



02/11/2015

### Kit Components

| Product code                        | Description                                |
|-------------------------------------|--------------------------------------------|
| <b>1665060</b><br><b>1665060EDU</b> | <b>SDS PAGE Electrophoresis Module Kit</b> |

#### Components:

|         |                                              |
|---------|----------------------------------------------|
| 1610732 | 10X Tris/Glycine/SDS Buffer                  |
| 1610737 | 2X Laemmli Sample Buffer                     |
| 1610786 | Bio-Safe™ Coomassie Stain                    |
| 1610374 | Precision Plus™ Dual Color Protein Standards |

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 01/19/2015

## 1 Identification

- **Product identifier**
- **Trade name:** 10X Tris/Glycine/SDS Buffer
- **Catalog or product number:** 1610732, 9701906, 1610772, 1610732EDU, 1610772EDU, 10021723
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Life Science Group  
2000 Alfred Nobel Drive  
Hercules, California 94547 (510)741-1000
- **Information department:**  
Technical services, customer support  
lsg\_techserv\_us@bio-rad.com
- **Emergency telephone number:**  
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.  
510-741-1000

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable
- **Information concerning particular hazards for human and environment:**  
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**  
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.  
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.
- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Additional information:** Contact with acids may cause release of toxic gases
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

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

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Trade name: 10X Tris/Glycine/SDS Buffer

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

|           |                                 |                  |         |
|-----------|---------------------------------|------------------|---------|
| 56-40-6   | glycine                         |                  | 10-20%  |
| 77-86-1   | Tris(hydroxymethyl)aminomethane | Xn R22<br>Xi R36 | 2.5-5%  |
| 7732-18-5 | water                           |                  | 50-100% |

· **Additional information** For the wording of the listed risk phrases refer to section 15.**4 First-aid measures**

- **Description of first aid measures**
- **General information** No special measures required.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** Induce vomiting and call for medical help.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

**6 Accidental release measures**

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

**7 Handling and storage**

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.

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Trade name: 10X Tris/Glycine/SDS Buffer

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

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures** The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves.
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.  
Synthetic gloves
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

## 9 Physical and chemical properties

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

|                  |                 |
|------------------|-----------------|
| Form:            | Liquid          |
| Color:           | Light yellow    |
| Odor:            | Odorless        |
| Odour threshold: | Not determined. |
- **pH-value at 20 °C:** 8.3
- **Change in condition**

|                              |              |
|------------------------------|--------------|
| Melting point/Melting range: | undetermined |
| Boiling point/Boiling range: | undetermined |
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Not applicable.

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Trade name: 10X Tris/Glycine/SDS Buffer

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|                                                   |                                               |
|---------------------------------------------------|-----------------------------------------------|
| · <b>Ignition temperature:</b>                    |                                               |
| · <b>Decomposition temperature:</b>               | Not determined.                               |
| · <b>Auto igniting:</b>                           | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |                                               |
| Lower:                                            | Not determined.                               |
| Upper:                                            | Not determined.                               |
| · <b>Vapor pressure at 20 °C:</b>                 | 23 hPa                                        |
| · <b>Density at 20 °C:</b>                        | 0.989 g/cm <sup>3</sup>                       |
| · <b>Relative density</b>                         | Not determined.                               |
| · <b>Vapour density</b>                           | Not determined.                               |
| · <b>Evaporation rate</b>                         | Not determined.                               |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible                                |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                               |
| · <b>Viscosity:</b>                               |                                               |
| dynamic:                                          | Not determined.                               |
| kinematic:                                        | Not determined.                               |
| · <b>Solvent content:</b>                         |                                               |
| Organic solvents:                                 | 0.0 %                                         |
| Water:                                            | 81.4 %                                        |
| · <b>Solids content:</b>                          | 18.6 %                                        |
| · <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:**
- **LD/LC50 values for hazardous components per OSHA criteria:**

56-40-6 glycine

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | 7930 mg/kg (rat) |
|------|------|------------------|

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Trade name: 10X Tris/Glycine/SDS Buffer

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Dermal LD50 5200 mg/kg (rat)

**77-86-1 Tris(hydroxymethyl)aminomethane**

Oral LD50 5900 mg/kg (rat)

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

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Target organs:** Not applicable.\* **12 Ecological information**· **Toxicity**· **Aquatic toxicity:** No further relevant information available.· **Persistence and degradability** No further relevant information available.· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Additional ecological information:**· **General notes:**

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

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.\* **13 Disposal considerations**· **Waste treatment methods**· **Recommendation**

Hand over to hazardous waste disposers.

