

Material Safety Data Sheet

according to 1907/2006/EG, article 31



GENAXXON

b i o s c i e n c e

Product number : M3088

Product name :

TBE-Buffer (10X) ready-to-use solution MB-Grade

1. Identification of the substance/preparation and of the company

Product identifier

Product Name: TBE-Buffer (10X) ready-to-use solution MB-Grade

Catalogue-No.: M3088

CAS Number: -

EC Number: -

REACH-No.: 01-2119486683-25-XXXX.

Relevant identified uses of the substance or mixture and uses advised against

Life cycle stages: F - Formulation or re-packing

Sector of Use: SU0 – Other

Product category: PC21 - Laboratory chemicals

Process category: PROC15 - Use as laboratory reagent.

Environmental release category:

ERC2 - Formulation into mixture

ERC8a - Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor).

Application of the substance/the preparation

Laboratory chemical

Molecular biology

Details of the supplier of the safety data sheet

Manufacturer /Supplier:

Genaxxon bioscience GmbH, Söflinger Str. 70, 89077 Ulm/Germany.

Tel.: +49 (0)731 3608 123, info@genaxxon.com

Further information available from: General Management

Emergency telephone number: +49 (0)731 3608 123 (Monday till Friday: 7:30 – 18:30 o'clock)

NOTE: If this product is a kit or supplied with more than one material, please refer to the MSDS for each component for hazard information.

Product Use:

This products are for laboratory research use only and are not intended for human or animal diagnostics, therapeutics or other clinical uses.

2. Hazardous identification

Classification of the substance/preparation/mixture

Classification according to Regulation (EC) No 1272/2008

Repr. 1A H360FD May damage fertility. May damage the unborn child.

Label elements

Labelling according to Regulation (EC) No. 1272/2008

The product is classified and labelled according to the CLP regulations.

Hazard pictograms



GHS08

Signal word: Danger

Hazard-determining components of labeling:

Boric acid

Hazard statement(s)

H360FD May damage fertility. May damage the unborn child.

Precautionary statement(s):

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 If exposed or concerned: Get medical advice/attention.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

3. Composition/Information on ingredients

Chemical Characterisation: Mixtures

Description: aqueous solution

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Dangerous components

CAS: 10043-35-3
EINECS: 233-139-2
Reg.no.:
01-2119486683-25-XXXX

Boric acid

T Repr. Cat 2 R60-61
Repr. 1A, H360FD

>5- <10%

SVHC

10043-35-3

Boric acid

5.503%

Additional information: For the wording of the listed risk phrases refer to section 16.

4. First aid measures

Description of first aid measures

General Information: Seek medical advice immediately.

After inhalation: Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

After skin contact:

Wash off with plenty of water.

If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

After swallowing:

Rinse out mouth.

If symptoms persist consult a doctor.

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.

5. Firefighting measures

Extinguishing media

Suitable extinguishing agents: CO₂. Powder or water spray. Fight larger fires with water spray or alcohol resistant foam. For safety reasons unsuitable extinguishing agents: Water with full jet.

Special hazards arising from the substance or mixture:

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

Carbon oxides (CO, CO₂)

Ambient fire may liberate hazardous vapours

Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

Additional information: Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Contain escaping vapours with water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Do not inhale steams/aerosols.

Avoid substance contact.

Ensure adequate ventilation.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Environmental precautions: Do not allow product to enter sewage system, surface or ground water.

Discharge into the environment must be avoided.

Methods and materials 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.

Ensure adequate ventilation.

Clean up affected area.

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.

Additional information: None

7. Handling and storage

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Handling

Precautions for safe handling:

Open and handle receptacle with care.

Information about fire – and explosion protection: No special measures required.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: Keep receptacles tightly sealed.

Store only in the original receptacle.

Information about storage in one common storage facility: No special measures required.

Further information about storage conditions:

Keep container sealed.

Recommended storage temperature: 15°C to 25°C

Storage class: 6.1 D

Specific end use(s): No further relevant information available.

8. Exposure controls / personal protection

Additional information about design of technical facilities: No further data; see item 7 of this data sheet.

Control parameters

Ingredients 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.

DNELs		
10043-35-3 Boric acid		
Oral	Acute –systemic effects, general population	0.98mg/kg (-)
	Long-term –systemic effects, general population	0.98mg/kg (-)
Dermal	Long-term – systemic effects, general population	196mg/kg (-)
	Long-term – systemic effects, worker	392mg/kg (-)
Inhalative	Long-term – systemic effects, general population	4.15mg/m3 (-)
	Long-term – systemic effects, worker	8.3mg/m3 (-)

PMECs		
10043-35-3 Boric acid		
Aquatic compartment – freshwater		1.35mg/L (-)
Aquatic compartment – marine water		1.35mg/L (-)
Aquatic compartment – sediment in freshwater		1.8mg/kg (-)
Aquatic compartment – sediment in marine water		1.8mg/kg (-)
Aquatic compartment – water, intermittent releases		9.1mg/L (-)
Sewage treatment plant		1.75mg/L (-)
Terrestrial compartment - soil		5.4mg/kg (-)

Additional information: The lists valid during the making were used as basis.

