

08/06/2020

Kit Components

| Product code | Description |
|----------------------------------|---------------------------|
| 3600029 3600035 | BSE SA{P Combo Kit |

Components:

| | |
|-----------|----------------------------------|
| 3551103C1 | R1 - Solid Phase Antibody |
| 1,381 | R2 - Washing Solution |
| 5145B | R3 - Negative Control |
| 5145C | R4 - Positive Control |
| 5145D | R6 - Sample Diluent |
| 5145E | R7- Concentrated (10X) Conjugate |
| 7435S | R8 - Peroxidase Substrate Buffer |
| 7436J | R9 - Chromogen: TMB Solution |
| 7438L | R10 - Stopping Solution |
| 5144A | Grinding Tube |
| 5144B | Reagent A - Denaturing Solution |
| 1641 | Reagent B - Clarifying Solution |
| 5144D | Reagent C1 - Resolving Solution |
| 3551100 | BSE Proteinase K |

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

1 Identification

- **Product identifier**
- **Trade name:** *R1 - Solid Phase Antibody*
- **Catalog or product number:** 3551103C1
- **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 substance 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:**
Purified 3B5 monoclonal antibody
- **Additional information:** *For the wording of the listed risk 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.*

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according to HPR, Schedule 1

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Reviewed on 08/05/2020

Trade name: R1 - Solid Phase Antibody

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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:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **Reference to other sections**
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:** Not required.
- **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.
- **Protection of hands:** Protective gloves.
- **Material of gloves** Synthetic gloves

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according to HPR, Schedule 1

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Reviewed on 08/05/2020

Trade name: R1 - Solid Phase Antibody

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· **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: | Whitish |
| Odor: | Odorless |
| Odor threshold: | Not determined. |

· **pH-value:** Not applicable.

· **Change in condition**

| | |
|------------------------------|--------------|
| Melting point/Melting range: | undetermined |
| Boiling point/Boiling range: | undetermined |

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

· **Flammability (solid, gaseous)** Product is not flammable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

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

· **Explosion limits:**

| | |
|--------|-----------------|
| Lower: | Not determined. |
| Upper: | Not determined. |

· **Vapor pressure:** Not applicable.

| | |
|------------------|-----------------|
| Density: | Not determined |
| Relative density | Not determined. |
| Vapor density | Not applicable. |
| Evaporation rate | Not applicable. |

· **Solubility in / Miscibility with**

Water: Fully miscible

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

· **Viscosity:**

| | |
|------------|-----------------|
| dynamic: | Not applicable. |
| kinematic: | Not applicable. |

Solids content: 100.0 %

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Safety Data Sheet

according to HPR, Schedule 1

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Reviewed on 08/05/2020

Trade name: R1 - Solid Phase Antibody

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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:** 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.
The substance is not subject to classification according to the latest version of the EU lists.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**
Substance is not listed.
- **NTP (National Toxicology Program)**
Substance is not 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.

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according to HPR, Schedule 1

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Reviewed on 08/05/2020

Trade name: R1 - Solid Phase Antibody

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

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Reviewed on 08/05/2020

Trade name: R1 - Solid Phase Antibody

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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):**

Substance not listed.

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

Substance is not listed.

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

Substance is not listed.

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

Substance is not 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** 08/06/2020 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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 08/06/2020

Reviewed on 08/05/2020

1 Identification

- **Product identifier**
- **Trade name:** **R2 - Washing Solution**
- **Catalog or product number:** 3572240, 7360A, 572240
- **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 Sensitizer - Category 1 H317 May cause an allergic skin reaction.
- **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:**
ProClin 300
- **Hazard statements**
H317 May cause an allergic skin reaction.
- **Precautionary statements**
 - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 - P280 Wear protective gloves.
 - P362+P364 Take off contaminated clothing and wash it before reuse.
 - P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 - P321 Specific treatment (see on this label).
 - 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

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Reviewed on 08/05/2020

Trade name: R2 - Washing Solution

(Contd. of page 1)

· Listing of dangerous and non-hazardous components:

ProClin 300

Consisting of: 55965-84-9 reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1) (3%)

Acute Toxicity (Oral) - Category 3, H301; Acute Toxicity (Dermal) - Category 3, H311; Acute Toxicity (Inhalation) - Category 3, H331

Skin Corrosion - Category 1B, H314

Skin Sensitizer - Category 1, H317

0.0015-<0.025% 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 and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· 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.· **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).

