

08/07/2020

**Kit Components**

Product code	Description
<b>1632088</b> <b>L004460</b>	<b>ReadyPrep™ Protein Extraction Kit (Membrane I)</b>

## Components:

10000048987	Membrane Protein Extraction Buffer 1 (M1)
10000048989	Membrane Protein Extraction Buffer 2 (M2)
10000048962	Protein Solubilization Buffer (PSB)
10000048963	PSB Diluent
10005505	Precipitation Agent 1
10005485	Precipitation Agent 2
4307587	Wash Reagent 1
10005487	Wash Reagent 2
10005488	Wash 2 Additive

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

### 1 Identification

- **Product identifier**
- **Trade name:** **Membrane Protein Extraction Buffer 1 (M1)**
- **Catalog or product number:** 10000048987
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, Ontario  
L5T 1C9  
Canada
- **Information department:** sales\_canada@bio-rad.com
- **Emergency telephone number:** 1-800-424-6723 option 2

phone: 1-800-268-0213 Fax: 1-888-913-9779

### 2 Hazard identification

- **Classification of the substance or mixture**  
The product is not classified, according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** Not Applicable
- **Hazard pictograms** Not Applicable
- **Signal word** Not Applicable
- **Hazard statements** Not Applicable

### 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:** Not applicable.
- **Additional information** For the wording of the listed hazard phrases refer to section 16.

### 4 First-aid measures

- **Description of first aid measures**
- **General information** No special measures required.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** Rinse mouth with water. Seek medical attention and appropriate follow-up.

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## Safety Data Sheet

according to HPR, Schedule 1

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**Trade name: Membrane Protein Extraction Buffer 1 (M1)**

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

### 5 Fire-fighting measures

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

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:**
  - Dilute with plenty of water.
  - Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
  - No dangerous substances are released.
  - See Section 7 for information on safe handling
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

### 7 Handling and storage

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

### 8 Exposure controls/ Personal protection

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

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## Safety Data Sheet

### according to HPR, Schedule 1

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Reviewed on 08/07/2020

Trade name: Membrane Protein Extraction Buffer 1 (M1)

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- **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	
Not determined.	
- **Flammability (solid, gaseous)** Not applicable.
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Not determined.
- **Explosion limits:**

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

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## Safety Data Sheet

according to HPR, Schedule 1

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Reviewed on 08/07/2020

Trade name: Membrane Protein Extraction Buffer 1 (M1)

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· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
dynamic:	Not determined.
kinematic:	Not determined.
· <b>Solvent content:</b>	
Water:	98.0 %
Solids content:	1.5 %
· <b>Other information</b>	No further relevant information available.

### 10 Stability and reactivity

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

### 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:**
  - **Primary irritant effect:**
  - **on the skin:** No irritant effect.
  - **on the eye:** No irritant effect.
  - **Sensitization:** No sensitizing effects known.
  - **Additional toxicological information:**  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
  - **Carcinogenic categories**
  - **IARC (International Agency for Research on Cancer)**
- |                          |   |
|--------------------------|---|
| Proprietary Reagent BS 2 | 3 |
|--------------------------|---|
- **NTP (National Toxicology Program)**
- |                                    |  |
|------------------------------------|--|
| None of the ingredients is listed. |  |
|------------------------------------|--|

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: Membrane Protein Extraction Buffer 1 (M1)

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## 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**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT/TDG, ADR, ADN, IMDG, IATA</b></li> </ul>                                      | <p>Not Regulated</p>   |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT/TDG, ADN, IMDG, IATA</b></li> <li>· <b>ADR</b></li> </ul>       | <p>Not Regulated</p> <p>Not Regulated</p> <p>Not Regulated</p> |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT, ADR, ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul> | <p>Not Regulated</p>   |
| <ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT/TDG, ADR, IMDG, IATA</b></li> </ul>                                       | <p>Not Regulated</p>   |
| <ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>                                     | <p>No</p>  |

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## Safety Data Sheet

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Trade name: Membrane Protein Extraction Buffer 1 (M1)

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- |  |  |
|--|--|
| <b>· Special precautions for user</b>  | Not applicable.                                      |
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                                      |
| <b>· Transport/Additional information:</b>                                       | Not dangerous according to the above specifications. |
| <b>· UN "Model Regulation":</b>  | Not Regulated  |

### 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

ACTIVE

Proprietary Reagent K

ACTIVE

Proprietary Reagent BS 2

\*

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

None of the ingredients is listed.

- **National regulations**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those 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 the latest revision of the safety data sheet** 08/07/2020 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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**Safety Data Sheet**  
**according to HPR, Schedule 1**

Printing date 08/07/2020

Reviewed on 08/07/2020

**Trade name: Membrane Protein Extraction Buffer 1 (M1)**

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*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*

CA



## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

### 1 Identification

- **Product identifier**
- **Trade name:** *Membrane Protein Extraction Buffer 2 (M2)*
- **Catalog or product number:** 10000048989
- **Application of the substance / the mixture** *Laboratory chemicals*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Bio-Rad Laboratories (Canada) Ltd.  
 1329 Meyerside Drive  
 Mississauga, Ontario  
 L5T 1C9  
 Canada
- **Information department:** *sales\_canada@bio-rad.com*
- **Emergency telephone number:** *1-800-424-6723 option 2*

phone: 1-800-268-0213 Fax: 1-888-913-9779

### 2 Hazard identification

- **Classification of the substance or mixture**  
*Serious Eye Damage - Category 1 H318 Causes serious eye damage.*
- **Label elements**
- **GHS label elements** *The product is classified and labeled according to the Globally Harmonized System (GHS).*
- **Hazard pictograms**



