

**KIT COMPONENTS**Product name: **TeSeE™ Kit - Short Assay Protocol, 384 Tests**Product code: **3551192**

<b>Article number</b>	<b>Description</b>	<b>Quantity</b>	<b>Symbols</b>
5192A	A - Denaturing solution, 120 ml & 240 ml	1	
5192B	B - Clarifying solution, 120 ml	1	GHS02 GHS07 GHS05
5192C	C - Resolving buffer, 14 ml & 28 ml	1	
5144E	PK - Proteinase K (0.5 mL)	2	GHS08
5145A	R1 - Microplaque	4	
7360R	R2 - Wash Solution (Conc. 10 x), 250 ml	2	
5145B	R3 - Negative Control (4 mL)	2	GHS07
5145C	R4 - Positive Control (lyoph.) (4 mL)	1	GHS07
5145E	R7 - Conjugate (10x) (2.8 mL)	2	GHS07
5192E	R8 - Substrat buffer, 120 ml	1	
5192F	R9 - Chromogen (TMB), 10 ml & 20 ml	1	
5192G	R10 - Stop solution, 56 ml & 112 ml	1	GHS08

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/08/2015

**1 Identification****· Product identifier**

- **Trade name: A - Denaturing solution, 120 ml & 240 ml**
  - **Article number:** 5192A
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
  - **Application of the substance / the mixture** Laboratory reagent or component.

**· Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

Bio-Rad  
3, Boulevard Raymond Poincaré  
F-92430 Marnes-la-Coquette  
Tel.: +33 (0)1 47 95 60 00  
Fax : +33 (0)1 47 41 91 33  
e-mail: fds-msds.fr@bio-rad.com

**· Information department:** Customer support.**· Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification****· Classification of the substance or mixture**

The product is not classified according to the Globally Harmonized System (GHS).

**· Label elements**

- **GHS label elements** Void
  - **Hazard pictograms** Void
  - **Signal word** Void
  - **Hazard statements** Void

**· Classification system:****· NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

**· HMIS-ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

**· Other hazards****· Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

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**Trade name: A - Denaturing solution, 120 ml & 240 ml**

 · **vPvB:** Not applicable.

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### 3 Composition/information on ingredients

 · **Chemical characterization: Mixtures**

 · **Description:** Mixture without a chemical hazard.

 · **Dangerous components:**

57-13-6 | urea

10-25%

### 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:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Consult a doctor, if necessary.
- **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.  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.

 · **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 disposable gloves.

 · **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.

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**7 Handling and storage**

- **Handling:**
  - **Precautions for safe handling**  
Avoid all contact with reagents, even those considered to be non-hazardous.  
Follow good laboratory practices.
  - **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:** No special requirements.
    - **Information about storage in one common storage facility:** Not required.
    - **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

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

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

**57-13-6 urea**

WEEL ( ) | 10 mg/m<sup>3</sup>

· **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:** Suitable respiratory protective device recommended.
    - **Protection of hands:** Protective gloves
    - **Eye protection:** Safety glasses

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

- **Form:** Fluid
- **Color:** According to product specification
- **Odor:** Product specific

· **Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** Undetermined.

· **Flash point:** Not applicable.

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

· **Danger of explosion:** Product does not present an explosion hazard.

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**Trade name: A - Denaturing solution, 120 ml & 240 ml**

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· <b>Density:</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	Fully miscible.
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Reactivity**
  - **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**
  - **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

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

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**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 (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.

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

**13 Disposal considerations**

- **Waste treatment methods**
  - **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.
  - **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

· <b>UN-Number</b>	
· DOT, ADR, ADN, IMDG, IATA	Void
· <b>UN proper shipping name</b>	
· DOT, ADN, IMDG, IATA	Void
· ADR	Void
· <b>Transport hazard class(es)</b>	
· DOT, ADR, ADN, IMDG, IATA	
· Class	Void
· <b>Packing group</b>	
· DOT, ADR, IMDG, IATA	Void
· <b>Environmental hazards:</b>	
· Marine pollutant:	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.
· <b>UN "Model Regulation":</b>	-

**15 Regulatory information**

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

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

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<p align="center"><b>· Section 313 (Specific toxic chemical listings):</b></p> <p>None of the ingredients is listed.</p>
<p align="center"><b>· TSCA (Toxic Substances Control Act):</b></p> <p>All ingredients are listed.</p>
<p align="center"><b>· Proposition 65</b></p>
<p align="center"><b>· Chemicals known to cause cancer:</b></p> <p>None of the ingredients is listed.</p>
<p align="center"><b>· Chemicals known to cause reproductive toxicity for females:</b></p> <p>None of the ingredients is listed.</p>
<p align="center"><b>· Chemicals known to cause reproductive toxicity for males:</b></p> <p>None of the ingredients is listed.</p>
<p align="center"><b>· Chemicals known to cause developmental toxicity:</b></p> <p>None of the ingredients is listed.</p>
<p align="center"><b>· Cancerogenity categories</b></p>
<p align="center"><b>· EPA (Environmental Protection Agency)</b></p> <p>None of the ingredients is listed.</p>
<p align="center"><b>· TLV (Threshold Limit Value established by ACGIH)</b></p> <p>None of the ingredients is listed.</p>
<p align="center"><b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b></p> <p>None of the ingredients is listed.</p>
<p><b>· Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out.</p>

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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**· Department issuing SDS:**

SDS / FDS Administr.

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Marnes-la-Coquette, France

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Bio-Rad Laboratories

6565 185th Avenue NE

Redmond, WA 98052-5039

Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

**· Date of preparation / last revision** 08/13/2015 / 1

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**· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

USA



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Printing date 08/13/2015

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### 1 Identification

- **Product identifier**

- **Trade name: B - Clarifying solution, 120 ml**
  - **Article number:** 5192B
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
  - **Application of the substance / the mixture** Laboratory reagent or component.

- **Details of the supplier of the safety data sheet**

- **Manufacturer/Supplier:**

Bio-Rad  
 3, Boulevard Raymond Poincaré  
 F-92430 Marnes-la-Coquette  
 Tel.: +33 (0)1 47 95 60 00  
 Fax : +33 (0)1 47 41 91 33  
 e-mail: fds-msds.fr@bio-rad.com

- **Information department:** Customer support.

- **Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

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or ACCIDENT with this product.

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Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 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

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**Trade name: B - Clarifying solution, 120 ml**

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- **Signal word** Danger
- **Hazard-determining components of labeling:**  
butan-1-ol
- **Hazard statements**  
Flammable liquid and vapor.  
Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye damage.  
May cause respiratory irritation. May cause drowsiness or dizziness.
- **Precautionary statements**  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Wash thoroughly after handling.  
Wear protective gloves / eye protection / face protection.  
Wear protective gloves.  
Wear eye protection / face protection.  
Ground/bond container and receiving equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a poison center/doctor.  
In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
If swallowed: Call a poison center/doctor if you feel unwell.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If skin irritation occurs: Get medical advice/attention.  
Rinse mouth.  
Specific treatment (see on this label).  
Take off contaminated clothing and wash it before reuse.  
Store locked up.  
Store in a well-ventilated place. Keep container tightly closed.  
Store in a well-ventilated place. Keep cool.  
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**  
Health = 2  
Fire = 3  
Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**  
Health = 2  
Fire = 3  
Reactivity = 0
- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.

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**Trade name: B - Clarifying solution, 120 ml**

· vPvB: Not applicable.




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### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture containing hazardous components.

