

Material Safety Data Sheet

Printing date 07/25/2013

Reviewed on 07/25/2013

1 Identification

- **Product identifier**
- **Trade name:** Tris/Borate/EDTA Buffer pH 8.3
- **Catalog or product number:** 9701836
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **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
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**
H360 May damage fertility or the unborn child.
H319 Causes serious eye irritation.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Contains a component that may be fetotoxic and/or teratogenic.
Contains a suspected reproductive toxin.
T; Toxic
R60-61: May impair fertility. May cause harm to the unborn child.
- **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.
- **Label elements**
- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials
Observe the general safety regulations when handling chemicals
- **Code letter and hazard designation of product:**



T Toxic

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· Hazard-determining components of labeling:

boric acid

· Risk phrases:

60 May impair fertility

61 May cause harm to the unborn child

· Safety phrases:

53 Avoid exposure - obtain special instructions before use.

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

36/39 Wear suitable protective clothing and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

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

· Classification system**· Special Hazards** Reproductive toxin.**· 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.**· Listing of dangerous and non-hazardous components:**

77-86-1	Tris(hydroxymethyl)aminomethane	Xn R22 Xi R36	10-20%
10043-35-3	boric acid	T Repr. Cat. 2 R60-61	5-10%
60-00-4	ethylenediaminetetraacetic acid	Xi R36	0.1-1.0%
7732-18-5	water		50-100%

· SVHC

10043-35-3 boric acid

· 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. Then consult a doctor.**· After swallowing** Induce vomiting and call for medical help.**· Information for doctor****· 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.

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5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO₂, 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:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** 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
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 measures required.
Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **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:**

10043-35-3 boric acid

TLV	Short-term value: 6* mg/m ³ Long-term value: 2* mg/m ³ *as inhalable fraction
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- **Additional information:** The lists that were valid during the creation were used as basis.

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- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
- **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:	Colorless
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.
· 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 at 20 °C:	0.991 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible

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· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
Water:	82.7 %
· Solids content:	17.3 %
· 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:****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:** 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:

· 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.

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12 Ecological information

- **Toxicity**
- **Aquatic 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.
- **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.

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

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- 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)

10043-35-3 boric acid

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- 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.

- 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 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

- Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

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

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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.

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