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

1.1. Product identifier

Product Name: Tris Buffer Grade
Catalogue-No.: M6210
CAS Number: 77-86-1
EC Number: 201-064-4
Index Number: - - -
REACH No.: 01-2119957659-16-XXXX

1.2. Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.
Application of the substance/the preparation
Laboratory chemical
Chemical analytics
Cell culture applications

Not approved for human or animal diagnostic or therapeutic procedures.
Not for household use.
Not for consumption

1.3. 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, Fax: +49 731 3608 962, 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 product is for laboratory research use only and are not intended for human or animal diagnostics, therapeutics or other clinical uses.

2. Hazardous identification

2.1. Classification of the substance/preparation/mixture
Classification according to Regulation (EC) No 1272/2008

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.

2.2. Label elements
Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labeled according to the CLP regulation.
Hazard Pictograms



GHS07

Signal word: Warning

Hazard determining components of labelling:
2-Amino-2-(hydroxymethyl)-1,3-propanediol
Hazard statement(s)

H315	Causes skin irritation.
H319	Causes serious eye irritation.

Precautionary statements

P264	Wash thoroughly after handling.
P280	Wear eye protection / face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

2.3. Other hazards
Results of PBT and vPvB assessment
The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended. Does not contain any PMT or vPvM components.

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3. Composition/Information on ingredients

3.1. Chemical characterization: Substance

CAS No.	Index No.	EC No.:	Substance name	Weight % content (or range)	SCL/ M-factor/ ATE
77-86-1	---	201-064-4	2-Amino-2-(hydroxymethyl)-1,3-propanediol	>99%	----

4. First Aid Measures

4.1. Description of first aid measures
General information: No special measures required.
After inhalation: Supply fresh air, consult a doctor in case of complaints.
After skin contact:
Immediately remove any clothing soiled by the product.
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.
Seek medical treatment.
After swallowing:
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
4.2. Most important symptoms and effects, both acute and delayed: No further relevant information available.
4.3. Indication of any immediate medical attention and special treatment needed:
No further relevant information available.

5. Fire-fighting Measures

5.1. Extinguishing media
Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
For safety reasons unsuitable extinguishing agents: Water with full jet.
5.2. Special hazards arising from the substance or mixture: Combustible.
Development of hazardous combustion gases or vapours possible in the event of fire.
In case of fire, the following can be released:
Carbon oxides (CO, CO2)
Nitrogen oxides (NOx)
5.3. Advice for fire-fighters:
Protective equipment: Wear self-contained respiratory protective device.
No special measures necessary.
Additional information:
Contain escaping vapours with water.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6. Accidental release Measures

6.1. Personal precautions, protective equipment and emergency procedure:
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
6.2. Environmental precautions: No special measures required.
6.3. Methods and materials for containment and cleaning up:
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.
Clean up affected area.
Dispose of the material collected in accordance with regulations.
6.4. 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

7.1. Precautions for safe handling:
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
No special measures required if used according to specifications.
Information about fire – and explosion protection: Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

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Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Keep container tightly sealed.
Further information about storage conditions: Keep container tightly closed.
Recommended storage temperature: +15°C to +30°C°.
Storage class: 13

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

8. Exposure controls/personal protection

8.1. Control parameters
Ingredients with limit values that require monitoring at the workplace: not required.

DNELs		
Oral	Long-term – systemic effects, general population	8.3 mg/kg
Dermal	Long-term – systemic effect, worker	166.7 mg/kg
	Long-term – systemic effect, general population	83.3 mg/kg
Inhalative	Long-term – systemic effect, worker	117.5 mg/m3
	Long-term – systemic effect, general population	29 mg/m3

PNECs	
Sewage treatment plant	300 mg/L

Additional information: The list valid during the making were used as basis.
Additional information about design of technical facilities: No further data; see item 7.

8.2. 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.

Change contaminated clothing.
Respiratory protection:



Required when dusts are generated – Filter: P1

Protection of hands:



Protective gloves

The glove material has to be impermeable and resist ant 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 cannot 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:

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Tightly sealed goggles

Body protection:
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

9.1. Identification on basic physical and chemical properties

General Information
Appearance

Form:	Solid
Colour:	White
Odour:	Product specific
pH value 6g/L at 20°C:	10.2 – 10.6
Change in conditions	
Melting point/Melting range:	169°C - 172°C
Boiling point/Boiling range:	219°C – 220°C
Flash point:	Not applicable
Flammability (solid, gaseous):	Product is not flammable
Decomposition temperature:	Not determined
Self-ignition:	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 applicable
Density (20°C):	1.353g/cm3
Bulk density at 20°C:	appr. 840kg/m3
Solubility in / Miscibility with	
(water, 20°C):	appr. 800g/L.
Partition coefficient (n-octanol/water):	Not determined
Viscosity:	
Dynamic:	Not applicable
Kinematic:	Not applicable
Solvent content:	
Organic solvents:	0.0%
VOC (EC)	0.00%

9.2 Other information

Appearance:
Form: Solid
Important information on protection of health and environment, and on safety.
Explosive properties: Product does not present an explosion hazard.
Change in condition
Evaporation rate: Not applicable.