Dispose contaminated material as waste according to item 13.

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Safety Data Sheet

according to HPR, Schedule 1

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Reviewed on 08/05/2020

Trade name: R2 - Washing Solution

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Ensure adequate ventilation.

· **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.

Ensure good ventilation/exhaust at the workplace.

Prevent formation of aerosols.

· **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**

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the 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

CA

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Safety Data Sheet

according to HPR, Schedule 1

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Reviewed on 08/05/2020

Trade name: R2 - Washing Solution

(Contd. of page 3)

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: 7.4

· 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: 83.0 %

Solids content: 16.1 %

· Other information No further relevant information available.

CA

(Contd. on page 5)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R2 - Washing Solution

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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:** 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:
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.
- **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 08/05/2020

Trade name: R2 - Washing Solution

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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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Trade name: R2 - Washing Solution

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· **Section 313 (40CFR372.65):**

None of the ingredients is listed.

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

| | | |
|-----------|---------------------------------|--------|
| 7732-18-5 | water | ACTIVE |
| 7647-14-5 | sodium chloride | ACTIVE |
| 77-86-1 | Tris(hydroxymethyl)aminomethane | ACTIVE |
| 9005-64-5 | Polysorbate 20 | 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** 08/06/2020 / -

· **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 08/06/2020

Reviewed on 08/05/2020

1 Identification

- **Product identifier**
- **Trade name:** **R3 - Negative Control**
- **Catalog or product number:** 5145B
- **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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Reviewed on 08/05/2020

Trade name: R3 - Negative Control

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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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Trade name: R3 - Negative Control

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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: | Whitish |
| Odor: | Odorless |
| Odor threshold: | Not determined. |

· pH-value at 20 °C: 7.4

· 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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Trade name: R3 - Negative Control

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- | | |
|----------------------------|--|
| · Viscosity: | |
| dynamic: | Not determined. |
| kinematic: | Not determined. |
| · Solvent content: | |
| Water: | 97.4 % |
| Solids content: | 2.6 % |
| · 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.

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Trade name: R3 - Negative Control

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

CA

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Trade name: R3 - Negative Control

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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 |
| 7758-11-4 | dipotassium hydrogenorthophosphate | ACTIVE |
| 7647-14-5 | sodium chloride | ACTIVE |
| 7778-77-0 | potassium dihydrogenphosphate | 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** 08/06/2020 / -

- **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 08/06/2020

Reviewed on 08/05/2020

1 Identification

- **Product identifier**
- **Trade name:** **R4 - Positive Control**
- **Catalog or product number:** 5145C
- **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 Sensitizer - Category 1 H317 May cause an allergic skin reaction.
- **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:**
ProClin 300
- **Hazard statements**
H317 May cause an allergic skin reaction.
- **Precautionary statements**
 - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 - P280 Wear protective gloves.
 - P362+P364 Take off contaminated clothing and wash it before reuse.
 - P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 - P321 Specific treatment (see on this label).
 - 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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Trade name: R4 - Positive Control

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· Listing of dangerous and non-hazardous components:

ProClin 300

Consisting of: 55965-84-9 reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1) (3%)

Acute Toxicity (Oral) - Category 3, H301; Acute Toxicity (Dermal) - Category 3, H311; Acute Toxicity (Inhalation) - Category 3, H331

Skin Corrosion - Category 1B, H314

Skin Sensitizer - Category 1, H317

0.0015-<0.025% 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 and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **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.· **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:** No special measures required.· **Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **Reference to other sections**

No dangerous substances are released.

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Trade name: R4 - Positive Control

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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.
- **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**
 Immediately remove all soiled and contaminated clothing
 Wash hands before breaks and at the end of work.
 Avoid contact with the skin.
- **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

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Trade name: R4 - Positive Control

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| | |
|---|--|
| Color: | Whitish |
| · Odor: | Odorless |
| · Odor threshold: | Not determined. |
| · pH-value at 20 °C: | 7.4 |
| · Change in condition | |
| Melting point/Melting range: | undetermined |
| Boiling point/Boiling range: | undetermined |
| · Flash point: | Not applicable Not determined. |
| · Flammability (solid, gaseous) | Not determined. |
| · 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 applicable. |
| · Evaporation rate | Not applicable. |
| · Solubility in / Miscibility with Water: | Fully miscible |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| dynamic: | Not applicable. |
| kinematic: | Not applicable. |
| · Solvent content: | |
| Solids content: | 100.0 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

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

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Trade name: R4 - Positive Control

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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:** No irritant effect.

