardous components per OSHA criteria:**

Component 3

Oral	LD50	4000 mg/kg (rat)
------	------	------------------

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

· **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.

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**
Hand over to hazardous waste disposers.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 2

(Contd. of page 5)

- **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 | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Class | Void |
| · Packing group | Void |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | No |
| · 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": | Void |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA (Superfund Amendments 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 ingredients are 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.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Precipitation Agent 2

(Contd. of page 6)

· **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:** 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** 06/14/2017 / -

· **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

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 3: Acute toxicity – Category 3

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

· *** Data compared to the previous version altered.**

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

1 Identification

- **Product identifier**
- **Trade name:** Wash Reagent 1
- **Catalog or product number:** 10005486, 4307587
- **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**
Acute Tox. 4 H302 Harmful if swallowed.
Eye Irrit. 2A H319 Causes serious eye irritation.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC not applicable**
- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**
Component 5
- **Hazard statements**
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
- **Precautionary statements**
P264 Wash thoroughly after handling.
P280 Wear eye protection / face protection.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 1

(Contd. of page 1)

- P301+P312 **IF SWALLOWED:** Call a POISON CENTER/doctor if you feel unwell.
- P305+P351+P338 **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 **If eye irritation persists:** Get medical advice/attention.
- P501 **Dispose of contents/container in accordance with local/regional/national/international regulations.**
- **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: Mixtures**
- **Description:** Mixture of the substances listed below with non-hazardous additions.

· **Listing of dangerous and non-hazardous components:**

Component 1	Xi R36/38 Skin Irrit. 2, H315; Eye Irrit. 2A, H319	2.5-5%
Component 2		2.5-5%
Component 3	Xi R36 Eye Irrit. 2A, H319	2.5-5%
Component 10		2.5-5%
Component 5	Xn R22 Acute Tox. 3, H301	2.5-5%
7732-18-5 water		50-100%

- **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.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 1

(Contd. of page 2)

- **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:**
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.
- **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** Wash hands before breaks and at the end of work.
- **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.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 1

(Contd. of page 3)

· **Eye protection:** Safety glasses

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **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

· **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.

· **Vapor pressure at 20 °C:** 23 hPa

· **Density:** Not determined

· **Relative density** 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:**

· Organic solvents:	0.0 %
· Water:	75.0 %

· **Solids content:** 25.0 %

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 1

(Contd. of page 4)

· **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:**

Component 3

Oral	LD50	4000 mg/kg (rat)
------	------	------------------

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

· **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.

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.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 1

(Contd. of page 5)

- **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.

14 Transport information

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

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA (Superfund Amendants 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.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 1

(Contd. of page 6)

· **TSCA (Toxic Substances Control Act):**

All ingredients are 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.

· **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:** 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** 06/14/2017 / -

· **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

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 3: Acute toxicity – Category 3

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

· *** Data compared to the previous version altered.**

Safety Data Sheet

acc. to OSHA HCS


Printing date 06/14/2017

Reviewed on 06/09/2017

1 Identification

- **Product identifier**
- **Trade name:** Wash Reagent 2
- **Catalog or product number:** 10005487, 4307591
- **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**
Flam. Liq. 2 H225 Highly flammable liquid and vapor.
Acute Tox. 4 H312 Harmful in contact with skin.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Carc. 2 H351 Suspected of causing cancer.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.
STOT SE 3 H336 May cause drowsiness or dizziness.
STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**


GHS02 GHS05 GHS07 GHS08
- **Signal word** Danger
- **Hazard-determining components of labeling:**
acetone
hydrogen chloride
trichloromethane
propan-2-ol
- **Hazard statements**
H225 Highly flammable liquid and vapor.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 2

(Contd. of page 1)

H336 May cause drowsiness or dizziness.