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

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

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Trade name: 10X Tris/Glycine/SDS Buffer

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

## 14 Transport information

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

## 15 Regulatory information

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

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

All ingredients are listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **National regulations**· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

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

· **Department issuing SDS:** Environmental Health and Safety.· **Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· **Date of preparation / last revision** 02/11/2015 / -· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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



## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 02/02/2015

**1 Identification**

- **Product identifier**
- **Trade name:** 2X Laemmli Sample Buffer
- **Catalog or product number:** 1610737, 1610737EDU, 1610737XTU
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Life Science Group  
2000 Alfred Nobel Drive  
Hercules, California 94547 (510)741-1000
- **Information department:**  
Technical services, customer support  
lsg\_techserv\_us@bio-rad.com
- **Emergency telephone number:**  
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.  
510-741-1000

**2 Hazard(s) identification**

- **Classification of the substance or mixture**  
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable
- **Information concerning particular hazards for human and environment:**  
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**  
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.  
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.
- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Additional information:** Contact with acids may cause release of toxic gases
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

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

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Trade name: 2X Laemmli Sample Buffer

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

|           |                         |                        |          |
|-----------|-------------------------|------------------------|----------|
| 56-81-5   | glycerol                |                        | 20-35%   |
| 151-21-3  | sodium dodecyl sulphate | Xn R21/22<br>Xi R36/38 | 1.0-2.5% |
| 7732-18-5 | water                   |                        | 50-100%  |

· **Additional information** For the wording of the listed risk phrases refer to section 15.**4 First-aid measures**· **Description of first aid measures**· **General information** No special measures required.· **After inhalation** Supply fresh air; consult doctor in case of complaints.· **After skin contact** Generally the product does not irritate the skin.· **After eye contact** Rinse opened eye for several minutes under running water.· **After swallowing** Induce vomiting and call for medical help.· **Most important symptoms and effects, both acute and delayed** No further relevant information available.· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.**5 Fire-fighting measures**· **Extinguishing media**· **Suitable extinguishing agents**CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.· **Special hazards arising from the substance or mixture** No further relevant information available.· **Advice for firefighters**· **Protective equipment:** No special measures required.**6 Accidental release measures**· **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.· **Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

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

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

· **Reference to other sections**

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage**· **Precautions for safe handling** No special measures required.· **Information about protection against explosions and fires:** No special measures required.

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Trade name: 2X Laemmli Sample Buffer

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

## 8 Exposure controls/personal protection

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

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

### 56-81-5 glycerol

|        |                                                                |
|--------|----------------------------------------------------------------|
| PEL () | 15* 5** mg/m <sup>3</sup><br>*total dust **respirable fraction |
| TLV () | 10* ppm<br>*Mist                                               |

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures** The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves.
- **Material of gloves** Synthetic gloves
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

|                         |                 |
|-------------------------|-----------------|
| <b>Form:</b>            | Liquid          |
| <b>Color:</b>           | Light blue      |
| <b>Odor:</b>            | Odorless        |
| <b>Odour threshold:</b> | Not determined. |

· **pH-value at 20 °C:** 6.8

· **Change in condition**

|                                     |              |
|-------------------------------------|--------------|
| <b>Melting point/Melting range:</b> | undetermined |
| <b>Boiling point/Boiling range:</b> | undetermined |

· **Flash point:** Not applicable

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

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Trade name: 2X Laemmli Sample Buffer

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|                                            |                                               |
|--------------------------------------------|-----------------------------------------------|
| · Ignition temperature:                    | 400 °C                                        |
| · Decomposition temperature:               | Not determined.                               |
| · Auto igniting:                           | Product is not selfigniting.                  |
| · Danger of explosion:                     | Product does not present an explosion hazard. |
| · Explosion limits:                        |                                               |
| Lower:                                     | 0.9 Vol %                                     |
| Upper:                                     | Not determined.                               |
| · Vapor pressure at 20 °C:                 | 23 hPa                                        |
| · Density:                                 | Not determined                                |
| · Relative density                         | Not determined.                               |
| · Vapour density                           | Not determined.                               |
| · Evaporation rate                         | Not determined.                               |
| · Solubility in / Miscibility with Water:  | Fully miscible                                |
| · Partition coefficient (n-octanol/water): | Not determined.                               |
| · Viscosity:                               |                                               |
| dynamic:                                   | Not determined.                               |
| kinematic:                                 | Not determined.                               |
| · Solvent content:                         |                                               |
| Organic solvents:                          | 26.3 %                                        |
| Water:                                     | 70.8 %                                        |
| Solids content:                            | 2.9 %                                         |
| · 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 irritant effect.