· **on the eye:** No irritant effect.

· **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:

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:** 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.

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Trade name: R4 - Positive Control

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

14 Transport information

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

| | | |
|-----------|------------------------------------|--------|
| 7758-11-4 | dipotassium hydrogenorthophosphate | ACTIVE |
| 7647-14-5 | sodium chloride | ACTIVE |
| 7778-77-0 | potassium dihydrogenphosphate | ACTIVE |

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

None of the ingredients is listed.

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Trade name: R4 - Positive Control

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· 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 08/06/2020 / -**· 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 08/06/2020

Reviewed on 08/05/2020

1 Identification

- **Product identifier**
- **Trade name:** **R6 - Sample Diluent**
- **Catalog or product number:** 5145D
- **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

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Reviewed on 08/05/2020

Trade name: R6 - Sample Diluent

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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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Trade name: R6 - Sample Diluent

(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: 7.4

· 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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Reviewed on 08/05/2020

Trade name: R6 - Sample Diluent

(Contd. of page 3)

| | |
|----------------------------|--|
| · Viscosity: | |
| dynamic: | Not determined. |
| kinematic: | Not determined. |
| · Solvent content: | |
| Water: | 97.4 % |
| Solids content: | 2.6 % |
| · 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.

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Trade name: R6 - Sample Diluent

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

CA

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Trade name: R6 - Sample Diluent

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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 |
| 7758-11-4 | dipotassium hydrogenorthophosphate | ACTIVE |
| 7647-14-5 | sodium chloride | ACTIVE |
| 7778-77-0 | potassium dihydrogenphosphate | ACTIVE |
| 143-74-8 | phenol red | 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** 08/06/2020 / -

- **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

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Reviewed on 08/05/2020

1 Identification

- **Product identifier**
- **Trade name:** **R7- Concentrated (10X) Conjugate**
- **Catalog or product number:** 5145E
- **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: | |
|---|-------------|
| 56-81-5 glycerol | 7-13% 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** 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.

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Trade name: R7- Concentrated (10X) Conjugate

(Contd. of page 1)

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

5 Fire-fighting measures

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

6 Accidental release measures

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

56-81-5 glycerol

| | |
|----|--|
| EL | TWA: 10* 3** mg/m ³ *mist, total; **mist, respirable |
| EV | TWA: 10 mg/m ³ |

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Trade name: R7- Concentrated (10X) Conjugate

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- **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: | 7.4 |
|----------------------|-----|

· Change in condition

| | |
|------------------------------|--------------|
| Melting point/Melting range: | undetermined |
| Boiling point/Boiling range: | undetermined |

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

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

| | |
|-------------------------|--------|
| · Ignition temperature: | 400 °C |
|-------------------------|--------|

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

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

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

· Explosion limits:

| | |
|--------|-----------------|
| Lower: | 0.9 Vol % |
| 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. |

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Safety Data Sheet

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Trade name: R7- Concentrated (10X) Conjugate

(Contd. of page 3)

- | | |
|---|--|
| · Solubility in / Miscibility with Water: | Fully miscible |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| dynamic: | Not determined. |
| kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 11.6 % |
| Water: | 83.8 % |
| · Solids content: | 88.4 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

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

11 Toxicological information

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

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

56-81-5 glycerol

| | | |
|------------|----------|---|
| Oral | LD50 | 4,090 mg/kg (mouse) 12,600 mg/kg (rat) |
| Dermal | LD50 | 10,000 mg/kg (Rabbit) |
| Inhalative | LC50/4 h | >30 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:**
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.

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Trade name: R7- Concentrated (10X) Conjugate

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- **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.

