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Safety Data Sheet (SDS)

Revision Date:
28 JAN 2025

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product Name: TBE 10x Electrophoresis Buffer
Product Code: TBE500, TBE1000
CAS Number: -
EC Number: -

1.2 Details of the supplier of the safety data sheet

Company: EcoTech Biotechnology
Address: Universite Mah. Cat Yolu Cad. Ata Teknokent Sitesi B Blok No: 74/113 Yakutiye Erzurum
Turkiye
Telephone: 0090 544 327 34 97
Fax: 0090 442 282 20 06 -124
Emergency
Phone Number: 0090 544 327 34 97

1.3 Product use

For research use only. Not intended for diagnostic or therapeutic use.

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122).
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.2 Label elements

Signal word	Not classified
Hazard statements	Not classified
Symbols/Pictograms	Not classified
Precautionary Statements - Prevention	Wash hands thoroughly after handling
Precautionary Statements - Response	IF exposed or concerned: Get medical advice/attention

2.3 Other hazards

NFPA

Health hazards	1
Flammability	0
Stability	0
Physical and chemical properties	-

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Product Name

TBE 10x Electrophoresis Buffer

Synonyms: -
Concentration: -
Formula: -
Molecular Weight: -

This product is a mixture.

3.2 Mixture

Chemical Name	CAS No	Weight %
Water	7732-18-5	70-90
Boric Acid	10043-35-3	<5.5
Tris Base	77-86-1	10-15
EDTA	6381-92-6	<1

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice	If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Remove to fresh air. If symptoms persist, call a physician. Artificial respiration and/or oxygen may be necessary. Call a physician. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors.
Ingestion	Immediate medical attention is not required. Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically
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SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing	Media None

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Carbon oxides.

5.3 Explosion data

Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

5.4 Protective equipment and precautions for firefighters

Advice for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Avoid contact with eyes and skin. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3 Methods and materials for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains. Dam up.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Use with local exhaust ventilation. Do not breathe dust/fume/gas/mist/vapors/spray.

7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed. Store in a cool, dry, well-ventilated area away from incompatible substances. Recommended storage temperature 22- 25 °C

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke. Wash hands, forearms and face after handling.

Personal protective equipment

Eye/face protection: Wear safety glasses with side-shields conforming to European Standard EN166.

Hand protection: Wear protective gloves conforming to EU Directive 89/686/EEC and European Standard EN374. Gloves must be inspected prior to use. Avoid skin contact with product when remove gloves. Dispose of contaminated gloves safely after use.

Skin and body protection: Wear laboratory coat or impervious clothing. Choose appropriate body protection according to the amount and concentration of the substance at the work place.

Respiratory protection: Wear suitable respiratory equipment in case of inadequate ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

a) Appearance:	Liquid
b) Odor:	Odorless
c) Odor Threshold:	No data available
d) pH:	8.3
e) Melting point/freezing point:	No data available
f) Initial boiling point and boiling range:	No data available
g) Flash point:	No data available

h) Evaporation rate:	1
i) Flammability (solid, gas):	No data available
j) Upper / lower flammability or explosive limits:	No data available
k) Vapor pressure:	No data available
l) Vapor density:	No data available
m) Relative density:	1.16
n) Solubility(ies):	No data available
o) Partition coefficient: <i>n</i> -octanol / water:	No data available
p) Auto-ignition temperature:	No data available
q) Decomposition temperature:	No data available
r) Viscosity:	No data available
s) Explosive properties:	No data available
t) Oxidizing properties:	No data available

SECTION 10. STABILITY AND REACTIVITY

Stability and reactivity

Reactivity:	Not applicable
Chemical stability:	Stable at a cool and dry place.
Possibility of hazardous reactions:	None under normal processing
Conditions to avoid:	Extremes of temperature and direct sunlight.
Incompatible materials:	Strong oxidizing agents
Hazardous decomposition products:	Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

a) Acute toxicity:

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Boric Acid	3,450 mg/kg (Rat)	2,000 mg/kg (Rabbit)	> 2.12 mg/L (Rat)- 4 h

b) Skin corrosion / irritation:	No skin/corrosion irritation data available.
c) Serious eye damage/eye irritation:	Product causes serious eye damage.
d) Carcinogenicity:	None of the ingredients is listed.