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Trade name: 2X Laemmli Sample Buffer

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- Irritant effect.
- **Sensitization:** No sensitizing effects known.
  - **Additional toxicological information:**  
The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
  - **Carcinogenic categories**
- |                                                             |
|-------------------------------------------------------------|
| · <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.                                 |
- **Target organs:** Not applicable.

## \* 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## \* 13 Disposal considerations

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

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Trade name: 2X Laemmli Sample Buffer

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## \* 14 Transport information

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

## \* 15 Regulatory information

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

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

None of the ingredients is listed.

## · Section 313 (40CFR372.65):

None of the ingredients is listed.

## · TSCA (Toxic Substances Control Act):

All ingredients are listed.

## · Carcinogenic categories

## · EPA (Environmental Protection Agency)

None of the ingredients is listed.

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

None of the ingredients is listed.

## · MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

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

None of the ingredients is listed.

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Reviewed on 02/02/2015

Trade name: 2X Laemmli Sample Buffer

(Contd. of page 6)

- **National regulations**

- **Technical instructions (air):**

| Class | Share in % |
|-------|------------|
| NK    | 20-35      |

- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

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

- **Department issuing SDS:** Environmental Health and Safety.

- **Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

- **Date of preparation / last revision** 02/11/2015 / -

- **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)

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

## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 01/20/2015

**1 Identification**

- **Product identifier**
- **Trade name:** Bio-Safe™ Coomassie Stain
- **Catalog or product number:** 1610786, 1610787, 1610786S, 1610787EDU, 9704607, 4307131, 4307045
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Life Science Group  
2000 Alfred Nobel Drive  
Hercules, California 94547 (510)741-1000
- **Information department:**  
Technical services, customer support  
lsg\_techserv\_us@bio-rad.com
- **Emergency telephone number:**  
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.  
510-741-1000

**2 Hazard(s) identification**

- **Classification of the substance or mixture**  
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable
- **Information concerning particular hazards for human and environment:**  
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**  
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.  
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.
- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Additional information:** Contact with acids may cause release of toxic gases
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

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

(Contd. on page 2)

USA



# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 01/20/2015

Trade name: **Bio-Safe™ Coomassie Stain**

(Contd. of page 1)

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

|           |                 |                                  |          |
|-----------|-----------------|----------------------------------|----------|
| 7664-38-2 | phosphoric acid | C R34                            | 2.5-5%   |
| 67-56-1   | methanol        | T R23/24/25-39/23/24/25<br>F R11 | 0.1-1.0% |
| 7732-18-5 | water           |                                  | 50-100%  |

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

## 4 First-aid measures

- **Description of first aid measures**
- **General information** No special measures required.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** Induce vomiting and call for medical help.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

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

## 7 Handling and storage

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 01/20/2015

Trade name: **Bio-Safe™ Coomassie Stain**

(Contd. of page 2)

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

## 8 Exposure controls/personal protection

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

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

#### 7664-38-2 phosphoric acid

|        |                                                                               |
|--------|-------------------------------------------------------------------------------|
| PEL () | 1 mg/m <sup>3</sup>                                                           |
| REL () | Short-term value: 3 mg/m <sup>3</sup><br>Long-term value: 1 mg/m <sup>3</sup> |
| TLV () | Short-term value: 3 mg/m <sup>3</sup><br>Long-term value: 1 mg/m <sup>3</sup> |

#### 67-56-1 methanol

|        |                                                                                                                    |
|--------|--------------------------------------------------------------------------------------------------------------------|
| PEL () | 260 mg/m <sup>3</sup> , 200 ppm                                                                                    |
| REL () | Short-term value: 325 mg/m <sup>3</sup> , 250 ppm<br>Long-term value: 260 mg/m <sup>3</sup> , 200 ppm<br>Skin      |
| TLV () | Short-term value: 328 mg/m <sup>3</sup> , 250 ppm<br>Long-term value: 262 mg/m <sup>3</sup> , 200 ppm<br>Skin; BEI |

#### 64-17-5 ethanol

|        |                                                     |
|--------|-----------------------------------------------------|
| PEL () | 1900 mg/m <sup>3</sup> , 1000 ppm                   |
| REL () | 1900 mg/m <sup>3</sup> , 1000 ppm                   |
| TLV () | Short-term value: 1880 mg/m <sup>3</sup> , 1000 ppm |

### · Ingredients with biological limit values:

#### 67-56-1 methanol

|        |                                                                                                 |
|--------|-------------------------------------------------------------------------------------------------|
| BEI () | 15 mg/L<br>Medium: urine<br>Time: end of shift<br>Parameter: Methanol (background, nonspecific) |
|--------|-------------------------------------------------------------------------------------------------|

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures** The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves.