Exposure controls:

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Avoid contact with eyes and skin.

Store protective clothing separately.

Vacuum clean contaminated clothing. Do not blow or brush off contamination.

Immediately remove all soiled and contaminated clothing.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type ABEK (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Required when dusts are generated.

Filter ABEK (EN 143).



Required when dusts are generated

Protection of hands:



Protective gloves (EN 374)

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The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

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.

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.

For the permanent contact gloves made of the following materials are suitable:

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Value for permeation: Level: >480 min.

As protection from splashes gloves made of the following materials are suitable:

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Value for the permeation: Level ≥ 480 min.

Eye/face protection: Safety glasses



Safety glasses (EN 166)

Body protection:

Use protective suit.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

9. Physical and chemical properties

Information on basic physical and chemical properties

General information

Form:	Fluid
Colour:	Colourless
Odour:	Odourless
pH-value:	8.1 - 8.5

Change on conditions

Melting point/Melting range: Not determined

Boiling point/Boiling range: $>100^{\circ}\text{C}$

Thermal Decomposition: Not determined

Flash point: Not applicable

Flammability (solid, gaseous): Not applicable

Ignition temperature

Decomposition temperature: Not determined

Self-igniting: Product is not self-igniting

Danger of explosion: Product does not present an explosion hazard

Explosion limits

Lower: Not determined

Upper: Not determined

Vapour pressure: Not determined

Density at 20°C : Data not available

Solubility in / Miscibility with water: Fully miscible

Segregation coefficient (n-octanol/water): Not determined

Viscosity:

Dynamic: Not determined

Kinematic: Not determined

Solvent content

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Organic solvent:

0.0%

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 be avoided: No further relevant data available.

Incompatible materials: No dangerous reactions known.

Hazardous decomposition products: In the event of fire: See chapter 5 of this data sheet.

11. Toxicological Information

Information on toxicological effects

Acute toxicity: Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

Components	Type	Value	Species
10043-35-3 boric acid			
Oral	LD50	2660mg/kg (rat)	

Primary irritant effect:

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

After inhalation: No irritant effect.

Respiratory or skin sensitization: Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: May damage fertility. May damage the unborn child.

STOT - single exposure: Based on available data, the classification criteria are not met.

STOT - repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

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 to our experience and the information provided to us.

12. Ecological Information

Toxicity

Aquatic toxicity: No further relevant information available.

Type of test	effective concentration	Method	Assessment
10043-35-3 Boric acid			
EC50/48 h	133mg/L (daphnia magna)		(ECOTOX Database)
LC50/96 h	50-100mg/L (Oncorhynchus mykiss)		(ECOTOX Database)

Persistence and degradability: No further relevant information available

Behaviour 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 product 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.

Chronic effect:

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

13. Disposable considerations

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Waste treatment methods

Recommendation:

Chemicals must be disposed of in compliance with the respective national regulations. Must not be disposed together with household garbage. Do not allow product to reach sewage system. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Uncleaned/contaminated packaging: Dispose of as unused product.

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary together with cleansing agents.

14. Transport information

UN-Number

ADR, ADN, IMDG, IATA Void

UN proper shipping name

ADR; ADN, IMDG, IATA: Void

Transport hazard class(es):

ADR, ADN, IMDG, IATA class: Void

Packing group:

ADR, IMDG, IATA Void

Environmental hazards / Marine pollutant:

No

Special precautions for user:

Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC-Code

Not applicable

Transport/Additional information:

Not dangerous according to the above specifications

UN „Model Regulation“:

Void

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture.

Directive 2012/18/EU

Named dangerous substances - ANNEX I: None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII: Conditions of restriction: 3, 30

National regulations:

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

10043-35-3

Boric acid

5.503%

Chemical safety assessment: A chemical Safety Assessment has not been carried out.

16. Other Information

The information given is based on our present knowledge. However, this shall not constitute a guarantee for any specific product feature and shall not establish a legally valid contractual relationship.

Relevant Phrases

H360FD May damage fertility. May damage the unborn child.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

EINECS: European Inventory of Existing Commercial Chemical Substances

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

GHS: Globally Harmonized System of Classification and labeling of Chemicals

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

IMDG: International Maritime code for Dangerous Goods

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PNEC: Predicted No-Effect Concentration (REACH)

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

SVHC: Substances of Very High Concern