- **Dangerous components:**

71-36-3	butan-1-ol	50-100%
	<ul style="list-style-type: none"> <li> Flam. Liq. 3, H226</li> <li> Eye Dam. 1, H318</li> <li> Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335-H336</li> </ul>	

### 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:**

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

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:** Immediately call a doctor.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

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

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

- **Advice for firefighters**

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

### 6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:**

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

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

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- **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/exhaustion at the workplace.  
Prevent formation of aerosols.  
Follow good laboratory practices.
  - **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:** No special requirements.
    - **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:**

**71-36-3 butan-1-ol**

PEL ()	300 mg/m <sup>3</sup> , 100 ppm
REL ()	Short-term value: C 150 mg/m <sup>3</sup> , C 50 ppm Skin
TLV ()	61 mg/m <sup>3</sup> , 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 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.
    - **Protection of hands:** Protective gloves

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**Trade name: B - Clarifying solution, 120 ml**

· **Eye protection:** Tightly sealed goggles

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**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

- **Form:** Fluid
- **Color:** According to product specification
- **Odor:** Product specific

· **Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** Undetermined.

· **Flash point:** 35 °C (95 °F)

· **Ignition temperature:** 340 °C (644 °F)

· **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 (68 °F):** 6.7 hPa (5 mm Hg)

· **Density:** Not determined.

· **Solubility in / Miscibility with**

- **Water:** Fully miscible.

· **Solvent content:**

- **Organic solvents:** 100.0 %
- **VOC content:** 100.0 %

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

**10 Stability and reactivity**

· **Reactivity**

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

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

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**11 Toxicological information**

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**71-36-3 butan-1-ol**

Oral	LD50	790 mg/kg (rat)
Dermal	LD50	3400 mg/kg (rabbit)
Inhalative	LC50/4 h	8000 mg/l (rat)

· **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.

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

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

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.

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

None of the ingredients is listed.

**12 Ecological information**

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

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**13 Disposal considerations**

· **Waste treatment methods**

· **Recommendation:**

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

· **Uncleaned packagings:**

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

**14 Transport information**

· **UN-Number**

· **DOT** UN1120  
· **ADR, IMDG, IATA** 1120

· **UN proper shipping name**

· **DOT, IMDG, IATA** BUTANOLS, mixture  
· **ADR** 1120 BUTANOLS, mixture

· **Transport hazard class(es)**

· **DOT**



· **Class** 3 Flammable liquids  
· **Label** 3

· **ADR**



· **Class** 3 (F1) Flammable liquids  
· **Label** 3

· **IMDG, IATA**



· **Class** 3 Flammable liquids  
· **Label** 3

· **Packing group**

· **DOT, ADR, IMDG, IATA** III

· **Environmental hazards:**

· **Marine pollutant:** No

· **Special precautions for user**

Warning: Flammable liquids

· **Danger code (Kemler):** 30

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Printing date 08/13/2015

Reviewed on 07/08/2015

**Trade name: B - Clarifying solution, 120 ml**

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· <b>EMS Number:</b>	F-E,S-D
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	UN1120, BUTANOLS, mixture, 3, III

**15 Regulatory information**

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

· <b>Section 355 (extremely hazardous substances):</b>
None of the ingredient is listed.

· <b>Section 313 (Specific toxic chemical listings):</b>
71-36-3   butan-1-ol

· <b>TSCA (Toxic Substances Control Act):</b>
All ingredients are listed.

· <b>Proposition 65</b>
· <b>Chemicals known to cause cancer:</b>
None of the ingredients is listed.

· <b>Chemicals known to cause reproductive toxicity for females:</b>
None of the ingredients is listed.

· <b>Chemicals known to cause reproductive toxicity for males:</b>
None of the ingredients is listed.

· <b>Chemicals known to cause developmental toxicity:</b>
None of the ingredients is listed.

· <b>Carcinogeny categories</b>	
· <b>EPA (Environmental Protection Agency)</b>	
71-36-3   butan-1-ol	D

· <b>TLV (Threshold Limit Value established by ACGIH)</b>
None of the ingredients is listed.

· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
None of the ingredients is listed.

- **National regulations:**

Class	Share in %
NK	100.0

- **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.

USA - Clinical Diagnostic Group  
Bio-Rad Laboratories  
4000 Alfred Nobel Drive

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**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

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**Trade name: B - Clarifying solution, 120 ml**

(Contd. of page 8)

Hercules, California 94547  
Phone: +1(510) 724-7000

· **Department issuing SDS:**

SDS / FDS Administr.

Bio-Rad

Marnes-la-Coquette, France

· **Contact:**

Customer Support

Phone : +33 (0)1 47 95 61 85

USA

Bio-Rad Laboratories

6565 185th Avenue NE

Redmond, WA 98052-5039

Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

· **Date of preparation / last revision** 08/13/2015 / 1

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/08/2015

**1 Identification****· Product identifier**

- **Trade name: C - Resolving buffer, 14 ml & 28 ml**
  - **Article number:** 5192C
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
  - **Application of the substance / the mixture** Laboratory reagent or component.

**· Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

Bio-Rad  
3, Boulevard Raymond Poincaré  
F-92430 Marnes-la-Coquette  
Tel.: +33 (0)1 47 95 60 00  
Fax : +33 (0)1 47 41 91 33  
e-mail: fds-msds.fr@bio-rad.com

**· Information department:** Customer support.**· Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification****· Classification of the substance or mixture**

The product is not classified according to the Globally Harmonized System (GHS).

**· Label elements**

- **GHS label elements** Void
  - **Hazard pictograms** Void
  - **Signal word** Void
  - **Hazard statements** Void

**· Classification system:****· NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

**· HMIS-ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

**· Other hazards****· Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

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USA

**Safety Data Sheet**  
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Reviewed on 07/08/2015

**Trade name: C - Resolving buffer, 14 ml & 28 ml**· **vPvB:** Not applicable.

(Contd. of page 1)

**3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
  - **Description:** Mixture without a chemical hazard.
  - **Dangerous components:** Void

**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:** Immediately wash with water and soap and rinse thoroughly.
  - **After eye contact:** Rinse opened eye for several minutes under running water.
  - **After swallowing:** Consult a doctor, if necessary.
  - **Information for doctor:**
    - **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
    - **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
  - **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.
- **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 disposable gloves.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections** No dangerous substances are released.

**7 Handling and storage**

- **Handling:**
  - **Precautions for safe handling**  
Keep receptacles tightly sealed.  
Avoid all contact with reagents, even those considered to be non-hazardous.  
Follow good laboratory practices.

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USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/08/2015

**Trade name: C - Resolving buffer, 14 ml & 28 ml**

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

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
    - **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
  - **Personal protective equipment:**
    - **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
    - **Breathing equipment:** Suitable respiratory protective device recommended.
    - **Protection of hands:** Protective gloves
    - **Eye protection:** Safety glasses

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - **Form:** Fluid
      - **Color:** According to product specification
    - **Odor:** Product specific
  - **Change in condition**
    - **Melting point/Melting range:** Undetermined.
    - **Boiling point/Boiling range:** Undetermined.
  - **Flash point:** Not applicable.
  - **Auto igniting:** Product is not selfigniting.
  - **Danger of explosion:** Product does not present an explosion hazard.
  - **Density:** Not determined.
  - **Solubility in / Miscibility with**
    - **Water:** Fully miscible.
  - **Other information** No further relevant information available.