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## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 01/20/2015

Trade name: Bio-Safe™ Coomassie Stain

(Contd. of page 3)

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Synthetic gloves

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Safety glasses\* **9 Physical and chemical properties**· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

Form: Liquid

Color: Blue

· **Odor:** Acrid

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: undetermined

Boiling point/Boiling range: undetermined

· **Flash point:** Not applicable

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

· **Ignition temperature:**

Decomposition temperature: Not determined.

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

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

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure at 20 °C:** 23 hPa

· **Density:** Not determined

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Fully miscible

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

· **Viscosity:**

dynamic: Not determined.

kinematic: Not determined.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 01/20/2015

Trade name: Bio-Safe™ Coomassie Stain

(Contd. of page 4)

- **Solvent content:**
  - Organic solvents:** 1.1 %
  - Water:** 93.9 %
- **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:**

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

### 67-56-1 methanol

|        |      |                   |
|--------|------|-------------------|
| Oral   | LD50 | 5628 mg/kg (rat)  |
| Dermal | LD50 | 20000 mg/kg (rat) |

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

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

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

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

- **Target organs:** Not applicable.

## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 01/20/2015

Trade name: Bio-Safe™ Coomassie Stain

(Contd. of page 5)

## \* 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## \* 13 Disposal considerations

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

## \* 14 Transport information

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

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USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 01/20/2015

Trade name: Bio-Safe™ Coomassie Stain

(Contd. of page 6)

· UN "Model Regulation":

-

## 15 Regulatory information

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

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

None of the ingredients is listed.

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

67-56-1 methanol

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

All ingredients are listed.

- **California Proposition 65:**

- **Developmental Toxicity**

67-56-1 methanol

64-17-5 ethanol

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

64-17-5 ethanol

A3

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

64-17-5 ethanol

5

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

None of the ingredients is listed.

- **National regulations**

- **Technical instructions (air):**

| Class | Share in % |
|-------|------------|
| I     | 0.1-1.0    |
| NK    | 0.01-0.1   |

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

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

## 16 Other information

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

- **Department issuing SDS:** Environmental Health and Safety.

- **Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

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**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 01/20/2015

**Trade name: Bio-Safe™ Coomassie Stain**

(Contd. of page 7)

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· **Date of preparation / last revision** 02/11/2015 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

USA

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 02/09/2015

**1 Identification**

- **Product identifier**
- **Trade name:** Precision Plus™ Dual Color Protein Standards
- **Catalog or product number:** 1610374, 1610374S, 1610394, 10022171, 1610374EDU, 4307147, 1610374TGX
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Life Science Group  
2000 Alfred Nobel Drive  
Hercules, California 94547 (510)741-1000
- **Information department:**  
Technical services, customer support  
lsg\_techserv\_us@bio-rad.com
- **Emergency telephone number:**  
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.  
510-741-1000

**2 Hazard(s) identification**

- **Classification of the substance or mixture**  
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable
- **Information concerning particular hazards for human and environment:**  
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**  
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.  
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.
- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Additional information:** Contact with acids may cause release of toxic gases
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

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

(Contd. on page 2)

USA



## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 02/09/2015

Trade name: Precision Plus™ Dual Color Protein Standards

(Contd. of page 1)

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

|           |                         |                        |          |
|-----------|-------------------------|------------------------|----------|
| 56-81-5   | glycerol                |                        | 20-35%   |
| 151-21-3  | sodium dodecyl sulphate | Xn R21/22<br>Xi R36/38 | 1.0-2.5% |
| 7732-18-5 | water                   |                        | 50-100%  |

· **Additional information** For the wording of the listed risk phrases refer to section 15.**4 First-aid measures**· **Description of first aid measures**· **General information** No special measures required.· **After inhalation** Supply fresh air; consult doctor in case of complaints.· **After skin contact** Generally the product does not irritate the skin.· **After eye contact** Rinse opened eye for several minutes under running water.· **After swallowing** Induce vomiting and call for medical help.· **Most important symptoms and effects, both acute and delayed** No further relevant information available.· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.**5 Fire-fighting measures**· **Extinguishing media**· **Suitable extinguishing agents**CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.· **Special hazards arising from the substance or mixture** No further relevant information available.· **Advice for firefighters**· **Protective equipment:** No special measures required.**6 Accidental release measures**· **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.· **Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

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

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

Dispose contaminated material as waste according to item 13.