GHS05

- **Signal word** *Danger*
- **Hazard-determining components of labeling:**  
*Proprietary Reagent R*
- **Hazard statements**  
*H318 Causes serious eye damage.*
- **Precautionary statements**  
*P280 Wear protective gloves/protective clothing/eye protection/face protection.*  
*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.*

### 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:**

Proprietary Reagent R	3-<5% w/w *
Serious Eye Damage - Category 1, H318	
Skin Irritation - Category 2, H315	

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

**Trade name: Membrane Protein Extraction Buffer 2 (M2)**

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\* Actual concentration ranges are withheld as a trade secret.

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

#### 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. Then consult a doctor.

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

· **Information for doctor**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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

#### 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

· **Special hazards arising from the substance or mixture** No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

#### 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment (See section 8). Keep unprotected persons away.

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).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

· **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.

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: Membrane Protein Extraction Buffer 2 (M2)

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- **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:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The 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**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not necessary if room is well-ventilated. Adequate ventilation 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  
Tightly sealed goggles.

## 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

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## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: Membrane Protein Extraction Buffer 2 (M2)

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· <b>Change in condition</b>	
Melting point/Melting range:	undetermined
Boiling point/Boiling range:	undetermined
· <b>Flash point:</b>	Not applicable Not determined.
· <b>Flammability (solid, gaseous)</b>	Not applicable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b>	
Lower:	Not determined.
Upper:	Not determined.
· <b>Vapor pressure at 20 °C:</b>	23 hPa
· <b>Density:</b>	Not determined
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
Water:	Fully miscible
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
dynamic:	Not determined.
kinematic:	Not determined.
· <b>Solvent content:</b>	
Water:	94.0 %
Solids content:	6.0 %
· <b>Other information</b>	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

CA

(Contd. on page 5)

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: Membrane Protein Extraction Buffer 2 (M2)

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### 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

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

Proprietary Reagent R		
Oral	LD50	4,190 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:**

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- **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:

Irritant

- **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.

### 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

Proprietary Reagent R		
Oral	LC50	0.21 mg/l (Selanastrum green algae)
		7.2 mg/l (Danio rerio (zebra fish))

- **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.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

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## Safety Data Sheet

### according to HPR, Schedule 1

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Reviewed on 08/07/2020

Trade name: Membrane Protein Extraction Buffer 2 (M2)

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

### 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

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

Dispose of waste in accordance to applicable national, regional, or local regulations.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

· **UN-Number**

· **DOT/TDG, ADR, ADN, IMDG, IATA**

Not Regulated

· **UN proper shipping name**

· **DOT/TDG, ADN, IMDG, IATA**

Not Regulated

· **ADR**

Not Regulated

Not Regulated

· **Transport hazard class(es)**

· **DOT, ADR, ADN, IMDG, IATA**

· **Class**

Not Regulated

· **Packing group**

· **DOT/TDG, ADR, IMDG, IATA**

Not Regulated

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special precautions for user**

Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

Not dangerous according to the above specifications.

· **UN "Model Regulation":**

Not Regulated

### 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)**

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

None of the ingredients is listed.

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

**Trade name: Membrane Protein Extraction Buffer 2 (M2)**

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**· Section 313 (40CFR372.65):**

None of the ingredients is listed.

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

All components have the value ACTIVE.

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

None of the ingredients is listed.

**· National regulations**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those 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 the latest revision of the safety data sheet** 08/07/2020 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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



# Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

## 1 Identification

- **Product identifier**
- **Trade name: Protein Solubilization Buffer (PSB)**
- **Catalog or product number:** 10000048962
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, Ontario  
L5T 1C9  
Canada
- **Information department:** sales\_canada@bio-rad.com
- **Emergency telephone number:** 1-800-424-6723 option 2

phone: 1-800-268-0213 Fax: 1-888-913-9779

## 2 Hazard identification

- **Classification of the substance or mixture**  
Carcinogenicity – Category 2 H351 Suspected of causing cancer.  
Reproductive Toxicity - Category 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.



## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 1)

### 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:**

62-56-6	thiourea	25-30% w/w *
	Carcinogenicity – Category 2, H351; Reproductive Toxicity - Category 2, H361 Acute Toxicity (Oral) - Category 4, H302	
15471-17-7	NDSB 201 (3-(1-pyridino)-1-propane sulfonate)	1-5% w/w *
	Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Specific Target Organ Toxicity - Single Exposure - Category 3, H335	

\* Actual concentration ranges are withheld as a trade secret.

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

### 4 First-aid measures

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

### 5 Fire-fighting measures

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

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Dispose contaminated material as waste according to item 13.
- **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

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

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

### 8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The 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**  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.
- **Protection of hands:** Protective gloves.
- **Material of gloves** Synthetic gloves
- **Penetration time of glove material**  
The exact break 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.

(Contd. on page 4)

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 3)

· <b>pH-value at 20 °C:</b>	6.5
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	undetermined
<b>Boiling point/Boiling range:</b>	undetermined
· <b>Flash point:</b>	Not applicable Not determined.
· <b>Flammability (solid, gaseous)</b>	Not determined.
· <b>Ignition temperature:</b>	440 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density:</b>	Not determined
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with Water:</b>	Soluble
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>dynamic:</b>	Not applicable.
<b>kinematic:</b>	Not applicable.
· <b>Solvent content:</b>	
<b>Solids content:</b>	100.0 %
· <b>Other information</b>	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.