USA

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**Safety Data Sheet**  
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Reviewed on 07/08/2015

**Trade name: C - Resolving buffer, 14 ml & 28 ml**

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**10 Stability and reactivity**

- **Reactivity**
  - **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 irritating effect.
    - **Sensitization:** No sensitizing effects known.
  - **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
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)**

129-17-9	hydrogen [4-[4-(diethylamino)-2',4'-disulphonatobenzhydrylidene]cyclohexa-2,5-dien-1-ylidene]diethylammonium, sodium salt	3
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**12 Ecological information**

- **Toxicity**
  - **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
  - **Bioaccumulative potential** No further relevant information available.
  - **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
  - **General notes:** Generally not hazardous for water
- **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.

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**Safety Data Sheet**  
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Reviewed on 07/08/2015

**Trade name: C - Resolving buffer, 14 ml & 28 ml**

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**· Proposition 65****· Chemicals known to cause cancer:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**· Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**· Cancerogenity categories****· EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

**· 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.

USA - Clinical Diagnostic Group

Bio-Rad Laboratories

4000 Alfred Nobel Drive

Hercules, California 94547

Phone: +1(510) 724-7000

**· Department issuing SDS:**

SDS / FDS Administr.

Bio-Rad

Marnes-la-Coquette, France

**· Contact:**

Customer Support

Phone : +33 (0)1 47 95 61 85

USA

Bio-Rad Laboratories

6565 185th Avenue NE

Redmond, WA 98052-5039

Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

**· Date of preparation / last revision** 08/13/2015 / 1**· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/08/2015

**Trade name: C - Resolving buffer, 14 ml & 28 ml**

ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)

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USA



**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**1 Identification**· **Product identifier**

- 
- Trade name: PK - Proteinase K (0.5 mL)**

· **Article number:**

5144E

5169M

- 
- Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

- 
- Application of the substance / the mixture**
- Laboratory reagent or component.

· **Details of the supplier of the safety data sheet**· **Manufacturer/Supplier:**

Bio-Rad

3, Boulevard Raymond Poincaré

F-92430 Marnes-la-Coquette

Tel.: +33 (0)1 47 95 60 00

Fax : +33 (0)1 47 41 91 33

e-mail: fds-msds.fr@bio-rad.com

- 
- Information department:**
- Customer support.

· **Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification**· **Classification of the substance or mixture**

GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

· **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-determining components of labeling:**

Proteinase, Tritirachium album serine

· **Hazard statements**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

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

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USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: PK - Proteinase K (0.5 mL)**

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- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**  
Health = 0  
Fire = 0  
Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**  
Health = \*0  
Fire = 0  
Reactivity = 0
- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.

**3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
  - **Description:** Mixture containing components at a non hazardous concentration.

· <b>Dangerous components:</b>		
56-81-5	glycerol	0.1-2.5%
39450-01-6	Proteinase, Tritirachium album serine	0.1-2.5%
	Resp. Sens. 1, H334 Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	

**4 First-aid measures**

- **Description of first aid measures**
  - **After inhalation:** Supply fresh air; consult doctor in case of complaints.
  - **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
  - **After eye contact:** Rinse opened eye for several minutes under running water.
  - **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
  - **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
  - **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
  - **Suitable extinguishing agents:**  
CO2, extinguishing powder or water spray. Fight larger fires with water spray.  
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.

USA

(Contd. on page 3)

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: PK - Proteinase K (0.5 mL)**

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**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:**  
Absorb liquid components with liquid-binding material.
- **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**  
Keep receptacles tightly sealed.  
Follow good laboratory practices.
  - **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:** No special requirements.
    - **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**

PEL	Long-term value: 15* 5** mg/m <sup>3</sup> mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.

· **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:** Suitable respiratory protective device recommended.
    - **Protection of hands:** Protective gloves
    - **Eye protection:** Safety glasses

USA

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**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

Trade name: PK - Proteinase K (0.5 mL)

(Contd. of page 3)

**9 Physical and chemical properties**· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

- **Form:** Fluid
- **Color:** Red
- **Odor:** Weak, characteristic

· **pH-value:** Not determined.· **Change in condition**· **Boiling point/Boiling range:** Undetermined.· **Flash point:** Not applicable.· **Danger of explosion:** Product does not present an explosion hazard.· **Density:** Not determined.· **Solubility in / Miscibility with**

- **Water:** Fully miscible.
- **Other information** No further relevant information available.

**10 Stability and reactivity**· **Reactivity**· **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**· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

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.

(Contd. on page 5)

USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: PK - Proteinase K (0.5 mL)**

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

None of the ingredients is listed.

**12 Ecological information**

- **Toxicity**
  - **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
  - **Bioaccumulative potential** No further relevant information available.
  - **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
  - **General notes:** Avoid transfer into the environment.
- **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 be specially treated adhering to official regulations.
- **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

- |  |  |
|--|--|
| · <b>UN-Number</b>   |  |
| · DOT, ADR, ADN, IMDG, IATA  | Void   |
| · <b>UN proper shipping name</b>   |  |
| · DOT, ADR, ADN, IMDG, IATA  | Void   |
| · <b>Transport hazard class(es)</b>  |  |
| · DOT, ADR, ADN, IMDG, IATA  |  |
| · Class  | Void   |
| · <b>Packing group</b>   |  |
| · DOT, ADR, IMDG, IATA   | Void   |
| · <b>Environmental hazards:</b>  |  |
| · Marine pollutant:  | No   |
| · <b>Special precautions for user</b>  | Not applicable.                                      |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                                      |
| · <b>Transport/Additional information:</b>                                       | Not dangerous according to the above specifications. |

(Contd. on page 6)

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: PK - Proteinase K (0.5 mL)**

(Contd. of page 5)

· **UN "Model Regulation":** -

**15 Regulatory information**

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

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

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

56-81-5 glycerol

34487-61-1 sodium hydrogen 4,4'-(3H-2,1-benzoxathiol-3-ylidene)bisphenolate S,S-dioxide

7732-18-5 water, distilled, conductivity or of similar purity

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogeny categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **National regulations:**

Class	Share in %
I	1.7
NK	2.4

· **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.

USA - Clinical Diagnostic Group  
Bio-Rad Laboratories  
4000 Alfred Nobel Drive

(Contd. on page 7)

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

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**Trade name: PK - Proteinase K (0.5 mL)**

(Contd. of page 6)

Hercules, California 94547  
Phone: +1(510) 724-7000

**· Department issuing SDS:**

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**· Contact:**

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Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

**· Date of preparation / last revision 08/13/2015 / 2****· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**1 Identification**· **Product identifier**

- 
- Trade name: R1 - Microplaque**

· **Article number:** 5145A

- 
- Relevant identified uses of the substance or mixture and uses advised against**
- 
- No further relevant information available.

· **Application of the substance / the mixture** Laboratory reagent or component.· **Details of the supplier of the safety data sheet**· **Manufacturer/Supplier:**

Bio-Rad

3, Boulevard Raymond Poincaré

F-92430 Marnes-la-Coquette

Tel.: +33 (0)1 47 95 60 00

Fax : +33 (0)1 47 41 91 33

e-mail: fds-msds.fr@bio-rad.com

- 
- Information department:**
- Customer support.

· **Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification**· **Classification of the substance or mixture**

The product is not classified according to the Globally Harmonized System (GHS).

· **Label elements**

- 
- GHS label elements**
- Void

· **Hazard pictograms** Void· **Signal word** Void· **Hazard statements** Void· **Classification system:**

- 
- NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

- 
- HMIS-ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

· **Other hazards**

- 
- Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

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USA



**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R1 - Microplaque**· **vPvB:** Not applicable.

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**3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
  - **Description:** Mixture without a chemical hazard.
  - **Dangerous components:** Void

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

**5 Fire-fighting measures**

- **Extinguishing media**
  - **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.
- **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 disposable gloves.
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **Reference to other sections** No dangerous substances are released.

