



08/03/2020

### Kit Components

| Product code   | Description                                    |
|--|--|
| <b>1610480</b><br><b>1610481</b><br><b>1653403</b><br><b>1653404</b> | <b>Dodeca™ Silver Stain 7 L &amp; 10 L Kit</b> |

#### Components:

|         |                                |
|---------|--------------------------------|
| 1610473 | Sensitizer Concentrate         |
| 1610475 | Background Reducer Concentrate |
| 1610477 | Silver Reagent Concentrate     |
| 1610479 | Development Buffer Concentrate |
| 1610472 | Image Developer Concentrate    |

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

### 1 Identification

- **Product identifier**
- **Trade name:** **Sensitizer Concentrate**
- **Catalog or product number:** 1610473, 1610474, 9704655
- **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 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.
- **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 08/03/2020

Reviewed on 07/25/2020

Trade name: Sensitizer Concentrate

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### 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.
- **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: Sensitizer Concentrate

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- **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: 9.9

##### · 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

|                            |                           |
|----------------------------|---------------------------|
| · <b>Density at 20 °C:</b> | 0.75377 g/cm <sup>3</sup> |
| · <b>Relative density</b>  | Not determined.           |
| · <b>Vapor density</b>     | Not determined.           |
| · <b>Evaporation rate</b>  | Not determined.           |

##### · Solubility in / Miscibility with

Water: Fully miscible

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

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according to HPR, Schedule 1

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Reviewed on 07/25/2020

Trade name: Sensitizer Concentrate

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- |                            |  |
|----------------------------|--|
| <b>· Viscosity:</b>        |  |
| <b>dynamic:</b>            | Not determined.                            |
| <b>kinematic:</b>          | Not determined.                            |
| <b>· Solvent content:</b>  |  |
| <b>Water:</b>              | 51.0 %                                     |
| <b>Solids content:</b>     | 49.0 %                                     |
| <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> |
|---|

|                                   |
|-----------------------------------|
| <b>127-08-2 potassium acetate</b> |
|-----------------------------------|

|           |                   |
|-----------|-------------------|
| Oral LD50 | 5,900 mg/kg (rat) |
|-----------|-------------------|

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

- **Carcinogenic categories**

|   |
|---|
| <b>· IARC (International Agency for Research on Cancer)</b> |
|---|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

|  |
|--|
| <b>· NTP (National Toxicology Program)</b> |
|--|

|                                    |
|------------------------------------|
| None of the ingredients is listed. |
|------------------------------------|

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## Safety Data Sheet

### according to HPR, Schedule 1

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Reviewed on 07/25/2020

Trade name: Sensitizer Concentrate

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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** 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>        |                 |
| · <b>Marine pollutant:</b>             | No              |
| · <b>Special precautions for user</b>  | Not applicable. |

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

Trade name: Sensitizer Concentrate

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- |  |  |
|--|--|
| <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):**

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** 08/03/2020 / -

- **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

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

Printing date 08/03/2020

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**Trade name: Sensitizer Concentrate**

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vPvB: very Persistent and very Bioaccumulative

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

CA



## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

### 1 Identification

- **Product identifier**
- **Trade name:** **Background Reducer Concentrate**
- **Catalog or product number:** 1610475, 1610476, 9704656
- **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 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.
- **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 08/03/2020

Reviewed on 07/25/2020

Trade name: Background Reducer Concentrate

(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:** 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.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures** The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.

(Contd. on page 3)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

**Trade name: Background Reducer Concentrate**

(Contd. of page 2)

- **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: 8.8

#### · 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. |

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

**Trade name: Background Reducer Concentrate**

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- **Solvent content:**
- Water:** 80.0 %
- **Other information** No further relevant information available.