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
Not Regulated

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Trade name: R7- Concentrated (10X) Conjugate

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| | |
|--|--|
| · 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 |
| 56-81-5 | glycerol | ACTIVE |
| 7758-11-4 | dipotassium hydrogenorthophosphate | ACTIVE |
| 7647-14-5 | sodium chloride | ACTIVE |
| 7778-77-0 | potassium dihydrogenphosphate | ACTIVE |
| 143-74-8 | phenol red | 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

- **Technical instructions (air):**

| Class | Share in % |
|-------|------------|
| NK | 7-13 |

- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

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Trade name: R7- Concentrated (10X) Conjugate

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- **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** 08/06/2020 / -

- **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 08/06/2020

Reviewed on 08/05/2020

1 Identification

- **Product identifier**
- **Trade name:** **R8 - Peroxidase Substrate Buffer**
- **Catalog or product number:** 7435S
- **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:

| | | |
|---------|---|------------|
| 77-92-9 | citric acid | 1-5% w/w * |
| | 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 skin contact** Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** Rinse mouth with water. Seek medical attention and appropriate follow-up.

(Contd. on page 2)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R8 - Peroxidase Substrate Buffer

(Contd. of page 1)

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

5 Fire-fighting measures

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

6 Accidental release measures

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

7 Handling and storage

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

8 Exposure controls/ Personal protection

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

(Contd. on page 3)

Safety Data Sheet

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Reviewed on 08/05/2020

Trade name: R8 - Peroxidase Substrate Buffer

(Contd. of page 2)

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures** The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves.
- **Material of gloves** Synthetic gloves
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

9 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: 4

· 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 at 20 °C: 1.00705 g/cm³
 · Relative density: Not determined.
 · Vapor density: Not determined.

(Contd. on page 4)

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according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R8 - Peroxidase Substrate Buffer

(Contd. of page 3)

| | |
|---|--|
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with Water: | Fully miscible |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| dynamic: | Not determined. |
| kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 3.9 % |
| Water: | 93.2 % |
| · Solids content: | 2.9 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

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

11 Toxicological information

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

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

67-68-5 dimethyl sulfoxide

Oral LD50 14,500 mg/kg (rat)

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

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

7722-84-1 hydrogen peroxide solution

3

(Contd. on page 5)

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Trade name: R8 - Peroxidase Substrate Buffer

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· **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.

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

(Contd. on page 6)

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Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R8 - Peroxidase Substrate Buffer

(Contd. of page 5)

| | |
|--|--|
| · 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):**

All components have the value ACTIVE.

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

7722-84-1 | hydrogen peroxide solution

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

- **Technical instructions (air):**

| Class | Share in % |
|-------|------------|
| NK | 1-<5 |

- **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

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Safety Data Sheet
according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R8 - Peroxidase Substrate Buffer

(Contd. of page 6)

- 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** 08/06/2020 / -
 - **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.**

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

1 Identification

- **Product identifier**
- **Trade name:** **R9 - Chromogen: TMB Solution**
- **Catalog or product number:** 7436J
- **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

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R9 - Chromogen: TMB Solution

(Contd. of page 1)

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

5 Fire-fighting measures

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

6 Accidental release measures

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

(Contd. on page 3)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R9 - Chromogen: TMB Solution

(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: 4

· 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 at 20 °C:** 0.99712 g/cm³
 · **Relative density** Not determined.
 · **Vapor density** Not determined.
 · **Evaporation rate** Not determined.

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

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

(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R9 - Chromogen: TMB Solution

(Contd. of page 3)

- | | |
|----------------------------|--|
| · Viscosity: | |
| dynamic: | Not determined. |
| kinematic: | Not determined. |
| · Solvent content: | |
| Water: | 99.4 % |
| Solids content: | 0.2 % |
| · 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)

7647-01-0 hydrochloric acid

3

· 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.

(Contd. on page 5)

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Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R9 - Chromogen: TMB Solution

(Contd. of page 4)

- **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.

14 Transport information

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

CA

(Contd. on page 6)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R9 - Chromogen: TMB Solution

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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

- **Technical instructions (air):**

| Class | Share in % |
|-------|------------|
| I | 0.1-1 |

- **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** 08/06/2020 / -

- **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 08/06/2020

Reviewed on 08/05/2020

1 Identification

- **Product identifier**
- **Trade name:** **R10 - Stopping Solution**
- **Catalog or product number:** 7438L
- **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 1A H350 May cause cancer.
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS08

- **Signal word** Danger
- **Hazard statements**
H350 May cause cancer.
- **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. |

3 Composition/Information on ingredients

- **Chemical characterization:** Substances
- **CAS No. Description:**
7732-18-5 water
- **Identification number(s):**
- **EC number:** 231-791-2

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R10 - Stopping Solution

(Contd. of page 1)

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

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

| | | |
|-----------|-------------------------------------|-------------|
| 7664-93-9 | sulphuric acid | 1-<5% w/w * |
| | Carcinogenicity - Category 1A, H350 | |
| | 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** 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.