**7 Handling and storage**

- **Handling:**
  - **Precautions for safe handling**  
Prevent formation of dust.  
Avoid all contact with reagents, even those considered to be non-hazardous.  
Follow good laboratory practices.
  - **Information about protection against explosions and fires:** No special measures required.

(Contd. on page 3)

USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

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Reviewed on 07/17/2015

**Trade name: R1 - Microplaque**

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- **Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - **Requirements to be met by storerooms and receptacles:** No special requirements.
    - **Information about storage in one common storage facility:** Not required.
    - **Further information about storage conditions:** None.
  - **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
    - **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
  - **Personal protective equipment:**
    - **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
    - **Breathing equipment:** Suitable respiratory protective device recommended.
    - **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
    - **Eye protection:** Not required.

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - **Form:** Solid
      - **Color:** Colorless
      - **Odor:** Odorless
  - **Change in condition**
    - **Melting point/Melting range:** Undetermined.
    - **Boiling point/Boiling range:** Undetermined.
  - **Flash point:** Not applicable.
  - **Auto igniting:** Product is not selfigniting.
  - **Danger of explosion:** Product does not present an explosion hazard.
  - **Density:** Not determined.
  - **Solubility in / Miscibility with**
    - **Water:** Insoluble.

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**Safety Data Sheet**  
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Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R1 - Microplaque**

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

**10 Stability and reactivity**

- **Reactivity**
  - **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 irritating effect.
    - **Sensitization:** No sensitizing effects known.
  - **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories**

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

None of the ingredients is listed.

**· NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**12 Ecological information**

- **Toxicity**
  - **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
  - **Bioaccumulative potential** No further relevant information available.
  - **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
  - **General notes:** Generally not hazardous for water
- **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.

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USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R1 - Microplaque**

(Contd. of page 4)

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

**14 Transport information**

· <b>UN-Number</b>	
· DOT, ADR, ADN, IMDG, IATA	Void
· <b>UN proper shipping name</b>	
· DOT, ADR, ADN, IMDG, IATA	Void
· <b>Transport hazard class(es)</b>	
· DOT, ADR, ADN, IMDG, IATA	
· Class	Void
· <b>Packing group</b>	
· DOT, ADR, IMDG, IATA	Void
· <b>Environmental hazards:</b>	
· Marine pollutant:	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.
· <b>UN "Model Regulation":</b>	-

**15 Regulatory information**

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

· **Section 355 (extremely hazardous substances):**  
None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**  
None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**  
None of the ingredients is listed.

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**Safety Data Sheet**  
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Reviewed on 07/17/2015

**Trade name: R1 - Microplaque**

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**· Proposition 65**

<b>· Chemicals known to cause cancer:</b>
None of the ingredients is listed.

<b>· Chemicals known to cause reproductive toxicity for females:</b>
None of the ingredients is listed.

<b>· Chemicals known to cause reproductive toxicity for males:</b>
None of the ingredients is listed.

<b>· Chemicals known to cause developmental toxicity:</b>
None of the ingredients is listed.

**· Cancerogenity categories**

<b>· EPA (Environmental Protection Agency)</b>
None of the ingredients is listed.

<b>· TLV (Threshold Limit Value established by ACGIH)</b>
None of the ingredients is listed.

<b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
None of the ingredients is listed.

**· 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.

USA - Clinical Diagnostic Group  
Bio-Rad Laboratories  
4000 Alfred Nobel Drive  
Hercules, California 94547  
Phone: +1(510) 724-7000

**· Department issuing SDS:**  
SDS / FDS Administr.  
Bio-Rad  
Marnes-la-Coquette, France

**· Contact:**  
Customer Support  
Phone : +33 (0)1 47 95 61 85  
USA  
Bio-Rad Laboratories  
6565 185th Avenue NE  
Redmond, WA 98052-5039

Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

**· Date of preparation / last revision** 08/13/2015 / 1

**· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association

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**Safety Data Sheet**  
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Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R1 - Microplaque**

ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)

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USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**1 Identification****· Product identifier****· Trade name: R2 - Wash Solution (Conc. 10 x), 250 ml****· Article number:**

7360R

5180R

**· Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

**· Application of the substance / the mixture** Laboratory reagent or component.**· Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

Bio-Rad

3, Boulevard Raymond Poincaré

F-92430 Marnes-la-Coquette

Tel.: +33 (0)1 47 95 60 00

Fax : +33 (0)1 47 41 91 33

e-mail: fds-msds.fr@bio-rad.com

**· Information department:** Customer support.**· Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification****· Classification of the substance or mixture**

The product is not classified according to the Globally Harmonized System (GHS).

**· Label elements****· GHS label elements** Void**· Hazard pictograms** Void**· Signal word** Void**· Hazard statements** Void**· Classification system:****· NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

**· HMIS-ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

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USA

**Safety Data Sheet**  
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Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R2 - Wash Solution (Conc. 10 x), 250 ml**

(Contd. of page 1)

- **Other hazards**
- **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.

**3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
  - **Description:** Mixture without a chemical hazard.
- **Dangerous components:**

77-86-1	trometamol	0.1-2.5%
	⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	

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

**5 Fire-fighting measures**

- **Extinguishing media**
  - **Suitable extinguishing agents:**  
CO2, extinguishing powder or water spray. Fight larger fires with water spray.
- **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 disposable gloves.
- **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.

USA

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**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R2 - Wash Solution (Conc. 10 x), 250 ml**

(Contd. of page 2)

**7 Handling and storage**

- **Handling:**
  - **Precautions for safe handling**  
Keep receptacles tightly sealed.  
Avoid all contact with reagents, even those considered to be non-hazardous.  
Follow good laboratory practices.
  - **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:** No special requirements.
    - **Information about storage in one common storage facility:** Not required.
    - **Further information about storage conditions:** None.
  - **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
    - **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
  - **Personal protective equipment:**
    - **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
    - **Breathing equipment:** Not required.
    - **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
    - **Eye protection:** Goggles recommended during refilling.

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - **Form:** Fluid
      - **Color:** According to product specification
    - **Odor:** Characteristic
  - **pH-value at 20 °C (68 °F):** 7.4
  - **Change in condition**
    - **Melting point/Melting range:** Undetermined.
    - **Boiling point/Boiling range:** Undetermined.

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**Trade name: R2 - Wash Solution (Conc. 10 x), 250 ml**

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· <b>Flash point:</b>	Not applicable.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Density:</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	Fully miscible.
· <b>Solvent content:</b>	
· <b>Organic solvents:</b>	0.0 %
· <b>Water:</b>	78.2 %
· <b>Solids content:</b>	19.4 %
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Reactivity**
  - **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 irritating effect.
    - **Sensitization:** Sensitizing effect by skin contact is possible with prolonged exposure.
  - **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
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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**Safety Data Sheet**  
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**Trade name: R2 - Wash Solution (Conc. 10 x), 250 ml**

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

None of the ingredients is listed.