IARC : Product and components are not regulated by the IARC.
ACGIH : Product and components are not regulated by the ACGIH.
NTP : Product and components are not regulated by the NTP.
OSHA : Product and components are not regulated by OSHA.

e) Reproductive toxicity:	No data available
f) STOT - SE:	No data available
g) STOT - RE:	No data available
h) Aspiration hazard:	No data available

11.2 Potential health effects

Ingestion:	May be harmful if swallowed.
Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation.
Skin:	May be harmful if absorbed through skin. May cause skin irritation.
Eyes:	Causes serious eye irritation.

11.3 Additional Information

No additional information is available

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment. The environmental impact of this product has not been fully investigated.

Component	Toxicity
Boric Acid	LC50 75mg/L <i>Limanda limanda</i> 72 h
	LC50 133mg/L <i>Daphnia</i> 48 h

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment is not required/was not conducted.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Contact a licensed professional waste disposal service to dispose of this material. Dispose of in accordance with federal, state and local requirements.

Contaminated packaging

Dispose of as unused product. Do not reuse empty containers.

Section 14. TRANSPORT INFORMATION

14.1 DOT (US)

Not regulated.

14.2 IMDG

Not regulated.

14.3 IATA

Not regulated.

SECTION 15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 [REACH], as amended by Commission Regulation (EU) No 453/2010.

15.1 SARA

SARA 302: This product and components are not subject to the reporting requirements of SARA Title III, Section 302.

SARA 313: This product does not contain any components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

SARA 311/312: No SARA Hazard

15.2 Clean water act (CWA)

No chemicals are present in this product that are subject to regulation under the Clean Water Act.

15.3 Right to know components

Massachusetts : No chemicals are present which require disclosure under the Massachusetts Right to Know Act.

Pennsylvania : No chemicals are present which require disclosure under the Pennsylvania Right to Know Act.

New Jersey : No chemicals are present which require disclosure under the New Jersey Right to Know Act.

SECTION 16. OTHER INFORMATION

Key to abbreviations and acronyms

STOT-SE: Specific Target Organ Toxicity - Single Exposure

STOT-RE: Specific Target Organ Toxicity - Repeated Exposure

PBT: Persistent Bioaccumulative and Toxic

vPvB: very Persistent very Bioaccumulative and toxic

ADR: European Agreement concerning the international carriage of Dangerous goods by Road

CAS: Chemical Abstracts Service

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association

IMDG: International Maritime code for Dangerous Goods

REACH: Registration, Evaluation, Authorization and restriction of Chemicals

RID: Regulations concerning the International transport of Dangerous goods by rail

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1.3 Product use

For research use only. Not intended for diagnostic or therapeutic use.

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122).
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.2 Label elements

Signal word	Not classified
Hazard statements	Not classified
Symbols/Pictograms	Not classified
Precautionary Statements - Prevention	Wash hands thoroughly after handling
Precautionary Statements - Response	IF exposed or concerned: Get medical advice/attention

2.3 Other hazards

NFPA

Health hazards	1
Flammability	0
Stability	0
Physical and chemical properties	-

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Product Name

TBE 10x Electrophoresis Buffer
Synonyms: -
Concentration: -
Formula: -
Molecular Weight: -
This product is a mixture.

3.2 Mixture

Chemical Name	CAS No	Weight %
Water	7732-18-5	70-90
Boric Acid	10043-35-3	<5.5
Tris Base	77-86-1	10-15
EDTA	6381-92-6	<1

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice	If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Remove to fresh air. If symptoms persist, call a physician. Artificial respiration and/or oxygen may be necessary. Call a physician. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors.
Ingestion	Immediate medical attention is not required. Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms	No information available.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically
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SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing	Media None

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Carbon oxides.

5.3 Explosion data

Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

5.4 Protective equipment and precautions for firefighters

Advice for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Avoid contact with eyes and skin. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3 Methods and materials for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains. Dam up.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Use with local exhaust ventilation. Do not breathe dust/fume/gas/mist/vapors/spray.

7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed. Store in a cool, dry, well-ventilated area away from incompatible substances. Recommended storage temperature 22- 25 °C

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke. Wash hands, forearms and face after handling.

Personal protective equipment

Eye/face protection: Wear safety glasses with side-shields conforming to European Standard EN166.

Hand protection: Wear protective gloves conforming to EU Directive 89/686/EEC and European Standard EN374. Gloves must be inspected prior to use. Avoid skin contact with product when remove gloves. Dispose of contaminated gloves safely after use.