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## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 4)

· **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:**

#### 57-13-6 urea

Oral	LD50	14,500 mg/kg (rat)
------	------	--------------------

#### 62-56-6 thiourea

Oral	LD50	1,750 mg/kg (rat)
------	------	-------------------

Dermal	LD50	2,800 mg/kg (rbt)
--------	------	-------------------

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritant effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

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

· **Carcinogenic categories**

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

62-56-6	thiourea	3
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· **NTP (National Toxicology Program)**

62-56-6	thiourea	R
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### 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.

(Contd. on page 6)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 5)

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

### 13 Disposal considerations

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

### 14 Transport information

· <b>UN-Number</b>	UN3077
· <b>DOT/TDG, ADR, IMDG, IATA</b>	
· <b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s. (thiourea)
· <b>DOT/TDG</b>	3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea)
· <b>ADR</b>	3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea)
· <b>IMDG, IATA</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (thiourea)
· <b>Transport hazard class(es)</b>	
· <b>DOT, ADR, IMDG, IATA</b>	
· <b>Class</b>	9 Miscellaneous dangerous substances and articles
· <b>Label</b>	9
· <b>Packing group</b>	
· <b>DOT/TDG, ADR, IMDG, IATA</b>	III
· <b>Environmental hazards:</b>	
· <b>Special marking (ADR):</b>	Symbol (fish and tree)
· <b>Special marking (IATA):</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Miscellaneous dangerous substances and articles
· <b>Hazard identification number (Kemler code):</b>	90
· <b>EMS Number:</b>	F-A,S-F
· <b>Stowage Category</b>	A
· <b>Stowage Code</b>	SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

(Contd. on page 7)

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: Protein Solubilization Buffer (PSB)

(Contd. of page 6)

· **Transport/Additional information:**· **DOT/TDG**· **Quantity limitations**

Void

Void

· **ADR**· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

· **IMDG**· **Limited quantities (LQ)**· **Excepted quantities (EQ)**

5 kg

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

· **UN "Model Regulation":**UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
SOLID, N.O.S. (THIOUREA), 9, III

### 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 components have the value ACTIVE.

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

62-56-6 thiourea

3B

· **National regulations**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations

· **Technical instructions (air):**

Class	Share in %
I	10-30

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

CA

(Contd. on page 8)

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

**Trade name: Protein Solubilization Buffer (PSB)**

(Contd. of page 7)

### 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 the latest revision of the safety data sheet** 08/07/2020 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

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

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

#### 1 Identification

- **Product identifier**
- **Trade name:** **PSB Diluent**
- **Catalog or product number:** 10000048963
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, Ontario  
L5T 1C9  
Canada
- **Information department:** sales\_canada@bio-rad.com
- **Emergency telephone number:** 1-800-424-6723 option 2

phone: 1-800-268-0213 Fax: 1-888-913-9779

#### 2 Hazard identification

- **Classification of the substance or mixture**  
The product is not classified, according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** Not Applicable
- **Hazard pictograms** Not Applicable
- **Signal word** Not Applicable
- **Hazard statements** Not Applicable

#### 3 Composition/Information on ingredients

- **Chemical characterization:** **Mixtures**
- **Description:** Mixture of the substances listed below with non-hazardous additions.
- **Listing of dangerous and non-hazardous components:** Not applicable.
- **Additional information** For the wording of the listed hazard phrases refer to section 16.

#### 4 First-aid measures

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



## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: PSB Diluent

(Contd. of page 1)

### 5 Fire-fighting measures

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

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 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:**  
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.

(Contd. on page 3)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: PSB Diluent

(Contd. of page 2)

- **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:	undetermined
Boiling point/Boiling range:	undetermined

· Flash point: Not applicable  
Not determined.

· Flammability (solid, gaseous) Not applicable.

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Not determined.

#### · Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapor pressure at 20 °C: 23 hPa

Density:	Not determined
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

#### · Solubility in / Miscibility with

Water: Fully miscible

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

#### · Viscosity:

dynamic:	Not determined.
kinematic:	Not determined.

#### · Solvent content:

Water: 95.0 %

(Contd. on page 4)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: PSB Diluent

(Contd. of page 3)

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

## 10 Stability and reactivity

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

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**  
None of the ingredients is listed.
- **NTP (National Toxicology Program)**  
None of the ingredients is listed.

## 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.

(Contd. on page 5)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

Trade name: PSB Diluent

(Contd. of page 4)

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

### 13 Disposal considerations

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

### 14 Transport information

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

### 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

ACTIVE

(Contd. on page 6)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 08/07/2020

**Trade name: PSB Diluent**

(Contd. of page 5)

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

None of the ingredients is listed.