**12 Ecological information**

- **Toxicity**
  - **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
  - **Bioaccumulative potential** No further relevant information available.
  - **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
  - **General notes:**  
Water hazard class 1 (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.
- **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.
  - **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

- |                                     |      |
|-------------------------------------|------|
| · <b>UN-Number</b>                  |      |
| · DOT, ADR, ADN, IMDG, IATA         | Void |
| · <b>UN proper shipping name</b>    |      |
| · DOT, ADR, ADN, IMDG, IATA         | Void |
| · <b>Transport hazard class(es)</b> |      |
| · DOT, ADR, ADN, IMDG, IATA         |      |
| · Class                             | Void |
| · <b>Packing group</b>              |      |
| · DOT, ADR, IMDG, IATA              | Void |
| · <b>Environmental hazards:</b>     |      |
| · <b>Marine pollutant:</b>          | No   |

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**Safety Data Sheet**  
29 CFR Part 1910.1200

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Reviewed on 07/17/2015

**Trade name: R2 - Wash Solution (Conc. 10 x), 250 ml**

(Contd. of page 5)

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

**15 Regulatory information**

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

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

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

7647-14-5 sodium chloride

77-86-1 trometamol

7732-18-5 water, distilled, conductivity or of similar purity

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogeny categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **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.

USA - Clinical Diagnostic Group  
Bio-Rad Laboratories  
4000 Alfred Nobel Drive

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**Safety Data Sheet**  
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Reviewed on 07/17/2015

**Trade name: R2 - Wash Solution (Conc. 10 x), 250 ml**

(Contd. of page 6)

Hercules, California 94547  
Phone: +1(510) 724-7000

**· Department issuing SDS:**

SDS / FDS Administr.

Bio-Rad

Marnes-la-Coquette, France

**· Contact:**

Customer Support

Phone : +33 (0)1 47 95 61 85

USA

Bio-Rad Laboratories

6565 185th Avenue NE

Redmond, WA 98052-5039

Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

**· Date of preparation / last revision 08/13/2015 / 3****· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**1 Identification****· Product identifier**

- **Trade name: R3 - Negative Control (4 mL)**
  - **Article number:** 5145B
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
  - **Application of the substance / the mixture** Laboratory reagent or component.

**· Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

Bio-Rad  
3, Boulevard Raymond Poincaré  
F-92430 Marnes-la-Coquette  
Tel.: +33 (0)1 47 95 60 00  
Fax : +33 (0)1 47 41 91 33  
e-mail: fds-msds.fr@bio-rad.com

**· Information department:** Customer support.**· Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification****· Classification of the substance or mixture**

Skin Sens. 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:**

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)

**· Hazard statements**

May cause an allergic skin reaction.

**· Precautionary statements**

Wear protective gloves/protective clothing/eye protection/face protection.

If skin irritation or rash occurs: Get medical advice/attention.

If on skin: Wash with plenty of water.

(Contd. on page 2)

USA

**Safety Data Sheet**  
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Reviewed on 07/17/2015

**Trade name: R3 - Negative Control (4 mL)**

(Contd. of page 1)





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

- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**  
Health = 0  
Fire = 0  
Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**  
Health = 0  
Fire = 0  
Reactivity = 0
- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.

**3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
  - **Description:** Mixture containing hazardous components.

· **Dangerous components:**

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)	<0.01%
	 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331  Skin Corr. 1B, H314  Aquatic Acute 1, H400; Aquatic Chronic 1, H410  Skin Sens. 1, H317	

**4 First-aid measures**

- **Description of first aid measures**
  - **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:** Immediately wash with water and soap and rinse thoroughly.
  - **After eye contact:** Rinse opened eye for several minutes under running water.
  - **After swallowing:** Immediately call a doctor.
  - **Information for doctor:**
    - **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
    - **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
  - **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.
- **Special hazards arising from the substance or mixture** No further relevant information available.

(Contd. on page 3)

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R3 - Negative Control (4 mL)**

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** No special measures required.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**
  - Wear protective clothing.
  - Wear disposable gloves.
- **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).
  - 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/exhaustion at the workplace.
    - Prevent formation of aerosols.
    - Follow good laboratory practices.
  - **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:** No special requirements.
    - **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.
    - **Breathing equipment:**
      - Suitable respiratory protective device recommended.

(Contd. on page 4)

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**Safety Data Sheet**  
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**Trade name: R3 - Negative Control (4 mL)**

(Contd. of page 3)

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.

**· Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

**· Eye protection:** Goggles recommended during refilling.**9 Physical and chemical properties****· Information on basic physical and chemical properties****· General Information****· Appearance:****· Form:** Fluid**· Color:** Pale**· Odor:** Odorless**· Change in condition****· Melting point/Melting range:** Undetermined.**· Boiling point/Boiling range:** Undetermined.**· Flash point:** Not applicable.**· Auto igniting:** Product is not selfigniting.**· Danger of explosion:** Product does not present an explosion hazard.**· Density:** Not determined.**· Solubility in / Miscibility with****· Water:** Fully miscible.**· Other information** No further relevant information available.**10 Stability and reactivity****· Reactivity****· 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 irritating effect.

(Contd. on page 5)

USA



**Safety Data Sheet**  
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Reviewed on 07/17/2015

**Trade name: R3 - Negative Control (4 mL)**

(Contd. of page 5)

· <b>UN proper shipping name</b> · DOT, ADR, ADN, IMDG, IATA	Void
· <b>Transport hazard class(es)</b> · DOT, ADR, ADN, IMDG, IATA · Class	Void
· <b>Packing group</b> · DOT, ADR, IMDG, IATA	Void
· <b>Environmental hazards:</b> · Marine pollutant:	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	-

**15 Regulatory information**

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

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

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

7647-14-5 sodium chloride

1310-73-2 sodium hydroxide

7732-18-5 water, distilled, conductivity or of similar purity

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogen categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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**Safety Data Sheet**  
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**Trade name: R3 - Negative Control (4 mL)**

(Contd. of page 6)

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **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.

USA - Clinical Diagnostic Group

Bio-Rad Laboratories

4000 Alfred Nobel Drive

Hercules, California 94547

Phone: +1(510) 724-7000

- **Department issuing SDS:**

SDS / FDS Administr.

Bio-Rad

Marnes-la-Coquette, France

- **Contact:**

Customer Support

Phone : +33 (0)1 47 95 61 85

USA

Bio-Rad Laboratories

6565 185th Avenue NE

Redmond, WA 98052-5039

Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

- **Date of preparation / last revision** 08/13/2015 / 2

- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**1 Identification****· Product identifier**

- **Trade name: R4 - Positive Control (lyoph.) (4 mL)**
  - **Article number:** 5145C
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
  - **Application of the substance / the mixture** Laboratory reagent or component.

**· Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

Bio-Rad  
3, Boulevard Raymond Poincaré  
F-92430 Marnes-la-Coquette  
Tel.: +33 (0)1 47 95 60 00  
Fax : +33 (0)1 47 41 91 33  
e-mail: fds-msds.fr@bio-rad.com

**· Information department:** Customer support.**· Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification****· Classification of the substance or mixture**

Skin Sens. 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:**

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)

**· Hazard statements**

May cause an allergic skin reaction.

**· Precautionary statements**

Wear protective gloves/protective clothing/eye protection/face protection.

If skin irritation or rash occurs: Get medical advice/attention.

If on skin: Wash with plenty of water.

(Contd. on page 2)

USA

## Safety Data Sheet

29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R4 - Positive Control (lyoph.) (4 mL)**

(Contd. of page 1)

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

**Classification system:**
**· NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

**· HMIS-ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

**· Other hazards**
**· Results of PBT and vPvB assessment**

 · **PBT:** Not applicable.

 · **vPvB:** Not applicable.

### 3 Composition/information on ingredients

**· Chemical characterization: Mixtures**

 · **Description:** Mixture containing hazardous components.