## 10 Stability and reactivity

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

## 11 Toxicological information

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

## 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.

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## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

Trade name: Background Reducer Concentrate

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- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation** Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 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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according to HPR, Schedule 1

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**Trade name: Background Reducer Concentrate**

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· **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:** 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** 08/03/2020 / -

· **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 08/03/2020

Reviewed on 07/25/2020

## 1 Identification

- **Product identifier**
- **Trade name:** **Silver Reagent Concentrate**
- **Catalog or product number:** 1610477, 1610478
- **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 1B H314 Causes severe skin burns and eye damage.  
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:**  
silver nitrate
- **Hazard statements**  
H314 Causes severe skin burns and eye damage.
- **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.

CA

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

Trade name: Silver Reagent Concentrate

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### 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:**

|           |   |             |
|-----------|---|-------------|
| 7761-88-8 | silver nitrate<br>Oxidizing Solids – Category 2, H272<br>Skin Corrosion - Category 1B, H314 | 5-10% 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** Immediately remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** 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** 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.  
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.

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Trade name: Silver Reagent Concentrate

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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.

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:**

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

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Trade name: Silver Reagent Concentrate

Tightly sealed goggles.

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### 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: 6.3

##### · Change in condition

|                              |              |
|------------------------------|--------------|
| Melting point/Melting range: | undetermined |
| Boiling point/Boiling range: | 100 °C       |

· 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 at 20 °C: 1.08344 g/cm<sup>3</sup>

· 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: 90.0 %

Solids content: 10.0 %

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### according to HPR, Schedule 1

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Trade name: Silver Reagent Concentrate

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

## 10 Stability and reactivity

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

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
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:** 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.

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## Safety Data Sheet

### according to HPR, Schedule 1

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**Trade name: Silver Reagent Concentrate**

(Contd. of page 5)

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.

**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

|                                       |  |
|---------------------------------------|--|
| · <b>UN-Number</b>                    |  |
| · <b>DOT/TDG, ADR, IMDG, IATA</b>     | UN1760   |
| · <b>UN proper shipping name</b>      |  |
| · <b>DOT/TDG</b>                      | Corrosive liquids, n.o.s.                                |
| · <b>ADR</b>                          | 1760 CORROSIVE LIQUID, N.O.S., ENVIRONMENTALLY HAZARDOUS |
|                                       | 1760 CORROSIVE LIQUID, N.O.S., ENVIRONMENTALLY HAZARDOUS |
| · <b>IMDG, IATA</b>                   | CORROSIVE LIQUID, N.O.S.                                 |
| · <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>     | II   |
| · <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>EMS Number:</b>                  | F-A,S-B  |
| · <b>Stowage Category</b>             | B  |
| · <b>Stowage Code</b>                 | SW2 Clear of living quarters.                            |

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Trade name: Silver Reagent Concentrate

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|  |   |
|--|---|
| · <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<br>Void  |
| · <b>ADR</b>   |   |
| · <b>Excepted quantities (EQ)</b>  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>IMDG</b>  |   |
| · <b>Limited quantities (LQ)</b>   | 1 L   |
| · <b>Excepted quantities (EQ)</b>  | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml |
| · <b>UN "Model Regulation":</b>  | UN 1760 CORROSIVE LIQUID, N.O.S., 8, II,<br>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.

- **Section 313 (40CFR372.65):**

7761-88-8 silver nitrate

- **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 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.

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

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Reviewed on 07/25/2020

**Trade name: Silver Reagent Concentrate**

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- **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** 08/03/2020 / -

- **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.**

CA

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

### 1 Identification

- **Product identifier**
- **Trade name:** Development Buffer Concentrate
- **Catalog or product number:** 1610479, 1610482
- **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 Irritation - Category 2 H315 Causes skin irritation.  
Eye Irritation - Category 2A H319 Causes serious eye irritation.
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.
- **Precautionary statements**  
P264 Wash thoroughly after handling.  
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.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P337+P313 If eye irritation persists: Get medical advice/attention.

### 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

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**Trade name: Development Buffer Concentrate**

(Contd. of page 1)

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

584-08-7 potassium carbonate

10-30% w/w \*

Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319

\* 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** 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. If symptoms persist, 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:** Wear self-contained respiratory protective device.