· **National regulations**

*This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those 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 the latest revision of the safety data sheet** 08/07/2020 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/23/2020

## 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 (Canada) Ltd.*  
*1329 Meyerside Drive*  
*Mississauga, Ontario*  
*L5T 1C9*  
*Canada*
- **Information department:** *sales\_canada@bio-rad.com*
- **Emergency telephone number:** *1-800-424-6723 option 2*

phone: 1-800-268-0213 Fax: 1-888-913-9779

## 2 Hazard identification

- **Classification of the substance or mixture**  
*Skin Corrosion - Category 1A      H314 Causes severe skin burns and eye damage.*  
*Serious Eye Damage - Category 1   H318 Causes serious eye damage.*  
*Carcinogenicity – Category 2      H351 Suspected of causing cancer.*
- **Label elements**
- **GHS label elements** *The product is classified and labeled according to the Globally Harmonized System (GHS).*
- **Hazard pictograms**



GHS05 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.*
- **Precautionary statements**  
*P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.*  
*P321 Specific treatment (see on this label).*  
*P405 Store locked up.*  
*P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/23/2020

Trade name: **Precipitation Agent 1**

(Contd. of page 1)

### 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:**

76-03-9	trichloroacetic acid	5-10% w/w *
	Carcinogenicity – Category 2, H351	
	Skin Corrosion - Category 1A, H314	

\* Actual concentration ranges are withheld as a trade secret.

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

### 4 First-aid measures

- **Description of first aid measures**
- **General information** Immediately remove any clothing soiled by the product.
- **After inhalation** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact**  
Immediately wash with water and soap and rinse thoroughly.  
Immediately rinse with water.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing**  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.  
Rinse mouth with water. Seek medical attention and appropriate follow-up.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment (See section 8). Keep unprotected persons away.  
Wear protective clothing.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.

(Contd. on page 3)



## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/23/2020

Trade name: **Precipitation Agent 1**

(Contd. of page 2)

- **Methods and material for containment and cleaning up:**  
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Use neutralizing agent.  
 Dispose contaminated material as waste according to item 13.  
 Ensure adequate ventilation.
- **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.  
 Ensure good ventilation/exhaust at the workplace.  
 Open and handle receptacle with care.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**  
**Requirements to be met by storerooms and receptacles:** According to product specification  
**Information about storage in one common storage facility:** Not required.  
**Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

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

### 76-03-9 trichloroacetic acid

EL TWA: 0.5 ppm  
IARC 2B

EV TWA: 6.7 mg/m<sup>3</sup>, 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**  
 Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing  
 Wash hands before breaks and at the end of work.  
 Store protective clothing separately.  
 Avoid contact with the eyes.  
 Avoid contact with the eyes and skin.

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## Safety Data Sheet

### according to HPR, Schedule 1

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Reviewed on 07/23/2020

Trade name: **Precipitation Agent 1**

(Contd. of page 3)

- **Breathing equipment:** Not necessary if room is well-ventilated. Adequate ventilation 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  
Tightly sealed goggles.

## 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
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#### · Change in condition

Melting point/Melting range:	undetermined
Boiling point/Boiling range:	undetermined

· Flash point:	Not applicable Not determined.
----------------	-----------------------------------

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

· Decomposition temperature:	Not determined.
------------------------------	-----------------

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

· Danger of explosion:	Not determined.
------------------------	-----------------

#### · Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapor pressure at 20 °C:	23 hPa
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· Density at 20 °C:	1.35585 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.

#### · Solubility in / Miscibility with

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

#### · Viscosity:

dynamic:	Not determined.
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(Contd. on page 5)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/23/2020

Trade name: Precipitation Agent 1

(Contd. of page 4)

<b>kinematic:</b>	Not determined.
-------------------	-----------------

<b>Solvent content:</b>	
<b>Water:</b>	55.3 %

<b>Solids content:</b>	55.0 %
<b>Other information</b>	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:**

· <b>LD/LC50 values for hazardous components per OSHA criteria:</b>
---

### Proprietary Reagent A

Dermal	LD50	>10,000 mg/kg (Rabbit)
Inhalative	LC50/4 h	>10.5 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:**  
Strong caustic effect on skin and mucous membranes.  
Caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **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:  
Corrosive  
Irritant  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
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76-03-9	trichloroacetic acid
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2B

(Contd. on page 6)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/23/2020

Trade name: **Precipitation Agent 1**

(Contd. of page 5)

· **NTP (National Toxicology Program)**

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.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

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.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

## 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

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

Dispose of waste in accordance to applicable national, regional, or local regulations.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

· **UN-Number**

· **DOT/TDG, ADR, IMDG, IATA**

UN2564

· **UN proper shipping name**

· **DOT/TDG**

· **ADR**

Trichloroacetic acid, solution

2564 TRICHLOROACETIC ACID SOLUTION,  
ENVIRONMENTALLY HAZARDOUS

2564 TRICHLOROACETIC ACID SOLUTION

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# Safety Data Sheet

according to HPR, Schedule 1

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Trade name: Precipitation Agent 1

(Contd. of page 6)

· <b>IMDG, IATA</b>	TRICHLOROACETIC ACID SOLUTION
· <b>Transport hazard class(es)</b>	
· <b>DOT, ADR, IMDG, IATA</b>	
· <b>Class</b>	8 Corrosive substances
· <b>Label</b>	8
· <b>Packing group</b>	
· <b>DOT/TDG, ADR, IMDG, IATA</b>	III
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special marking (ADR):</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Corrosive substances
· <b>Hazard identification number (Kemler code):</b>	80
· <b>EMS Number:</b>	F-A,S-B
· <b>Segregation groups</b>	Acids
· <b>Stowage Category</b>	B
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT/TDG</b>	
· <b>Quantity limitations</b>	Void Void
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 2564 TRICHLOROACETIC ACID SOLUTION, 8, III, ENVIRONMENTALLY HAZARDOUS

## 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.

(Contd. on page 8)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/23/2020

Trade name: **Precipitation Agent 1**

(Contd. of page 7)

· **Section 313 (40CFR372.65):**

None of the ingredients is listed.