**· Dangerous components:**

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)	<0.01%
	Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 Skin Corr. 1B, H314 Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Skin Sens. 1, H317	

### 4 First-aid measures

**· Description of first aid measures**
**· 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:** Immediately wash with water and soap and rinse thoroughly.

 · **After eye contact:** Rinse opened eye for several minutes under running water.

 · **After swallowing:** Immediately call a doctor.

**· Information for doctor:**

 · **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

 · **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

**· Extinguishing media**
**· Suitable extinguishing agents:**

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

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

(Contd. on page 3)

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R4 - Positive Control (lyoph.) (4 mL)**

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** No special measures required.

**6 Accidental release measures****· Personal precautions, protective equipment and emergency procedures**

Wear protective clothing.

Wear disposable gloves.

- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:** Pick up mechanically.

**· Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage****· Handling:****· Precautions for safe handling**

Prevent formation of dust.

Follow good laboratory practices.

- **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:** No special requirements.

- **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.

- **Breathing equipment:** Suitable respiratory protective device recommended.

**· Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

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Reviewed on 07/17/2015

**Trade name: R4 - Positive Control (lyoph.) (4 mL)**

· **Eye protection:** Not required.

(Contd. of page 3)

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

- **Form:** Fluid
- **Color:** According to product specification
- **Odor:** Weak, characteristic

· **Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** Undetermined.

· **Flash point:** Not applicable.

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

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density:** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Soluble.

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

**10 Stability and reactivity**

· **Reactivity**

· **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 irritating effect.

· **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

(Contd. on page 5)



**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R4 - Positive Control (lyoph.) (4 mL)**

(Contd. of page 4)

**· Carcinogenic categories**

<p align="center"><b>· IARC (International Agency for Research on Cancer)</b></p> <p>None of the ingredients is listed.</p>
<p align="center"><b>· NTP (National Toxicology Program)</b></p> <p>None of the ingredients is listed.</p>
<p align="center"><b>· OSHA-Ca (Occupational Safety &amp; Health Administration)</b></p> <p>None of the ingredients is listed.</p>

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

**14 Transport information**

<p>· <b>UN-Number</b></p> <p>· DOT, ADR, ADN, IMDG, IATA</p>	<p>Void</p>
<p>· <b>UN proper shipping name</b></p> <p>· DOT, ADR, ADN, IMDG, IATA</p>	<p>Void</p>
<p>· <b>Transport hazard class(es)</b></p> <p>· DOT, ADR, ADN, IMDG, IATA</p> <p>· <b>Class</b></p>	<p>Void</p>

(Contd. on page 6)



**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R4 - Positive Control (lyoph.) (4 mL)**

(Contd. of page 6)

**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.

USA - Clinical Diagnostic Group

Bio-Rad Laboratories

4000 Alfred Nobel Drive

Hercules, California 94547

Phone: +1(510) 724-7000

**· Department issuing SDS:**

SDS / FDS Administr.

Bio-Rad

Marnes-la-Coquette, France

**· Contact:**

Customer Support

Phone : +33 (0)1 47 95 61 85

USA

Bio-Rad Laboratories

6565 185th Avenue NE

Redmond, WA 98052-5039

Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

**· Date of preparation / last revision 08/13/2015 / 2****· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**1 Identification****· Product identifier**

- **Trade name: R7 - Conjugate (10x) (2.8 mL)**
  - **Article number:** 5145E
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
  - **Application of the substance / the mixture** Laboratory reagent or component.

**· Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

Bio-Rad  
3, Boulevard Raymond Poincaré  
F-92430 Marnes-la-Coquette  
Tel.: +33 (0)1 47 95 60 00  
Fax : +33 (0)1 47 41 91 33  
e-mail: fds-msds.fr@bio-rad.com

**· Information department:** Customer support.**· Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification****· Classification of the substance or mixture**

GHS07

Skin Sens. 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:**

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)

**· Hazard statements**

May cause an allergic skin reaction.

**· Precautionary statements**

Wear protective gloves/protective clothing/eye protection/face protection.

If skin irritation or rash occurs: Get medical advice/attention.

If on skin: Wash with plenty of water.

(Contd. on page 2)

USA

## Safety Data Sheet

29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/17/2015

**Trade name: R7 - Conjugate (10x) (2.8 mL)**

(Contd. of page 1)

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

- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 0
    - Fire = 0
    - Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**
    - Health = 0
    - Fire = 0
    - Reactivity = 0
- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
  - **Description:** Mixture containing hazardous components.

- **Dangerous components:**

56-81-5	glycerol	2.5-10%
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) Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 Skin Corr. 1B, H314 Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Skin Sens. 1, H317	<0.01%

### 4 First-aid measures

- **Description of first aid measures**
  - **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:** Immediately wash with water and soap and rinse thoroughly.
  - **After eye contact:** Rinse opened eye for several minutes under running water.
  - **After swallowing:** Immediately call a doctor.
  - **Information for doctor:**
    - **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
    - **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
  - **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.

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**Trade name: R7 - Conjugate (10x) (2.8 mL)**

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- **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.  
Wear disposable gloves.
- **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).  
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/exhaustion at the workplace.  
Prevent formation of aerosols.  
Follow good laboratory practices.
  - **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:** No special requirements.
    - **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**

PEL	15* 5** mg/m <sup>3</sup> *total dust **respirable fraction
TLV	10 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:**  
Immediately remove all soiled and contaminated clothing.

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**Trade name: R7 - Conjugate (10x) (2.8 mL)**

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- Wash hands before breaks and at the end of work.
- **Breathing equipment:**  
Suitable respiratory protective device recommended.  
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.
- **Protection of hands:**  
Protective gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- **Eye protection:** Goggles recommended during refilling.

**9 Physical and chemical properties**

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

· **General Information**

- **Appearance:**
  - **Form:** Fluid
  - **Color:** Red
- **Odor:** Weak, characteristic

· **Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** Undetermined.

· **Flash point:** Not applicable.

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

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density:** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Fully miscible.

· **Solvent content:**

· **VOC content:** 10.0 %

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

**10 Stability and reactivity**

· **Reactivity**

· **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: R7 - Conjugate (10x) (2.8 mL)**

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**11 Toxicological information****· Information on toxicological effects****· Acute toxicity:****· Primary irritant effect:****· on the skin:** No irritant effect.**· on the eye:** No irritating effect.**· Sensitization:** Sensitization possible through skin contact.**· Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

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.

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

None of the ingredients is listed.

**12 Ecological information****· Toxicity****· Aquatic toxicity:** No further relevant information available.**· Persistence and degradability** No further relevant information available.**· Behavior in environmental systems:****· Bioaccumulative potential** No further relevant information available.**· Mobility in soil** No further relevant information available.**· Additional ecological information:****· General notes:**

Water hazard class 1 (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.

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**· Cancerogenity categories****· EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

**· National regulations:**

Class	Share in %
NK	10.0

- **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.

USA - Clinical Diagnostic Group

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Hercules, California 94547

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**· Department issuing SDS:**

SDS / FDS Administr.

Bio-Rad

Marnes-la-Coquette, France

**· Contact:**

Customer Support

Phone : +33 (0)1 47 95 61 85

USA

Bio-Rad Laboratories

6565 185th Avenue NE

Redmond, WA 98052-5039

Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

- **Date of preparation / last revision** 08/13/2015 / 2

**· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

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**Trade name: R7 - Conjugate (10x) (2.8 mL)**

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1  
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1  
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

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**Safety Data Sheet**  
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Reviewed on 07/08/2015

**1 Identification**· **Product identifier**

- **Trade name: R8 - Substrat buffer, 120 ml**
  - **Article number:** 5192E
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
  - **Application of the substance / the mixture** Laboratory reagent or component.