Skin and body protection: Wear laboratory coat or impervious clothing. Choose appropriate body protection according to the amount and concentration of the substance at the work place.

Respiratory protection: Wear suitable respiratory equipment in case of inadequate ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

a) Appearance:	Liquid
b) Odor:	Odorless
c) Odor Threshold:	No data available
d) pH:	8.3
e) Melting point/freezing point:	No data available
f) Initial boiling point and boiling range:	No data available
g) Flash point:	No data available

h) Evaporation rate:	1
i) Flammability (solid, gas):	No data available
j) Upper / lower flammability or explosive limits:	No data available
k) Vapor pressure:	No data available
l) Vapor density:	No data available
m) Relative density:	1.16
n) Solubility(ies):	No data available
o) Partition coefficient: <i>n</i> -octanol / water:	No data available
p) Auto-ignition temperature:	No data available
q) Decomposition temperature:	No data available
r) Viscosity:	No data available
s) Explosive properties:	No data available
t) Oxidizing properties:	No data available

SECTION 10. STABILITY AND REACTIVITY

Stability and reactivity

Reactivity:	Not applicable
Chemical stability:	Stable at a cool and dry place.
Possibility of hazardous reactions:	None under normal processing
Conditions to avoid:	Extremes of temperature and direct sunlight.
Incompatible materials:	Strong oxidizing agents
Hazardous decomposition products:	Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

a) Acute toxicity:

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Boric Acid	3,450 mg/kg (Rat)	2,000 mg/kg (Rabbit)	> 2.12 mg/L (Rat)- 4 h

b) Skin corrosion / irritation:	No skin/corrosion irritation data available.
c) Serious eye damage/eye irritation:	Product causes serious eye damage.
d) Carcinogenicity:	None of the ingredients is listed.

IARC : Product and components are not regulated by the IARC.
ACGIH : Product and components are not regulated by the ACGIH.
NTP : Product and components are not regulated by the NTP.
OSHA : Product and components are not regulated by OSHA.

e) Reproductive toxicity:	No data available
f) STOT - SE:	No data available
g) STOT - RE:	No data available
h) Aspiration hazard:	No data available

11.2 Potential health effects

Ingestion:	May be harmful if swallowed.
Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation.
Skin:	May be harmful if absorbed through skin. May cause skin irritation.
Eyes:	Causes serious eye irritation.

11.3 Additional Information

No additional information is available

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment. The environmental impact of this product has not been fully investigated.

Component	Toxicity
Boric Acid	LC50 75mg/L <i>Limanda limanda</i> 72 h
	LC50 133mg/L <i>Daphnia</i> 48 h

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment is not required/was not conducted.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Contact a licensed professional waste disposal service to dispose of this material. Dispose of in accordance with federal, state and local requirements.

Contaminated packaging

Dispose of as unused product. Do not reuse empty containers.

Section 14. TRANSPORT INFORMATION

14.1 DOT (US)

Not regulated.

14.2 IMDG

Not regulated.

14.3 IATA

Not regulated.

SECTION 15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 [REACH], as amended by Commission Regulation (EU) No 453/2010.

15.1 SARA

SARA 302: This product and components are not subject to the reporting requirements of SARA Title III, Section 302.

SARA 313: This product does not contain any components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

SARA 311/312: No SARA Hazard

15.2 Clean water act (CWA)

No chemicals are present in this product that are subject to regulation under the Clean Water Act.

15.3 Right to know components

Massachusetts : No chemicals are present which require disclosure under the Massachusetts Right to Know Act.

Pennsylvania : No chemicals are present which require disclosure under the Pennsylvania Right to Know Act.

New Jersey : No chemicals are present which require disclosure under the New Jersey Right to Know Act.

SECTION 16. OTHER INFORMATION

Key to abbreviations and acronyms

STOT-SE: Specific Target Organ Toxicity - Single Exposure

STOT-RE: Specific Target Organ Toxicity - Repeated Exposure

PBT: Persistent Bioaccumulative and Toxic

vPvB: very Persistent very Bioaccumulative and toxic

ADR: European Agreement concerning the international carriage of Dangerous goods by Road

CAS: Chemical Abstracts Service

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association

IMDG: International Maritime code for Dangerous Goods

REACH: Registration, Evaluation, Authorization and restriction of Chemicals

RID: Regulations concerning the International transport of Dangerous goods by rail