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

All components have the value ACTIVE.

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

None of the ingredients is listed.

· **National regulations**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those 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 the latest revision of the safety data sheet** 08/07/2020 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

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

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/24/2020

### 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 (Canada) Ltd.  
 1329 Meyerside Drive  
 Mississauga, Ontario  
 L5T 1C9  
 Canada
- **Information department:** *sales\_canada@bio-rad.com*
- **Emergency telephone number:** *1-800-424-6723 option 2*

phone: 1-800-268-0213 Fax: 1-888-913-9779

### 2 Hazard identification

- **Classification of the substance or mixture**  
*Acute Toxicity (Oral) - Category 4 H302 Harmful if swallowed.*
- **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:**  
*sodium 3-alpha, 12-alpha-dihydroxy-5-beta-cholanic acid sodium salt*
- **Hazard statements**  
*H302 Harmful if swallowed.*
- **Precautionary statements**
  - P264 Wash thoroughly after handling.
  - P270 Do not eat, drink or smoke when using this product.
  - P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
  - P330 Rinse mouth.
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 3 Composition/Information on ingredients

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

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/24/2020

Trade name: **Precipitation Agent 2**

(Contd. of page 1)

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

302-95-4	sodium 3-alpha,12-alpha-dihydroxy-5-β-cholanic acid sodium salt Acute Toxicity (Oral) - Category 3, H301	1-5% w/w *
497-19-8	sodium carbonate Eye Irritation - Category 2A, H319	1-5% w/w *

\* Actual concentration ranges are withheld as a trade secret.

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

#### 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.
**After swallowing**

Immediately call a doctor.

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

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

#### 5 Fire-fighting measures

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

#### 6 Accidental release measures

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

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

Dispose contaminated material as waste according to item 13.

**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.



## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/24/2020

Trade name: **Precipitation Agent 2**

(Contd. of page 2)

## 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**  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not necessary if room is well-ventilated. Adequate ventilation 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:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined.
- **pH-value:** Not determined.

(Contd. on page 4)



## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/24/2020

Trade name: Precipitation Agent 2

(Contd. of page 3)

· <b>Change in condition</b>	
Melting point/Melting range:	undetermined
Boiling point/Boiling range:	100 °C
· <b>Flash point:</b>	Not applicable Not determined.
· <b>Flammability (solid, gaseous)</b>	Not applicable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b>	
Lower:	Not determined.
Upper:	Not determined.
· <b>Vapor pressure at 20 °C:</b>	23 hPa
· <b>Density:</b>	Not determined
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
Water:	Fully miscible
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
dynamic:	Not determined.
kinematic:	Not determined.
· <b>Solvent content:</b>	
Water:	75.0 %
Solids content:	20.0 %
· <b>Other information</b>	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

CA

(Contd. on page 5)

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/24/2020

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:

**497-19-8 sodium carbonate**

Oral	LD50	4,000 mg/kg (rat)
------	------	-------------------

**Proprietary Reagent A**

Dermal	LD50	>10,000 mg/kg (Rabbit)
--------	------	------------------------

Inhalative	LC50/4 h	>10.5 mg/l (rat)
------------	----------	------------------

- Primary irritant effect:

- on the skin: No irritant effect.

- on the eye: No irritant effect.

- Sensitization: No sensitizing effects known.

- Additional toxicological information: Harmful

- 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.

### 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

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

(Contd. on page 6)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/24/2020

Trade name: **Precipitation Agent 2**

(Contd. of page 5)

Dispose of waste in accordance to applicable national, regional, or local regulations.

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

### 14 Transport information

· **UN-Number**· **DOT/TDG, ADR, ADN, IMDG, IATA**

Not Regulated

· **UN proper shipping name**· **DOT/TDG, ADN, IMDG, IATA**

Not Regulated

· **ADR**

Not Regulated

· **Transport hazard class(es)**· **DOT, ADR, ADN, IMDG, IATA**· **Class**

Not Regulated

· **Packing group**· **DOT/TDG, ADR, IMDG, IATA**

Not Regulated

· **Environmental hazards:**· **Marine pollutant:**

No

· **Special precautions for user**

Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

Not dangerous according to the above specifications.

· **UN "Model Regulation":**

Not Regulated

### 15 Regulatory information

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

ACTIVE

302-95-4 sodium 3-alpha,12-alpha-dihydroxy-5-beta-cholanic acid sodium salt

ACTIVE

497-19-8 sodium carbonate

ACTIVE

Proprietary Reagent A

ACTIVE

(Contd. on page 7)

CA

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/24/2020

**Trade name: Precipitation Agent 2**

(Contd. of page 6)

Proprietary Component A, inorganic salt	ACTIVE
Component 10	*

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

None of the ingredients is listed.