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).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **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.

(Contd. on page 3)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R10 - Stopping Solution

See Section 13 for disposal information.

(Contd. of page 2)

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.
- **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.
- **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.

CA
(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R10 - Stopping Solution

(Contd. of page 3)

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: 2.6

· 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 at 20 °C: 1.01213 g/cm³

· Relative density Not determined.

· Vapor density Not determined.

· Evaporation rate Not determined.

· Solubility in / Miscibility with

Water: Fully miscible

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

· Viscosity:

| | |
|------------|-----------------|
| dynamic: | Not determined. |
| kinematic: | Not determined. |

· Solvent content:

Water: 97.4 %

· Other information No further relevant information available.

10 Stability and reactivity

· Reactivity No further relevant information available.

(Contd. on page 5)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R10 - Stopping Solution

(Contd. of page 4)

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

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product 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) | |
| 7664-93-9 | sulphuric acid |
| | 1 |
| · NTP (National Toxicology Program) | |
| 7664-93-9 | sulphuric acid |
| | 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 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.

CA

(Contd. on page 6)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R10 - Stopping Solution

(Contd. of page 5)

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):**

7664-93-9 sulphuric acid

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

7664-93-9 sulphuric acid

(Contd. on page 7)

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Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 08/05/2020

Trade name: R10 - Stopping Solution

(Contd. of page 6)

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

All components have the value ACTIVE.

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

7664-93-9 sulphuric acid

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.

· **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** 08/06/2020 / -

· **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 08/06/2020

Reviewed on 07/30/2020

1 Identification

- **Product identifier**
- **Trade name:** *Grinding Tube*
- **Catalog or product number:** 5144A
- **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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- **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:** Pick up mechanically.
- **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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- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures** The usual precautionary measures for handling chemicals should be followed.
- **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: 7

· Change in condition

| | |
|------------------------------|--------------|
| Melting point/Melting range: | 0 °C |
| Boiling point/Boiling range: | undetermined |

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

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

· **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 applicable. |
| · Evaporation rate | Not applicable. |

· Solubility in / Miscibility with

Water: Fully miscible

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

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Trade name: Grinding Tube

(Contd. of page 3)

- | | |
|----------------------------|--|
| · Viscosity: | |
| dynamic: | Not applicable. |
| kinematic: | Not applicable. |
| · Solvent content: | |
| Water: | 95.1 % |
| Solids content: | 4.9 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

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

11 Toxicological information

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

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

| | | |
|--------------------------------|--|--|
| 26628-22-8 sodium azide | | |
|--------------------------------|--|--|

| | | |
|------|---------------|------------------|
| Oral | LD50 (static) | 27 mg/kg (Rat) |
| | | 27 mg/kg (mouse) |

- **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. |
|------------------------------------|

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Trade name: Grinding Tube

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

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Trade name: Grinding Tube

(Contd. of page 5)

- | | |
|--|--|
| · 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 |
| 50-99-7 | glucose | ACTIVE |
| 26628-22-8 | sodium azide | 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** 08/06/2020 / -

- **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)

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Trade name: Grinding Tube

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*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.***

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 07/30/2020

1 Identification

- **Product identifier**
- **Trade name:** Reagent A - Denaturing Solution
- **Catalog or product number:** 5144B
- **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 (Inhalation) - Category 2 H330 Fatal if inhaled.
Skin Irritation - Category 2 H315 Causes skin irritation.
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 GHS06

- **Signal word** Danger
- **Hazard-determining components of labeling:**
Sodium N-lauroylsarcosinate
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-
- **Hazard statements**
H330 Fatal if inhaled.
H315 Causes skin irritation.
H318 Causes serious eye damage.
- **Precautionary statements**
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.
P320 Specific treatment is urgent (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.

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Trade name: Reagent A - Denaturing Solution

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

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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:**

| | | |
|-----------|--|--------------|
| 9002-93-1 | Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy- Serious Eye Damage - Category 1, H318 Acute Toxicity (Oral) - Category 4, H302; Skin Irritation - Category 2, H315 | 5-<10% w/w * |
| 137-16-6 | Sodium N-lauroylsarcosinate Acute Toxicity (Inhalation) - Category 1, H330 Serious Eye Damage - Category 1, H318 Skin Irritation - Category 2, H315 | 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.
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**
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** 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.