H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

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

Emergency overview:

Routes of exposure: Ingestion

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:

67-64-1	acetone	Flam. Liq. 2, H225 Eye Irrit. 2A, H319; STOT SE 3, H336	50-100%
67-63-0	propan-2-ol	Flam. Liq. 2, H225 Eye Irrit. 2A, H319; STOT SE 3, H336	2.5-5%
	Component 7	Flam. Liq. 3, H226 Acute Tox. 4, H302	2.5-5%
67-66-3	trichloromethane	Flam. Liq. 2, H225 Acute Tox. 3, H331 Carc. 2, H351; Repr. 2, H361; STOT RE 1, H372 Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	2.5-5%
	hydrogen chloride	Skin Corr. 1B, H314; Eye Dam. 1, H318 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

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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. Then consult a doctor.

After swallowing Immediately call a doctor.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 2

(Contd. of page 2)

- **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, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents**
Water.
Water with full jet.
- **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:**
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.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **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 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 2

(Contd. of page 3)

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

67-64-1 acetone

PEL () 2400 mg/m³, 1000 ppm
 REL () 590 mg/m³, 250 ppm
 TLV () Short-term value: (1782) NIC-1187 mg/m³, (750) NIC-500 ppm
 Long-term value: (1188) NIC-475 mg/m³, (500) NIC-200 ppm
 BEI

67-63-0 propan-2-ol

PEL () 980 mg/m³, 400 ppm
 REL () Short-term value: 1225 mg/m³, 500 ppm
 Long-term value: 980 mg/m³, 400 ppm
 TLV () Short-term value: 984 mg/m³, 400 ppm
 Long-term value: 492 mg/m³, 200 ppm
 BEI

67-66-3 trichloromethane

PEL () Short-term value: C 240 mg/m³, C 50 ppm
 REL () Short-term value: 9.78* mg/m³, 2* ppm
 *60-min; See Pocket Guide App. A
 TLV () 49 mg/m³, 10 ppm

· **Ingredients with biological limit values:**

67-64-1 acetone

BEI () 50 mg/L
 Medium: urine
 Time: end of shift
 Parameter: Acetone (nonspecific)

67-63-0 propan-2-ol

BEI () 40 mg/L
 Medium: urine
 Time: end of shift at end of workweek
 Parameter: Acetone (background, nonspecific)

· **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.

· **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

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 2

Tightly sealed goggles.

(Contd. of page 4)

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:** Liquid
 · **Color:** Colorless
 · **Odor:** Recognizable
 · **Odor threshold:** Not determined.

· **pH-value at 20 °C:** 5.5

· **Change in condition**

· **Melting point/Melting range:** undetermined
 · **Boiling point/Boiling range:** 55 °C

· **Flash point:** < 0 °C

· **Flammability (solid, gaseous)** Not applicable.

· **Ignition temperature:** 340 °C

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

· **Lower:** 2.6 Vol %
 · **Upper:** 13.0 Vol %

· **Vapor pressure at 20 °C:** 233 hPa

· **Density at 20 °C:** 0.82281 g/cm³
 · **Relative density** 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:**

· **Organic solvents:** 90.0 %

· **Other information** No further relevant information available.

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 2

(Contd. of page 5)

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:**

67-64-1 acetone

Oral	LD50	5800 mg/kg (rat)
Dermal	LD50	20000 mg/kg (rbt)

67-63-0 propan-2-ol

Oral	LD50	4570 mg/kg (rat)
Dermal	LD50	13400 mg/kg (rab)
Inhalative	LC50/4 h	30 mg/l (rat)

Component 7

Oral	LD50	1300 mg/kg (rat)
------	------	------------------

67-66-3 trichloromethane

Oral	LD50	908 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat)

· **Primary irritant effect:**

· **on the skin:**

No irritant effect.

Strong caustic effect on skin and mucous membranes.

· **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:

Harmful

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

67-63-0	propan-2-ol	3
67-66-3	trichloromethane	2B
	hydrogen chloride	3

· **NTP (National Toxicology Program)**

67-66-3	trichloromethane	R
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(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 2

(Contd. of page 6)

· **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 danger class 3 (Internal calculation) (Self-assessment): extremely hazardous for water.
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely 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**
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.