**· National regulations**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those 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 the latest revision of the safety data sheet** 08/07/2020 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

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

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/31/2020

### 1 Identification

- **Product identifier**
- **Trade name:** *Wash Reagent 1*
- **Catalog or product number:** 4307587, L004490
- **Application of the substance / the mixture** *Laboratory chemicals*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*Bio-Rad Laboratories (Canada) Ltd.  
 1329 Meyerside Drive  
 Mississauga, Ontario  
 L5T 1C9  
 Canada*
- **Information department:** *sales\_canada@bio-rad.com*
- **Emergency telephone number:** *1-800-424-6723 option 2*

phone: 1-800-268-0213 Fax: 1-888-913-9779

### 2 Hazard identification

- **Classification of the substance or mixture**  
*Acute Toxicity (Oral) - Category 4 H302 Harmful if swallowed.*
- **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:**  
*sodium 3-alpha, 12-alpha-dihydroxy-5-beta-cholanic acid sodium salt*
- **Hazard statements**  
*H302 Harmful if swallowed.*
- **Precautionary statements**
  - P264 Wash thoroughly after handling.*
  - P270 Do not eat, drink or smoke when using this product.*
  - P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.*
  - P330 Rinse mouth.*
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*

### 3 Composition/Information on ingredients

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

(Contd. on page 2)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/31/2020

Trade name: Wash Reagent 1

(Contd. of page 1)

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

302-95-4	sodium 3-alpha, 12-alpha-dihydroxy-5-beta-cholanic acid sodium salt Acute Toxicity (Oral) - Category 3, H301	1-5% w/w *
497-19-8	sodium carbonate Eye Irritation - Category 2A, H319	1-5% w/w *

\* Actual concentration ranges are withheld as a trade secret.

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

#### 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.
**After swallowing**

Immediately call a doctor.

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

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

#### 5 Fire-fighting measures

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

#### 6 Accidental release measures

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

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

Dispose contaminated material as waste according to item 13.

**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.

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See Section 13 for disposal information.

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### 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**  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not necessary if room is well-ventilated. Adequate ventilation 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.

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· <b>pH-value at 20 °C:</b>	6.5
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	undetermined
<b>Boiling point/Boiling range:</b>	undetermined
· <b>Flash point:</b>	Not applicable Not determined.
· <b>Flammability (solid, gaseous)</b>	Not applicable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C:</b>	23 hPa
· <b>Density:</b>	Not determined
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Fully miscible
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>dynamic:</b>	Not determined.
<b>kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	75.0 %
<b>Solids content:</b>	25.0 %
· <b>Other information</b>	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.

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· **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:**

**497-19-8 sodium carbonate**

Oral	LD50	4,000 mg/kg (rat)
------	------	-------------------

**Proprietary Reagent A**

Dermal	LD50	>10,000 mg/kg (Rabbit)
--------	------	------------------------

Inhalative	LC50/4 h	>10.5 mg/l (rat)
------------	----------	------------------

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritant effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:** Harmful

· **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.

### 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.

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### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT/TDG, ADR, ADN, IMDG, IATA</b></li> </ul>                                      | Not Regulated  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT/TDG, ADN, IMDG, IATA</b></li> <li>· <b>ADR</b></li> </ul>       | Not Regulated<br>Not Regulated<br>Not Regulated      |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT, ADR, ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul> | Not Regulated  |
| <ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT/TDG, ADR, IMDG, IATA</b></li> </ul>                                       | Not Regulated  |
| <ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>                                     | No   |
| <ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> </ul>   | Not applicable.                                      |
| <ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>                        | Not applicable.                                      |
| <ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> </ul>  | Not dangerous according to the above specifications. |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>   | Not Regulated  |

### 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.

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

7732-18-5	water	ACTIVE
302-95-4	sodium 3- $\alpha$ ,12- $\alpha$ -dihydroxy-5- $\beta$ -cholanic acid sodium salt	ACTIVE
497-19-8	sodium carbonate	ACTIVE
	Proprietary Reagent A	ACTIVE
	Proprietary Component A, inorganic salt	ACTIVE
	Component 10	*
	Component 6	*

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

None of the ingredients is listed.

**· National regulations**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those 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 the latest revision of the safety data sheet** 08/07/2020 / -

**· Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

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

## Safety Data Sheet

### according to HPR, Schedule 1

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## 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 (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, Ontario  
L5T 1C9  
Canada
- **Information department:** sales\_canada@bio-rad.com
- **Emergency telephone number:** 1-800-424-6723 option 2

phone: 1-800-268-0213 Fax: 1-888-913-9779

## 2 Hazard identification

### · Classification of the substance or mixture

Flammable Liquids - Category 2	H225 Highly flammable liquid and vapour.
Acute Toxicity (Dermal) – Category 4	H312 Harmful in contact with skin.
Skin Irritation - Category 2	H315 Causes skin irritation.
Serious Eye Damage - Category 1	H318 Causes serious eye damage.
Carcinogenicity – Category 2	H351 Suspected of causing cancer.
Reproductive Toxicity - Category 2	H361 Suspected of damaging fertility or the unborn child.
Specific Target Organ Toxicity - Single Exposure - Category 3	H336 May cause drowsiness or dizziness.
Specific Target Organ Toxicity - Repeated Exposure - Category 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:

trichloromethane  
acetone  
hydrochloric acid  
propan-2-ol

### · Hazard statements

H225 Highly flammable liquid and vapour.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.