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Trade name: Reagent A - Denaturing Solution

Wear self-contained respiratory protective device.

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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.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **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.

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.

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Trade name: Reagent A - Denaturing Solution

(Contd. of page 3)

- **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.

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:** Odorless

• **Odor threshold:** Not determined.

• **pH-value at 20 °C:** 7

- **Change in condition**

Melting point/Melting range: undetermined

Boiling point/Boiling range: undetermined

• **Flash point:** Not applicable
Not determined.

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

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Trade name: Reagent A - Denaturing Solution

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| | |
|---|--|
| · 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: | 73.4 % |
| Solids content: | 26.2 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

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

11 Toxicological information

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

57-13-6 urea

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

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Trade name: Reagent A - Denaturing Solution

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9002-93-1 Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-

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

137-16-6 Sodium N-lauroylsarcosinate

| | | |
|------------|----------|---------------------|
| Inhalative | LC50/4 h | 0.05-0.5 mg/l (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:

Toxic

Irritant

Very toxic

- **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 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.

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/06/2020

Reviewed on 07/30/2020

Trade name: Reagent A - Denaturing Solution

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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.
- **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 |
| · 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.

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Safety Data Sheet

according to HPR, Schedule 1

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Reviewed on 07/30/2020

Trade name: Reagent A - Denaturing Solution

(Contd. of page 7)

· 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 08/06/2020 / -

· 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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1 Identification

- **Product identifier**
- **Trade name:** Reagent B - Clarifying Solution
- **Catalog or product number:** 1641
- **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 3 | H226 | Flammable liquid and vapour. |
| Acute Toxicity (Oral) - Category 4 | H302 | Harmful if swallowed. |
| Skin Irritation - Category 2 | H315 | Causes skin irritation. |
| Serious Eye Damage - Category 1 | H318 | Causes serious eye damage. |
| Specific Target Organ Toxicity - Single Exposure - Category 3 | H335-H336 | May cause respiratory irritation. May cause drowsiness or dizziness. |

· Label elements

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

· Hazard pictograms



GHS02 GHS05 GHS07

· Signal word Danger

· Hazard-determining components of labeling:

butan-1-ol

· Hazard statements

- H226 Flammable liquid and vapour.
 H302 Harmful if swallowed.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· 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.

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P321 Specific treatment (see on this label).
 P330 Rinse mouth.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/Information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description:**
71-36-3 butan-1-ol
- **Identification number(s):**
- **EC number:** 200-751-6
- **Index number:** 603-004-00-6
- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with non-hazardous additions.

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

| | |
|---|---------------|
| 71-36-3 butan-1-ol | 80-100% w/w * |
| Flammable Liquids - Category 3, H226 Serious Eye Damage - Category 1, H318 Acute Toxicity (Oral) - Category 4, H302; Skin Irritation - Category 2, H315; Specific Target Organ Toxicity - Single Exposure - Category 3, H335-H336 | |

* 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.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **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.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

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5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **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 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.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
Ensure good ventilation/exhaust at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 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:**

71-36-3 butan-1-ol

EL TWA: 15 ppm
Ceiling: 30 ppm

EV TWA: 20 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.

Avoid contact with the skin.

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:** Alcohol-like

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: -89 °C

Boiling point/Boiling range: 116 °C

· **Flash point:** 23 - 60 °C

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| | |
|---|--|
| · Flammability (solid, gaseous) | Not applicable. |
| · Ignition temperature: | 340 °C |
| · Decomposition temperature: | Not determined. |
| · Auto igniting: | Product is not selfigniting. |
| · Danger of explosion: | Product is not explosive. However, formation of explosive air/vapor mixtures are possible. |
| · Explosion limits: | |
| Lower: | 1.5 Vol % |
| Upper: | 9.4 Vol % |
| · Vapor pressure at 20 °C: | 6.7 hPa |
| · Density at 20 °C: | 0.81003 g/cm ³ |
| · Relative density | Not determined. |
| · Vapor density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with Water at 20 °C: | 77 g/l |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| dynamic: | Not determined. |
| kinematic: | Not determined. |
| · Solvent content: | |
| Organic solvents: | 100.0 % |
| · Other information | No further relevant information available. |

10 Stability and reactivity

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

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Trade name: Reagent B - Clarifying Solution

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11 Toxicological information

- Information on toxicological effects

- Acute toxicity:

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

71-36-3 butan-1-ol

| | | |
|------------|----------|-------------------|
| Oral | LD50 | 790 mg/kg (rat) |
| Dermal | LD50 | 3,400 mg/kg (rbt) |
| Inhalative | LC50/4 h | 8,000 mg/l (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)

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.