· **Reference to other sections**

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage**· **Precautions for safe handling** No special measures required.· **Information about protection against explosions and fires:** No special measures required.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 02/09/2015

Trade name: Precision Plus™ Dual Color Protein Standards

(Contd. of page 2)

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

## 8 Exposure controls/personal protection

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

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

### 56-81-5 glycerol

PEL Long-term value: 15\* 5\*\* mg/m<sup>3</sup>  
mist; \*total dust \*\*respirable fraction

TLV TLV withdrawn-insufficient data human occup. exp.

### 26628-22-8 sodium azide

REL Ceiling limit value: 0.3\*\* mg/m<sup>3</sup>, 0.1\* ppm  
\*as HN<sub>3</sub>; \*\*as NaN<sub>3</sub>; Skin

TLV Ceiling limit value: 0.29\*\* mg/m<sup>3</sup>, 0.11\* ppm  
\*as HN<sub>3</sub> vapor \*\*as NaN<sub>3</sub>

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures** The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:** Protective gloves.
- **Material of gloves** Synthetic gloves
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Liquid

Color: Blue

· **Odor:** Rotten

· **Odour threshold:** Not determined.

· **pH-value at 20 °C:** 6.8

· **Change in condition**

Melting point/Melting range: undetermined

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 02/09/2015

Trade name: Precision Plus™ Dual Color Protein Standards

(Contd. of page 3)

|                                                   |                                               |
|---------------------------------------------------|-----------------------------------------------|
| <b>Boiling point/Boiling range:</b>               | undetermined                                  |
| · <b>Flash point:</b>                             | Not applicable                                |
| · <b>Flammability (solid, gaseous)</b>            | Not applicable.                               |
| · <b>Ignition temperature:</b>                    | 400 °C                                        |
| · <b>Decomposition temperature:</b>               | Not determined.                               |
| · <b>Auto igniting:</b>                           | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |                                               |
| Lower:                                            | 0.9 Vol %                                     |
| Upper:                                            | Not determined.                               |
| · <b>Vapor pressure at 20 °C:</b>                 | 23 hPa                                        |
| · <b>Density:</b>                                 | Not determined                                |
| · <b>Relative density</b>                         | Not determined.                               |
| · <b>Vapour density</b>                           | Not determined.                               |
| · <b>Evaporation rate</b>                         | Not determined.                               |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible                                |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                               |
| · <b>Viscosity:</b>                               |                                               |
| dynamic:                                          | Not determined.                               |
| kinematic:                                        | Not determined.                               |
| · <b>Solvent content:</b>                         |                                               |
| Organic solvents:                                 | 30.0 %                                        |
| Water:                                            | 66.3 %                                        |
| Solids content:                                   | 3.7 %                                         |
| · <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**  
This product contains sodium azide. Sodium azide can react with copper, brass, lead, and solder in piping systems to form explosive compounds of lead azide and copper azide.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
This product contains sodium azide. Sodium azide can react with copper, brass, lead, and solder in piping systems to form explosive compounds of lead azide and copper azide.
- **Hazardous decomposition products:** No dangerous decomposition products known

USA

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2015

Reviewed on 02/09/2015

Trade name: Precision Plus™ Dual Color Protein Standards

(Contd. of page 4)

## 11 Toxicological information

### · Information on toxicological effects

#### · Acute toxicity:

#### · Primary irritant effect:

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

#### · on the eye:

No irritant effect.

Irritant effect.

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

#### · Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

### · Carcinogenic categories

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

None of the ingredients is listed.

#### · NTP (National Toxicology Program)

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Target organs:** Not applicable.

## 12 Ecological information

### · Toxicity

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

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

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

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

### · Additional ecological information:

#### · General notes:

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

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### · Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

## 13 Disposal considerations

### · Waste treatment methods

### · Recommendation

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

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

## \* 14 Transport information

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

## \* 15 Regulatory information

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

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

26628-22-8 sodium azide

## · Section 313 (40CFR372.65):

26628-22-8 sodium azide

## · TSCA (Toxic Substances Control Act):

56-81-5 glycerol

151-21-3 sodium dodecyl sulphate

27565-41-9 (R\*,R\*)-(±)-1,4-dimercaptobutane-2,3-diol

77-86-1 Tris(hydroxymethyl)aminomethane

26628-22-8 sodium azide

7732-18-5 water

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

None of the ingredients is listed.

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

26628-22-8 sodium azide

A4

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

| Class | Share in % |
|-------|------------|
| NK    | 20-35      |

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

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

· **Department issuing SDS:** Environmental Health and Safety.· **Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· **Date of preparation / last revision** 02/11/2015 / -· **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)

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