#### 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**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

CA

(Contd. on page 3)



## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

Trade name: Development Buffer Concentrate

(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:** 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:**

|               |           |
|---------------|-----------|
| <b>Form:</b>  | Liquid    |
| <b>Color:</b> | Colorless |

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## Safety Data Sheet

according to HPR, Schedule 1

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Reviewed on 07/25/2020

Trade name: Development Buffer Concentrate

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|   |  |
|---|--|
| · <b>Odor:</b>                                    | Odorless                                   |
| · <b>Odor threshold:</b>                          | Not determined.                            |
| · <b>pH-value at 20 °C:</b>                       | 12.5                                       |
| · <b>Change in condition</b>                      |  |
| <b>Melting point/Melting range:</b>               | undetermined                               |
| <b>Boiling point/Boiling range:</b>               | 100 °C                                     |
| · <b>Flash point:</b>                             | Not applicable<br>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 at 20 °C:</b>                        | 1.21424 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>                               |  |
| <b>dynamic:</b>                                   | Not determined.                            |
| <b>kinematic:</b>                                 | Not determined.                            |
| · <b>Solvent content:</b>                         |  |
| <b>Water:</b>                                     | 70.0 %                                     |
| <b>Solids content:</b>                            | 30.0 %                                     |
| · <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 08/03/2020

Reviewed on 07/25/2020

Trade name: Development Buffer Concentrate

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· **Hazardous decomposition products:** No dangerous decomposition products known

## 11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** 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:

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:** 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.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, 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.

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

**Trade name: Development Buffer Concentrate**

(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.
- **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.

· **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):**

All components have the value ACTIVE.

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

None of the ingredients is listed.

(Contd. on page 7)

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/03/2020

Reviewed on 07/25/2020

**Trade name: Development Buffer Concentrate**

(Contd. of page 6)

**· 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** 08/03/2020 / -

- **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 08/03/2020

Reviewed on 07/25/2020

## 1 Identification

- **Product identifier**
- **Trade name:** Image Developer Concentrate
- **Catalog or product number:** 1610472
- **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.                    |
| Acute Toxicity (Dermal) – Category 3     | H311 Toxic in contact with skin.              |
| Acute Toxicity (Inhalation) - Category 3 | H331 Toxic if inhaled.                        |
| Skin Corrosion - Category 1B             | H314 Causes severe skin burns and eye damage. |
| Serious Eye Damage - Category 1          | H318 Causes serious eye damage.               |
| Skin Sensitizer - Category 1             | H317 May cause an allergic skin reaction.     |
| Germ Cell Mutagenicity - Category 2      | H341 Suspected of causing genetic defects.    |
| Carcinogenicity - Category 1B            | H350 May cause cancer.                        |

### · Label elements

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

### · Hazard pictograms



GHS05 GHS06 GHS07 GHS08

· **Signal word** Danger

### · Hazard-determining components of labeling:

formaldehyde

### · Hazard statements

|           |   |
|-----------|---|
| H302      | Harmful if swallowed.                     |
| H311+H331 | Toxic in contact with skin or if inhaled. |
| H314      | Causes severe skin burns and eye damage.  |
| H317      | May cause an allergic skin reaction.      |
| H341      | Suspected of causing genetic defects.     |
| H350      | May cause cancer.                         |

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#### 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:

|  |              |
|--|--------------|
| 50-00-0 formaldehyde   | 25-40% w/w * |
| Acute Toxicity (Oral) - Category 3, H301; Acute Toxicity (Dermal) – Category 3, H311; Acute Toxicity (Inhalation) - Category 3, H331<br>Germ Cell Mutagenicity - Category 2, H341; Carcinogenicity - Category 1B, H350<br>Skin Corrosion - Category 1B, H314<br>Skin Sensitizer - Category 1, H317<br>Flammable Liquids - Category 4, H227 |              |

\* 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.  
 Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.  
 Remove breathing apparatus only after contaminated clothing have been completely removed.  
 In case of irregular breathing or respiratory arrest provide artificial respiration.
- After inhalation  
 Supply fresh air or oxygen; call for doctor.  
 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  
 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.