14 Transport information

· UN-Number	
· DOT, ADR, IMDG, IATA	UN1993
· UN proper shipping name	
· DOT, IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (ACETONE, CHLOROFORM)
· ADR	1993 FLAMMABLE LIQUID, N.O.S. (vapor pressure at 50 °C at most 110 kPa) (ACETONE, CHLOROFORM)
· Transport hazard class(es)	
· DOT, ADR, IMDG, IATA	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, ADR, IMDG, IATA	II

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 2

(Contd. of page 7)

· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-E
· Segregation groups	Liquid halogenated hydrocarbons
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S., 3, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)

· **Section 302/304 (40CFR355.30 / 40CFR355.40):**

67-66-3	trichloromethane
	hydrogen chloride

· **Section 313 (40CFR372.65):**

67-63-0	propan-2-ol
67-66-3	trichloromethane
	hydrogen chloride

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **California Proposition 65:**

· **Chemicals known to cause cancer:**

67-66-3	trichloromethane
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· **Developmental Toxicity**

67-66-3	trichloromethane
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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

67-64-1	acetone	I
67-66-3	trichloromethane	NL

· **TLV (Threshold Limit Value established by ACGIH)**

67-64-1	acetone	A4
67-63-0	propan-2-ol	A4
67-66-3	trichloromethane	A3

· **MAK (German Maximum Workplace Concentration)**

67-66-3	trichloromethane	4
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

67-66-3	trichloromethane
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(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/09/2017

Trade name: Wash Reagent 2

(Contd. of page 8)

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

Class	Share in %
I	2.5-5
III	2.5-5
NK	50-100

- **Water hazard class:** Water danger class 3 (Self-assessment): extremely 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** 06/14/2017 / -

- **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

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

- * **Data compared to the previous version altered.**

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/12/2015

1 Identification

- **Product identifier**
- **Trade name:** Wash 2 Additive
- **Catalog or product number:** 10005488
- **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** 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:**

	Component 9	2.5-5%
7732-18-5	water	50-100%

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

Safety Data Sheet

acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/12/2015

Trade name: Wash 2 Additive

(Contd. of page 1)

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.
- **Specific end use(s)** No further relevant information available.

US
(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/12/2015

Trade name: Wash 2 Additive

(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 chemical properties**
- **General Information**
- **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Odorless
Odor threshold:	Not determined.
- **pH-value at 20 °C:** 5.5
- **Change in condition**

Melting point/Melting range:	0 °C
Boiling point/Boiling range:	undetermined
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Not applicable.
- **Ignition temperature:**

Decomposition temperature:	Not determined.
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- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.
- **Vapor pressure at 20 °C:** 23 hPa
- **Density:** Not determined

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/12/2015

Trade name: Wash 2 Additive

(Contd. of page 3)

· Relative density	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:	
Organic solvents:	0.0 %
Water:	95.0 %
· Solids content:	5.0 %
· 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.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 06/14/2017

Reviewed on 06/12/2015

Trade name: Wash 2 Additive

(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**

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.

14 Transport information

· **UN-Number**

· **DOT, ADR, ADN, IMDG, IATA**

Void

· **UN proper shipping name**

· **DOT, ADR, ADN, IMDG, IATA**

Void

· **Transport hazard class(es)**

· **DOT, ADR, ADN, IMDG, IATA**

· **Class**

Void

· **Packing group**

· **DOT, ADR, IMDG, IATA**

Void

· **Environmental hazards:**

· **Marine pollutant:**

No

(Contd. on page 6)

Safety Data Sheet
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Printing date 06/14/2017

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Trade name: Wash 2 Additive

(Contd. of page 5)

- **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":** Void

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA (Superfund Amendments 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 ingredients are 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.

- **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.

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- **Date of preparation / last revision** 06/14/2017 / -

(Contd. on page 7)

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(Contd. of page 6)

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· * Data compared to the previous version altered.

US