Material Safety Data Sheet

1 Identification of substance:

- Product details:
  - Trade name: 10X Tris/Boric Acid/EDTA Buffer
  - Catalog or product number: 1610733, 1610756, 1660733, 1610770
  - Application of the substance / the preparation Laboratory chemicals

- Manufacturer/Supplier:
  Bio-Rad Laboratories, Life Science Group
  2000 Alfred Nobel Drive
  Hercules, California  94547
  1(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 components:

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

Listing of dangerous and non-hazardous components:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Percentage</th>
<th>EINECS</th>
<th>RTECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>50-100</td>
<td>231-791-2</td>
<td>ZC 0110000</td>
</tr>
</tbody>
</table>
3 Hazards identification

- Information pertaining to particular dangers for man and environment
  - not applicable
- Classification system
  The classification was made according to the latest editions of the EU- lists, and expanded upon from company and literature data.
- NFPA ratings (scale 0-4)
  Health = 0
  Fire = 0
  Reactivity = 0

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 Fire fighting 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.
  Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collection:**
  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:**
    No special requirements.
  - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:** None.
- **Storage class**
  - **Class according to regulation on flammable liquids:** Void
8 Exposure controls and 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: Synthetic gloves
- Material of gloves Synthetic gloves
- Penetration time of glove material
  The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties:

- General Information

  - Form: liquid
  - Color: Colorless
  - Odor: Odorless

<table>
<thead>
<tr>
<th>Value/Range</th>
<th>Unit</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range:</td>
<td>undetermined</td>
<td></td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>100 °C</td>
<td></td>
</tr>
<tr>
<td>Flash point:</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Auto igniting:</td>
<td>Product is not selfigniting.</td>
<td></td>
</tr>
</tbody>
</table>
○ **Danger of explosion:**
  Product does not present an explosion hazard.

○ **Vapor pressure:** at 20 °C 23.0 hPa

○ **Density:** Not determined

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

○ **pH-value:** at 20 °C 8.3

○ **Solvent content:**
  ○ **Organic solvents:** 0.0 %
  ○ **Water:** 82.7 %
  ○ **Solids content:** 17.3 %

● **10 Stability and reactivity**

○ **Thermal decomposition / conditions to be avoided:**
  No decomposition if used according to specifications.

○ **Dangerous reactions** No dangerous reactions known

○ **Dangerous products of decomposition:**
  No dangerous decomposition products known

● **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)

  10043-35-3 boric acid
  Oral: LD50: 2660 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.

12 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.

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: -
15 Regulations

- **SARA (Superfund Amendments and Reauthorization Act of 1986 – USA)**
  
  **Section 302/304 (40CFR355.30 / 40CFR355.40):**

  None of the ingredients is listed.
  
  **Section 313 (40CFR372.65):**

  None of the ingredients is listed.

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

    7732-18-5 water

  - **California Proposition 65:**

    **Chemicals known to cause cancer:**

    The product does not contain listed components.

    **Chemicals known to cause reproductive toxicity:**

    The product does not contain listed components.

  - **Cancerogenity 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.

  - **Markings 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.

- **National regulations**

- **Classification according to VbF:** Void

- **Water hazard class:**
  Water hazard class 1 (Self-assessment): slightly 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