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**Trade name: Wash Reagent 2**

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*H318 Causes serious eye damage.**H351 Suspected of causing cancer.**H361 Suspected of damaging fertility or the unborn child.**H336 May cause drowsiness or dizziness.**H372 Causes damage to organs through prolonged or repeated exposure.***Precautionary statements***P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.**P362+P364 Take off contaminated clothing and wash it before reuse.**P322 Specific measures (see on this label).**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*

### 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 Flammable Liquids - Category 2, H225 Eye Irritation - Category 2A, H319; Specific Target Organ Toxicity - Single Exposure - Category 3, H336	60-80% w/w *
67-63-0	propan-2-ol Flammable Liquids - Category 2, H225 Eye Irritation - Category 2A, H319; Specific Target Organ Toxicity - Single Exposure - Category 3, H336	1-5% w/w *
67-66-3	trichloromethane Flammable Liquids - Category 2, H225 Acute Toxicity (Dermal) - Category 2, H310; Acute Toxicity (Inhalation) - Category 3, H331 Carcinogenicity - Category 2, H351; Reproductive Toxicity - Category 2, H361; Specific Target Organ Toxicity - Repeated Exposure - Category 1, H372 Acute Toxicity (Oral) - Category 4, H302; Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319	1-5% w/w *
7647-01-0	hydrochloric acid Skin Corrosion - Category 1B, H314; Serious Eye Damage - Category 1, H318 Specific Target Organ Toxicity - Single Exposure - Category 3, H335	3-<5% w/w *
	Component 7 Flammable Liquids - Category 3, H226 Acute Toxicity (Oral) - Category 4, H302	1-5% w/w *

\* Actual concentration ranges are withheld as a trade secret.

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

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#### 4 First-aid measures

- **Description of first aid measures**

- **General information**

Immediately remove any clothing soiled by the product.

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.

Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

- **After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.

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

- **Information for doctor**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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

#### 5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **For safety reasons unsuitable extinguishing agents** Water with full jet.

- **Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.

- **Advice for firefighters**

- **Protective equipment:**

Mount respiratory protective device.

Wear self-contained respiratory protective device.

#### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment (See section 8). Keep unprotected persons away.

Wear protective clothing.

- **Environmental precautions:**

Prevent seepage into sewage system, workpits and cellars.

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).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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### 7 Handling and storage

- **Handling**
- **Precautions for safe handling**  
 Ensure good ventilation/exhaust at the workplace.  
 Open and handle receptacle with care.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
 Keep ignition sources away - Do not smoke.  
 Protect against electrostatic charges.  
 Keep respiratory protective device available.
- **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.
- **Control parameters**

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

#### 67-64-1 acetone

EL STEL: 500 ppm  
TWA: 250 ppm

EV STEL: 750 ppm  
TWA: 500 ppm

#### 67-63-0 propan-2-ol

EL STEL: 400 ppm  
TWA: 200 ppm

EV STEL: 400 ppm  
TWA: 200 ppm

#### 67-66-3 trichloromethane

EL TWA: 2 ppm  
IARC 2B; R

EV TWA: 49 mg/m<sup>3</sup>, 10 ppm

#### 7647-01-0 hydrochloric acid

EL Ceiling: 2 ppm

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EV Ceiling: 2 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**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the skin.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Not necessary if room is well-ventilated. Adequate ventilation 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

Tightly sealed goggles.

## 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.

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· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
Lower:	2.6 Vol %
Upper:	13 Vol %
· <b>Vapor pressure at 20 °C:</b>	233 hPa
· <b>Density at 20 °C:</b>	0.82281 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
dynamic:	Not determined.
kinematic:	Not determined.
· <b>Solvent content:</b>	
Organic solvents:	90.0 %
· <b>Other information</b>	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:**

#### 67-64-1 acetone

Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rbt)

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**67-63-0 propan-2-ol**

Oral	LD50	4,570 mg/kg (rat)
Dermal	LD50	13,400 mg/kg (Rabbit)
Inhalative	LC50/4 h	30 mg/l (rat)

**67-66-3 trichloromethane**

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

**Component 7**

Oral	LD50	1,300 mg/kg (rat)
------	------	-------------------

• **Primary irritant effect:**• **on the skin:** Irritant to skin and mucous membranes.• **on the eye:**

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

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

Irritant

• **Carcinogenic categories**• **IARC (International Agency for Research on Cancer)**

67-63-0	propan-2-ol	3
67-66-3	trichloromethane	2B
7647-01-0	hydrochloric acid	3

• **NTP (National Toxicology Program)**

67-66-3	trichloromethane	R
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## 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.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

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

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Trade name: Wash Reagent 2

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

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |  |   |
|--|---|
| · <b>UN-Number</b>   | UN1993  |
| · <b>DOT/TDG, ADR, IMDG, IATA</b>  |   |
| · <b>UN proper shipping name</b>   | Flammable liquids, n.o.s. (Acetone, Chloroform)   |
| · <b>DOT/TDG</b>   | 1993 FLAMMABLE LIQUID, N.O.S. (vapour pressure at 50°C not more than 110 kPa) (ACETONE, CHLOROFORM) |
| · <b>ADR</b>   | 1993 FLAMMABLE LIQUID, N.O.S. (vapor pressure at 50°C at most 110 kPa) (ACETONE, CHLOROFORM)        |
| · <b>IMDG, IATA</b>  | FLAMMABLE LIQUID, N.O.S. (ACETONE, CHLOROFORM)  |
| · <b>Transport hazard class(es)</b>  |   |
| · <b>DOT, ADR, IMDG, IATA</b>  | 3 Flammable liquids   |
| · <b>Class</b>   | 3   |
| · <b>Label</b>   |   |
| · <b>Packing group</b>   |   |
| · <b>DOT/TDG, ADR, IMDG, IATA</b>  | II  |
| · <b>Environmental hazards:</b>  |   |
| · <b>Marine pollutant:</b>   | No  |
| · <b>Special precautions for user</b>  | Warning: Flammable liquids  |
| · <b>Hazard identification number (Kemler code):</b>                             | 33  |
| · <b>EMS Number:</b>   | F-E, S-E  |
| · <b>Segregation groups</b>  | Liquid halogenated hydrocarbons   |
| · <b>Stowage Category</b>  | B   |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.   |