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· **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.
  - 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:** 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.
  - See Section 13 for disposal information.

### 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 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.

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## 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:**

### 50-00-0 formaldehyde

|         |  |
|---------|--|
| EL      | TWA: 0.3 ppm<br>Ceiling: 1 ppm<br>ACGIH A1; IARC 1; S(D), S(R) |
| EV      | STEL: 1.0 ppm  |
| Ceiling | 1.5 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.

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|   |  |
|---|--|
| · <b>pH-value:</b>                                | Not determined.                            |
| · <b>Change in condition</b>                      |  |
| Melting point/Melting range:                      | undetermined                               |
| Boiling point/Boiling range:                      | undetermined                               |
| · <b>Flash point:</b>                             | Not applicable<br>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:  | 7 Vol %                                    |
| Upper:  | 73 Vol %                                   |
| · <b>Vapor pressure at 20 °C:</b>                 | 23 hPa                                     |
| · <b>Density at 20 °C:</b>                        | 0.92014 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:                                 | 37.0 %                                     |
| Water:  | 63.0 %                                     |
| · <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

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## 11 Toxicological information

- Information on toxicological effects

- Acute toxicity:

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

**50-00-0 formaldehyde**

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | >200 mg/kg (rat) |
|------|------|------------------|

- Primary irritant effect:

- on the skin:** Strong caustic effect on skin and mucous membranes.

- on the eye:**

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- Sensitization:** Sensitization possible through skin contact.

- 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:

Toxic

Harmful

Irritant

- Carcinogenic categories

- IARC (International Agency for Research on Cancer)

|         |              |   |
|---------|--------------|---|
| 50-00-0 | formaldehyde | 1 |
|---------|--------------|---|

- NTP (National Toxicology Program)

|         |              |   |
|---------|--------------|---|
| 50-00-0 | formaldehyde | K |
|---------|--------------|---|

## 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.

- 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

- **UN-Number**  
· **DOT/TDG, ADR, IMDG, IATA** UN2209
- **UN proper shipping name**  
· **DOT/TDG** Formaldehyde solutions  
· **ADR** 2209 FORMALDEHYDE SOLUTION  
2209 FORMALDEHYDE SOLUTION  
· **IMDG, IATA** FORMALDEHYDE SOLUTION
- **Transport hazard class(es)**  
· **DOT, ADR, IMDG, IATA**  
· **Class** 8 Corrosive substances  
· **Label** 8
- **Packing group**  
· **DOT/TDG, ADR, IMDG, IATA** III
- **Environmental hazards:**  
· **Marine pollutant:** No
- **Special precautions for user** Warning: Corrosive substances  
· **Hazard identification number (Kemler code):** 80  
· **EMS Number:** F-A,S-B  
· **Stowage Category** A
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:**  
· **DOT/TDG**  
· **Quantity limitations** Void  
Void
- **ADR**  
· **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml

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|                                   |   |
|-----------------------------------|---|
| · <b>IMDG</b>                     | 5L  |
| · <b>Limited quantities (LQ)</b>  | Code: E1  |
| · <b>Excepted quantities (EQ)</b> | Maximum net quantity per inner packaging: 30 ml   |
|                                   | Maximum net quantity per outer packaging: 1000 ml |
| · <b>UN "Model Regulation":</b>   | UN 2209 FORMALDEHYDE SOLUTION, 8, 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):**

50-00-0 formaldehyde

- **Section 313 (40CFR372.65):**

50-00-0 formaldehyde

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

All components have the value ACTIVE.

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

50-00-0 formaldehyde

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

- **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

- **Technical instructions (air):**

| Class | Share in % |
|-------|------------|
| I     | 25-40      |

- **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

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· **Date of the latest revision of the safety data sheet** 08/03/2020 / -· **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.**

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