· **Details of the supplier of the safety data sheet**· **Manufacturer/Supplier:**

Bio-Rad  
3, Boulevard Raymond Poincaré  
F-92430 Marnes-la-Coquette  
Tel.: +33 (0)1 47 95 60 00  
Fax : +33 (0)1 47 41 91 33  
e-mail: fds-msds.fr@bio-rad.com

· **Information department:** Customer support.· **Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification**· **Classification of the substance or mixture**

The product is not classified according to the Globally Harmonized System (GHS).

· **Label elements**

- **GHS label elements** Void
  - **Hazard pictograms** Void
  - **Signal word** Void
  - **Hazard statements** Void

· **Classification system:**· **NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

· **Other hazards**· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

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**Trade name: R8 - Substrat buffer, 120 ml**

 · **vPvB:** Not applicable.

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### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture containing components at a non hazardous concentration.

- **Dangerous components:**

67-68-5	dimethyl sulfoxide	
---------	--------------------	--

		2.5-10%
--	--	---------

### 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:** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:** Rinse opened eye for several minutes under running water.

- **After swallowing:** Consult a doctor, if necessary.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

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

- **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 disposable gloves.

- **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.

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Reviewed on 07/08/2015

**Trade name: R8 - Substrat buffer, 120 ml**

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**7 Handling and storage**

- **Handling:**
  - **Precautions for safe handling**  
Keep receptacles tightly sealed.  
Avoid all contact with reagents, even those considered to be non-hazardous.  
Follow good laboratory practices.
  - **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:** No special requirements.
    - **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:**

**67-68-5 dimethyl sulfoxide**

WEEL () | 250 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:**  
The usual precautionary measures for handling chemicals should be followed.
    - **Breathing equipment:** Suitable respiratory protective device recommended.
    - **Protection of hands:** Protective gloves
    - **Eye protection:** Safety glasses

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

- **Form:** Fluid
- **Color:** According to product specification
- **Odor:** Characteristic

· **Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** Undetermined.

· **Flash point:** Not applicable.

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

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**Trade name: R8 - Substrat buffer, 120 ml**

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· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Density:</b>	Not determined.
· <b>Solubility in / Miscibility with</b> · <b>Water:</b>	Fully miscible.
· <b>Solvent content:</b> · <b>VOC content:</b>	3.9 %
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Reactivity**
  - **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**
  - **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
  - **Carcinogenic categories**

<b>· IARC (International Agency for Research on Cancer)</b>	
7722-84-1   hydrogen peroxide solution	3
<b>· NTP (National Toxicology Program)</b>	
None of the ingredients is listed.	
<b>· OSHA-Ca (Occupational Safety &amp; Health Administration)</b>	
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.

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**Trade name: R8 - Substrat buffer, 120 ml**

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- **Additional ecological information:**
  - **General notes:**  
Water hazard class 1 (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.
- **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.
  - **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

- |  |  |
|--|--|
| · <b>UN-Number</b>   |  |
| · <b>ADR, IMDG, IATA</b>   | Void   |
| · <b>Environmental hazards:</b>  |  |
| · <b>Marine pollutant:</b>   | No   |
| · <b>Special precautions for user</b>  | Not applicable.                                      |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                                      |
| · <b>Transport/Additional information:</b>                                       | Not dangerous according to the above specifications. |

**15 Regulatory information**

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

· <b>Section 355 (extremely hazardous substances):</b>
7722-84-1   hydrogen peroxide solution
· <b>Section 313 (Specific toxic chemical listings):</b>
None of the ingredients is listed.
· <b>TSCA (Toxic Substances Control Act):</b>
All ingredients are listed.

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**· Proposition 65**

**· Chemicals known to cause cancer:**  
None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for females:**  
None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**  
None of the ingredients is listed.

**· Chemicals known to cause developmental toxicity:**  
None of the ingredients is listed.

**· Cancerogenity categories**

**· EPA (Environmental Protection Agency)**  
None of the ingredients is listed.

**· TLV (Threshold Limit Value established by ACGIH)**  
7722-84-1 | hydrogen peroxide solution | A3

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**  
None of the ingredients is listed.

**· National regulations:**

Class	Share in %
NK	3.9

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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4000 Alfred Nobel Drive  
Hercules, California 94547  
Phone: +1(510) 724-7000

**· Department issuing SDS:**  
SDS / FDS Administr.  
Bio-Rad  
Marnes-la-Coquette, France

**· Contact:**  
Customer Support  
Phone : +33 (0)1 47 95 61 85  
USA  
Bio-Rad Laboratories  
6565 185th Avenue NE  
Redmond, WA 98052-5039

Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

**· Date of preparation / last revision** 08/13/2015 / 1

**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)

USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/08/2015

**1 Identification****· Product identifier**

- **Trade name: R9 - Chromogen (TMB), 10 ml & 20 ml**
  - **Article number:** 5192F
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
  - **Application of the substance / the mixture** Laboratory reagent or component.

**· Details of the supplier of the safety data sheet****· Manufacturer/Supplier:**

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3, Boulevard Raymond Poincaré  
F-92430 Marnes-la-Coquette  
Tel.: +33 (0)1 47 95 60 00  
Fax : +33 (0)1 47 41 91 33  
e-mail: fds-msds.fr@bio-rad.com

**· Information department:** Customer support.**· Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification****· Classification of the substance or mixture**

The product is not classified according to the Globally Harmonized System (GHS).

**· Label elements**

- **GHS label elements** Void
  - **Hazard pictograms** Void
  - **Signal word** Void
  - **Hazard statements** Void

**· Classification system:****· NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

**· HMIS-ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

**· Other hazards****· Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

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**Trade name: R9 - Chromogen (TMB), 10 ml & 20 ml**· **vPvB:** Not applicable.

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**3 Composition/information on ingredients**· **Chemical characterization: Mixtures**

- **Description:** Mixture containing components at a non hazardous concentration.
- **Dangerous components:** Void

**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.  
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Consult a doctor, if necessary.
- **Information for doctor:**
  - **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
  - **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**· **Extinguishing media**

- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.
- **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 disposable gloves.
- **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.

USA

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**Trade name: R9 - Chromogen (TMB), 10 ml & 20 ml**

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**7 Handling and storage**

- **Handling:**
  - **Precautions for safe handling**  
Keep receptacles tightly sealed.  
Avoid all contact with reagents, even those considered to be non-hazardous.  
Follow good laboratory practices.
  - **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:** No special requirements.
    - **Information about storage in one common storage facility:** Not required.
    - **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
    - **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
  - **Personal protective equipment:**
    - **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
    - **Breathing equipment:** Suitable respiratory protective device recommended.
    - **Protection of hands:** Protective gloves
    - **Eye protection:** Safety glasses

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - **Form:** Fluid
      - **Color:** According to product specification
    - **Odor:** Characteristic
  - **Change in condition**
    - **Melting point/Melting range:** Undetermined.
    - **Boiling point/Boiling range:** Undetermined.
  - **Flash point:** Not applicable.
  - **Auto igniting:** Product is not selfigniting.
  - **Danger of explosion:** Product does not present an explosion hazard.

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**Trade name: R9 - Chromogen (TMB), 10 ml & 20 ml**

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· <b>Density:</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	Fully miscible.
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Reactivity**
  - **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**
  - **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
None of the ingredients is listed.
· <b>NTP (National Toxicology Program)</b>
None of the ingredients is listed.
· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
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 (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.