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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Trade name: Reagent B - Clarifying Solution

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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.

14 Transport information

· **UN-Number**

· **DOT/TDG, ADR, IMDG, IATA**

UN1120

· **UN proper shipping name**

· **DOT/TDG**

Butanols mixture

· **ADR**

1120 BUTANOLS mixture
1120 BUTANOLS, mixture

· **IMDG, IATA**

BUTANOLS mixture

· **Transport hazard class(es)**

· **DOT, ADR, IMDG, IATA**

· **Class**

3 Flammable liquids

· **Label**

3

· **Packing group**

· **DOT/TDG, ADR, IMDG, IATA**

III

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Flammable liquids

· **Hazard identification number (Kemler code):**

30

· **EMS Number:**

F-E,S-D

· **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

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| | |
|-----------------------------------|--|
| · ADR | |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN 1120 BUTANOLS MIXTURE, 3, 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):**

All ingredients are 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

- **Technical instructions (air):**

| Class | Share in % |
|-------|------------|
| NK | 80-100 |

- **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

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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** 08/06/2020 / -

• **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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1 Identification

- **Product identifier**
- **Trade name:** Reagent C1 - Resolving Solution
- **Catalog or product number:** 5144D
- **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 (Inhalation) - Category 4 H332 Harmful if inhaled.
- **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 N-lauroylsarcosinate
- **Hazard statements**
H332 Harmful if inhaled.
- **Precautionary statements**
 - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 - P271 Use only outdoors or in a well-ventilated area.
 - P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 - P312 Call a poison center/doctor if you feel unwell.

3 Composition/Information on ingredients

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

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Trade name: Reagent C1 - Resolving Solution

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Listing of dangerous and non-hazardous components:

| | | |
|----------|--|---------------|
| 137-16-6 | Sodium N-lauroylsarcosinate Acute Toxicity (Inhalation) - Category 1, H330 Serious Eye Damage - Category 1, H318 Skin Irritation - Category 2, H315 | 0.1-<1% 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. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.

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.

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: Mount 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).

Ensure adequate ventilation.

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.
Ensure good ventilation/exhaust at the workplace.
Prevent formation of aerosols.
- **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** Wash hands before breaks and at the end of work.
- **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

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
Form: Liquid

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| | |
|---|--|
| Color: | Green |
| · Odor: | Odorless |
| · Odor threshold: | Not determined. |
| · pH-value at 20 °C: | 7 |
| · 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: | 73.2 % |
| Solids content: | 26.8 % |
| · 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.

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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:**

57-13-6 urea

| | | |
|------|------|--------------------|
| Oral | LD50 | 14,500 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:** 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.

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

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Trade name: Reagent C1 - Resolving Solution

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

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.

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Trade name: Reagent C1 - Resolving Solution

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· 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** 08/06/2020 / -

- **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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Reviewed on 07/30/2020

1 Identification

- **Product identifier**
- **Trade name:** **BSE Proteinase K**
- **Catalog or product number:** 3551100
- **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:

| | | |
|------------|---|------------|
| 39450-01-6 | Proteinase, Tritirachium album serine | 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 skin contact** Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **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** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
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:**

56-81-5 glycerol

| | |
|----|--|
| EL | TWA: 10* 3** mg/m ³ *mist, total; **mist, respirable |
| EV | TWA: 10 mg/m ³ |

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- **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: | 7 |
|----------------------|---|

· 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 |
|---|----------------|

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- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - dynamic:** Not determined.
 - kinematic:** Not determined.
- **Solvent content:**
 - Organic solvents:** 2.4 %
 - Water:** 95.0 %
- **Solids content:** 2.7 %
- **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.

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- **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.

14 Transport information

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

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· **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 |
| 56-81-5 | glycerol | ACTIVE |
| 143-74-8 | phenol red | 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

· **Technical instructions (air):**

| Class | Share in % |
|-------|------------|
| I | 1-5 |
| NK | 1-5 |

- **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** 08/06/2020 / -

· **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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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