Material Safety Data Sheet

Printing date 09/22/2010 Reviewed on 09/09/2010

1 Identification of the substance/mixture and of the company/undertaking

· **Product details:**

· **Trade name: 10X Tris/Glycine Buffer**

· **Catalog or product number:** 1610771, 1610734, 1610734EDU, 1610771EDU
· **Application of the substance / the preparation** Laboratory chemicals

· **Manufacturer/Supplier:**
Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547 (510)741-1000

· **Information department:** Technical services, customer support.
· **Emergency information:**
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 Composition/information on ingredients

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

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

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

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

3 Hazards identification

· **Classification of the substance or mixture**

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Void
· **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**

· **Labelling according to EU guidelines:**
Observe the general safety regulations when handling chemicals
The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (GefStoffV).

· **Safety phrases:**
60 This material and its container must be disposed of as hazardous waste.

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4 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.

5 Firefighting measures

· **Suitable extinguishing agents**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Person-related safety precautions:** Not required
· **Measures for environmental protection:** Dilute with plenty of water.
· **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· **Additional information:** No dangerous substances are released.

7 Handling and storage

· **Handling**
· **Information for safe handling:**
No special measures required.
No special precautions are necessary if used correctly.
· **Information about protection against explosions and fires:** No special measures required.

· **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.

8 Exposure controls/personal protection

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

· **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.

· **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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· **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

· **General Information**	
· **Appearance:**	
Form:	liquid
Color:	Colorless
· **Odor:**	Odorless
· **Change in condition**	
Melting point/Melting range:	undetermined
Boiling point/Boiling range:	100°C
· **Flash point:**	Not applicable
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Vapor pressure at 20°C:**	23 hPa
· **Density at 20°C:**	0.97312 g/cm³
· **Solubility in / Miscibility with**	
Water:	Fully miscible
· **pH-value at 20°C:**	8
· **Solvent content:**	
Organic solvents:	0.0 %
Water:	82.5 %
Solids content:	17.5 %

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Materials to be avoided:**
· **Dangerous reactions** No dangerous reactions known
· **Dangerous products of decomposition:** No dangerous decomposition products known

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11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values for hazardous components per OSHA criteria:**		
77-86-1 Tris(hydroxymethyl)aminomethane		
Oral	LD50	5900 mg/kg (rat)
56-40-6 glycine		
Oral	LD50	7930 mg/kg (rat)
Dermal	LD50	5200 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.
· **Target organs:** Not applicable.

12 Ecological information

· **Additional ecological information:**
· **General notes:** Generally not hazardous for water.

13 Disposal considerations

· **Product:**
· **Recommendation** Hand over to hazardous waste disposers.

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

14 Transport information

· **DOT regulations:**
· **Hazard class:** -

· **Land transport ADR/RID (cross-border)**
· **ADR/RID class:** -

· **Maritime transport IMDG:**
· **IMDG Class:** -
· **Marine pollutant:** No

· **Air transport ICAO-TI and IATA-DGR:**
· **ICAO/IATA Class:** -

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· **Transport/Additional information:** Not dangerous according to the above specifications.

15 Regulatory information

· **SARA (Superfund Amendents 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.

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
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.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

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

· **National regulations**

· **Water hazard class:** Generally not hazardous for water.

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 MSDS:** 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
· *** Data compared to the previous version altered.**