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**Safety Data Sheet**  
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Printing date 08/13/2015

Reviewed on 07/08/2015

**Trade name: R9 - Chromogen (TMB), 10 ml & 20 ml**

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

**13 Disposal considerations**

- **Waste treatment methods**
  - **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.
  - **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

- |  |  |
|--|--|
| · <b>UN-Number</b>   |  |
| · DOT, ADR, ADN, IMDG, IATA  | Void   |
| · <b>UN proper shipping name</b>   |  |
| · DOT, ADN, IMDG, IATA   | Void   |
| · ADR  | Void   |
| · <b>Transport hazard class(es)</b>  |  |
| · DOT, ADR, ADN, IMDG, IATA  |  |
| · Class  | Void   |
| · <b>Packing group</b>   |  |
| · DOT, ADR, IMDG, IATA   | Void   |
| · <b>Environmental hazards:</b>  |  |
| · Marine pollutant:  | No   |
| · <b>Special precautions for user</b>  | Not applicable.                                      |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                                      |
| · <b>Transport/Additional information:</b>                                       | Not dangerous according to the above specifications. |
| · <b>UN "Model Regulation":</b>  | -  |

**15 Regulatory information**

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

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

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**Safety Data Sheet**  
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Printing date 08/13/2015

Reviewed on 07/08/2015

**Trade name: R9 - Chromogen (TMB), 10 ml & 20 ml**

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**· Section 313 (Specific toxic chemical listings):**  
None of the ingredients is listed.

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

54827-17-7	3,3',5,5'-tetramethylbenzidine
7732-18-5	water, distilled, conductivity or of similar purity

**· Proposition 65**

**· Chemicals known to cause cancer:**  
None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for females:**  
None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**  
None of the ingredients is listed.

**· Chemicals known to cause developmental toxicity:**  
None of the ingredients is listed.

**· Cancerogenity categories**

**· EPA (Environmental Protection Agency)**  
None of the ingredients is listed.

**· TLV (Threshold Limit Value established by ACGIH)**  
None of the ingredients is listed.

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**  
None of the ingredients is listed.

**· National regulations:**

Class	Share in %
I	0.2

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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Phone: +1(510) 724-7000

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Phone : +33 (0)1 47 95 61 85  
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Bio-Rad Laboratories  
6565 185th Avenue NE  
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**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/08/2015

**Trade name: R9 - Chromogen (TMB), 10 ml & 20 ml**

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Phone Number: 1-800-2BIORAD (1-800-224-6723) or (425) 881-8300 (daytime PST)

· **Date of preparation / last revision** 08/13/2015 / 1· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

USA

**Safety Data Sheet**  
29 CFR Part 1910.1200

Printing date 08/13/2015

Reviewed on 07/08/2015

**1 Identification**· **Product identifier**

- **Trade name: R10 - Stop solution, 56 ml & 112 ml**
  - **Article number:** 5192G
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
  - **Application of the substance / the mixture** Laboratory reagent or component.

· **Details of the supplier of the safety data sheet**· **Manufacturer/Supplier:**

Bio-Rad  
3, Boulevard Raymond Poincaré  
F-92430 Marnes-la-Coquette  
Tel.: +33 (0)1 47 95 60 00  
Fax : +33 (0)1 47 41 91 33  
e-mail: fds-msds.fr@bio-rad.com

· **Information department:** Customer support.· **Emergency telephone number:**

See item 16

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-703-527-3887.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION

or ACCIDENT with this product.

This SDS is listed with CHEMTREC 1-800-424-9300 / 1-510-741-1000.

Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT with this product.

**2 Hazard(s) identification**· **Classification of the substance or mixture**

GHS08 Health hazard

Carc. 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-determining components of labeling:**

sulphuric acid

· **Hazard statements**

May cause cancer.

· **Precautionary statements**

Wear protective gloves/protective clothing/eye protection/face protection.

Obtain special instructions before use.

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

IF exposed or concerned: Get medical advice/attention.

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Reviewed on 07/08/2015

**Trade name: R10 - Stop solution, 56 ml & 112 ml**

(Contd. of page 1)

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

**3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

· **Description:** Mixture containing components at a non hazardous concentration.

· **Dangerous components:**

7664-93-9	sulphuric acid		Carc. 1A, H350 Met. Corr.1, H290; Skin Corr. 1A, H314	2.5-10%
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**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:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** Consult a doctor, if necessary.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**5 Fire-fighting measures**

· **Extinguishing media**

· **Suitable extinguishing agents:**

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

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

· **Advice for firefighters**

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

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Reviewed on 07/08/2015

**Trade name: R10 - Stop solution, 56 ml & 112 ml**

(Contd. of page 2)

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Wear disposable gloves.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections** No dangerous substances are released.

**7 Handling and storage**

- **Handling:**
  - **Precautions for safe handling**  
Keep receptacles tightly sealed.  
Avoid all contact with reagents, even those considered to be non-hazardous.  
Follow good laboratory practices.
  - **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:** No special requirements.
    - **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:**

**7664-93-9 sulphuric acid**

PEL ()	1 mg/m <sup>3</sup>
REL ()	1 mg/m <sup>3</sup>
TLV ()	0.2* mg/m <sup>3</sup> *as thoracic fraction

· **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:** Suitable respiratory protective device recommended.
    - **Protection of hands:** Protective gloves
    - **Eye protection:** Safety glasses

USA

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**Trade name: R10 - Stop solution, 56 ml & 112 ml**

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**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

- **Form:** Fluid
- **Color:** According to product specification
- **Odor:** Characteristic

· **Change in condition**

- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** Undetermined.

· **Flash point:** Not applicable.

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

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density:** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Fully miscible.

· **Solvent content:**

- **Organic solvents:** 0.0 %
- **Water:** 97.4 %

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

**10 Stability and reactivity**

· **Reactivity**

· **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**

· **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

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)**

7664-93-9 sulphuric acid

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**Trade name: R10 - Stop solution, 56 ml & 112 ml**

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<b>· NTP (National Toxicology Program)</b>	
7664-93-9 sulphuric acid	K
<b>· OSHA-Ca (Occupational Safety &amp; Health Administration)</b>	
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.
- **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.
  - **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

<b>· UN-Number</b>	
· DOT	UN2796
· ADR, IMDG, IATA	2796
<b>· UN proper shipping name</b>	
· DOT, IMDG, IATA	SULPHURIC ACID
· ADR	2796 SULPHURIC ACID
<b>· Transport hazard class(es)</b>	
· DOT	
· Class	8 Corrosive substances

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Reviewed on 07/08/2015

**Trade name: R10 - Stop solution, 56 ml & 112 ml**

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· Label	8
· ADR	
· Class	8 (C1) Corrosive substances
· Label	8
· IMDG, IATA	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· 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":	UN2796, SULPHURIC ACID, 8, II

**15 Regulatory information**

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

7664-93-9 sulphuric acid

· Section 313 (Specific toxic chemical listings):

7664-93-9 sulphuric acid

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

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## Safety Data Sheet

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Reviewed on 07/08/2015

**Trade name: R10 - Stop solution, 56 ml & 112 ml**

(Contd. of page 6)

**· Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**· Cancerogenity categories**
**· EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

7664-93-9	sulphuric acid	A2
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**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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**· Date of preparation / last revision** 08/13/2015 / 1

**· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Met. Corr.1: Corrosive to metals, Hazard Category 1

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Carc. 1A: Carcinogenicity, Hazard Category 1A