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## Safety Data Sheet

according to HPR, Schedule 1

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Trade name: Wash Reagent 2

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· **Transport/Additional information:**

· **DOT/TDG**

· **Quantity limitations**

Void

Void

· **ADR**

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **IMDG**

· **Limited quantities (LQ)**

· **Excepted quantities (EQ)**

1L

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 1993 FLAMMABLE LIQUID, N.O.S. (VAPOUR  
PRESSURE AT 50°C NOT MORE THAN 110 KPA)  
(ACETONE, CHLOROFORM), 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

7647-01-0 hydrochloric acid

· **Section 313 (40CFR372.65):**

67-63-0 propan-2-ol

67-66-3 trichloromethane

7647-01-0 hydrochloric acid

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

67-64-1 acetone

ACTIVE

67-63-0 propan-2-ol

ACTIVE

67-66-3 trichloromethane

ACTIVE

7647-01-0 hydrochloric acid

ACTIVE

Component 7

\*

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

67-66-3 trichloromethane

4

· **National regulations**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations

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## Safety Data Sheet

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Trade name: Wash Reagent 2

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· **Technical instructions (air):**

Class	Share in %
I	1-5
III	1-5
NK	65-85

· **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 the latest revision of the safety data sheet** 08/07/2020 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

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

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/31/2020

### 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 (Canada) Ltd.  
1329 Meyerside Drive  
Mississauga, Ontario  
L5T 1C9  
Canada*
- **Information department:** *sales\_canada@bio-rad.com*
- **Emergency telephone number:** *1-800-424-6723 option 2*

*phone: 1-800-268-0213 Fax: 1-888-913-9779*

### 2 Hazard identification

- **Classification of the substance or mixture**  
*The product is not classified, according to the Globally Harmonized System (GHS).*
- **Label elements**
- **GHS label elements** *Not Applicable*
- **Hazard pictograms** *Not Applicable*
- **Signal word** *Not Applicable*
- **Hazard statements** *Not Applicable*

### 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:** *Not applicable.*
- **Additional information** *For the wording of the listed hazard phrases refer to section 16.*

### 4 First-aid measures

- **Description of first aid measures**
- **General information** *No special measures required.*
- **After inhalation** *Supply fresh air; consult doctor in case of complaints.*
- **After skin contact** *Generally the product does not irritate the skin.*
- **After eye contact** *Rinse opened eye for several minutes under running water.*
- **After swallowing** *Rinse mouth with water. Seek medical attention and appropriate follow-up.*

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## Safety Data Sheet

### according to HPR, Schedule 1

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Trade name: Wash 2 Additive

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

### 5 Fire-fighting measures

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

### 6 Accidental release measures

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

### 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.

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## Safety Data Sheet

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Trade name: Wash 2 Additive

(Contd. of page 2)

- **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  
Not determined.

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

· **Decomposition temperature:** Not determined.

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

· **Danger of explosion:** Not determined.

· **Explosion limits:**  
Lower: Not determined.  
Upper: Not determined.

· **Vapor pressure at 20 °C:** 23 hPa

· **Density:** Not determined  
· **Relative density** Not determined.  
· **Vapor density** Not determined.  
· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with Water:** Fully miscible

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

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## Safety Data Sheet

according to HPR, Schedule 1

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Trade name: Wash 2 Additive

(Contd. of page 3)

· <b>Viscosity:</b>	
<b>dynamic:</b>	Not determined.
<b>kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	95.0 %
<b>Solids content:</b>	5.0 %
· <b>Other information</b>	No further relevant information available.

### 10 Stability and reactivity

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

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

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

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

### 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.

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/07/2020

Reviewed on 07/31/2020

Trade name: Wash 2 Additive

(Contd. of page 4)

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

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT/TDG, ADR, ADN, IMDG, IATA</b></li> </ul>                                      | Not Regulated  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT/TDG, ADN, IMDG, IATA</b></li> <li>· <b>ADR</b></li> </ul>       | Not Regulated<br>Not Regulated<br>Not Regulated      |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT, ADR, ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul> | Not Regulated  |
| <ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT/TDG, ADR, IMDG, IATA</b></li> </ul>                                       | Not Regulated  |
| <ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>                                     | No   |
| <ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> </ul>   | Not applicable.                                      |
| <ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>                        | Not applicable.                                      |
| <ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> </ul>  | Not dangerous according to the above specifications. |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>   | Not Regulated  |

CA

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## Safety Data Sheet

### according to HPR, Schedule 1

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Reviewed on 07/31/2020

Trade name: Wash 2 Additive

(Contd. of page 5)

## 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

ACTIVE

Component 9

\*

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

None of the ingredients is listed.

- **National regulations**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those 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:**

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PBT: Persistent, Bioaccumulative and Toxic

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