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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	Xn R22; Xi R36	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 (GeStoffV).
- **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.
- **Personal 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	liquid
• Appearance:	Colorless
• Form:	Odorless
• Color:	
• Odor:	
• Change in condition	Melting point/softening 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/cm ³
• 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:

77-85-1 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 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.

· 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.

USA

