

## Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

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

- **Product identifier**
- **Trade name:** 50X Tris/Acetic Acid/EDTA Buffer
- **Catalog or product number:**  
1610743, 1610773, 9704629, 9703685, 9702659, 1660742, 1660742EDU, 1610743EDU, 1610773EDU
- **Application of the substance / the preparation** 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.
- **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 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
- **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	20-35%
127-09-3	sodium acetate		10-20%
6381-92-6	Ethylenediaminetetraacetic acid disodium salt dihydrate	Xn R22 Xi R36/37/38	1.0-2.5%

- **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**  
Xn; Harmful  
R22: Harmful if swallowed.
- **Information concerning particular hazards for human and environment:**  
The product has 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.

(Contd. on page 2)

## Material Safety Data Sheet

Printing date 09/29/2011

Reviewed on 09/29/2011

Trade name: 50X Tris/Acetic Acid/EDTA Buffer

(Contd. of page 1)

· **Label elements**· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

· **Code letter and hazard designation of product:**

Xn Harmful

· **Risk phrases:**

22 Harmful if swallowed.

· **Safety phrases:**

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36 Wear suitable protective clothing.

60 This material and its container must be disposed of as hazardous waste.

· **Emergency overview:**

· **Routes of exposure:** Ingestion

\* **4 First aid measures**· **General information**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation** 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. Then consult a doctor.

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

\* **5 Firefighting measures**· **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.

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

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

Wear protective equipment (See section 8). Keep unprotected persons away.

· **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**

See Section 7 for information on safe handling

(Contd. on page 3)

**Material Safety Data Sheet**

Printing date 09/29/2011

Reviewed on 09/29/2011

**Trade name: 50X Tris/Acetic Acid/EDTA Buffer**

(Contd. of page 2)

See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**7 Handling and storage**

- **Handling**
- **Precautions for safe handling** 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.
- **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.
- **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**  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.
- **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**

- **General Information**
- **Appearance:**

Form:	liquid
Color:	Colorless
Odor:	Odorless
Odour threshold:	Not determined.
- **pH-value at 20°C:** 7.1
- **Change in condition**

Melting point/Melting range:	undetermined
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(Contd. on page 4)

**Material Safety Data Sheet**

Printing date 09/29/2011

Reviewed on 09/29/2011

**Trade name: 50X Tris/Acetic Acid/EDTA Buffer**

(Contd. of page 3)

<b>Boiling point/Boiling range:</b>	100°C
· <b>Flash point:</b>	Not applicable
· <b>Flammability (solid, gaseous)</b>	Not applicable.
· <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>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	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>Segregation coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>dynamic:</b>	Not determined.
<b>kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Water:</b>	60.3 %
<b>Solids content:</b>	39.7 %
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** 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)

**127-09-3 sodium acetate**

Oral LD50 3530 mg/kg (rat)

(Contd. on page 5)

**Material Safety Data Sheet**

Printing date 09/29/2011

Reviewed on 09/29/2011

**Trade name: 50X Tris/Acetic Acid/EDTA Buffer**

(Contd. of page 4)

- **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 shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
 The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
 Harmful

**12 Ecological information**

- **Acquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **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.

**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   |

(Contd. on page 6)

**Material Safety Data Sheet**

Printing date 09/29/2011

Reviewed on 09/29/2011

**Trade name: 50X Tris/Acetic Acid/EDTA Buffer**

(Contd. of page 5)

· **Special precautions for user** Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

**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):**

7732-18-5 water

77-86-1 Tris(hydroxymethyl)aminomethane

127-09-3 sodium acetate

· **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.

· **National regulations**

· **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

(Contd. on page 7)

**Material Safety Data Sheet**

Printing date 09/29/2011

Reviewed on 09/29/2011

**Trade name: 50X Tris/Acetic Acid/EDTA Buffer**

(Contd. of page 6)

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