Information with regard to physical hazard classes

Explosives:	Void
Flammable gases:	Void
Aerosols:	Void
Oxidising gases:	Void
Gases under pressure:	Void
Flammable liquids:	Void
Flammable solids:	Void
Self-reactive substances and mixtures:	Void
Pyrophoric liquids:	Void

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Pyrophoric solids: Void
Self-heating substances and mixtures: Void
Substances and mixtures, which emit flammable gases in contact with water: Void
Oxidising liquids: Void
Oxidising solids: Void
Organic peroxides: Void
Corrosive to metals: Void
Desensitised explosives: Void

10. Stability and Reactivity

10.1. Reactivity: No dangerous reactions known.
10.2. Chemical stability:
Thermal decomposition / conditions to be avoided: Heating.
10.3. Possibility of hazardous reactions: No dangerous reactions known.
10.4. Conditions to avoid: No further relevant information available.
10.5. Incompatible materials: oxidizing agents.
10.6. Hazardous decomposition products: In the event of fire: See chapter 5 of this data sheet.

11. Toxicological information

11.1. Information on toxicological effects
Acute toxicity:

LD50/LC50 values relevant for classification		
Component	**Type**	**Value - Species**
77-86-1 trometamol		
Oral	LD50	>5000mg/kg (rat)
Dermal	LD50	>5000mg/kg (rat)

Primary irritant effect:
Skin corrosion/irritation: Based on available data, the classification criteria are not me.
Serious eye damage/irritation: Based on available data, the classification criteria are not me.
After inhalation: No irritant effect.
Respiratory or skin sensitization: Based on available date, 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:
IARC: 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.
Reproductive toxicity: Based on available date, the classification criteria are not met.

NOAEL (Fertility)	1,000 mg/kg bw/day (rat)

STOT-single exposure: Based on available date, the classification criteria are not met.
STOT-repeated exposure: Based on available date, the classification criteria are not met.
Aspiration hazard: Based on available date, the classification criteria are not met.

Oral	Repeated dose toxicity	>1000mg/kg (rat)

11.2. Information on other hazards:
Endocrine disrupting properties: None of the ingredients is listed.
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

12.1. Toxicity
Aquatic toxicity: Generally not hazardous for water

Type of test	Effective concentration	Method	Assessment
EC50/72 h	397 mg/L	Algae	
EC50/48 h	>980 mg/L	large water flea	
	980 mg/L	Aquatic nvertebrata	
NOEC/72 h	100 mg/L	Algae	
NOEC/96 h	>4,000 mg/L	Fish	
NOEC (21 d)	3.99 mg/L	Aquatic nvertebrata	

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12.2. Persistence and degradability: Easily biodegradable.
12.3. Bioaccumulative potential: No further relevant information available.
12.4. Mobility in soil: No further relevant information available.
12.5. Results of PBT and vPvB assessment
Based on available data the classification criteria are not met. Does not contain any PBT or vPvB components.
12.6 Endocrine disrupting properties: The product does not contain substances with endocrine disrupting properties.
12.7. Other adverse effects: No further relevant information available.
Additional ecological information:
General notes: Do not allow product to reach ground water, water course or sewage system. Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water**.**

13. Disposal considerations

13.1. 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. Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Uncleaned/contaminated packaging:
Recommendation:

Disposal must be made according to official regulations.
Packaging that may not be cleansed are to be disposed of in the same manner as the product.

14. Transport information

14.1. UN-Number
ADR/RID, ADN, IMDG, IATA: Void

14.2. UN proper shipping name
ADR/RID, ADN, IMDG, IATA: Void

14.3. Transport hazard class(es)
ADR/RID, ADN, IMDG, IATA:
Class Void

14.4. Packaging group
ADR/RID, IMDG, IATA: Void

14.5. Environmental hazards: Not applicable

14.6. Special precautions for user: Not applicable

14.7. 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.

UN "Model Regulation": Void

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
PFAS: Substance is not listed. ·

Directive 2012/18/EU ·
Named dangerous substances - ANNEX I: Substance is not listed. ·
REGULATION (EU) 2019/1021 on persistent organic pollutants (POP): Substance is not listed.

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II: Substance is not listed. ·
REGULATION (EU) 2019/1148 ·
Annex I: - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3)): Substance is not listed. ·
Annex II - REPORTABLE EXPLOSIVES PRECURSORS: Substance is not listed. ·
Regulation (EC) No 273/2004 on drug precursors: Substance is not listed. ·
Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors: Substance is not listed. ·
REGULATION (EU) 2024/590 on substances that deplete the ozone layer: Substance is not listed. ·

National regulations: ·

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Other regulations, limitations and prohibitive regulations ·
Substances of very high concern (SVHC) according to REACH, Article 57: Substance is not listed. ·

15.2 Chemical safety assessment: A Chemical Safety Assessment has been carried out.

16. Other information

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Genaxxon bioscience GmbH, shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Disclaimer
This product is for R&D use only. Not for drug, household or other uses.

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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the “International Air Transport Association” (IATA)
ICAO: International Civil Aviation Organization.
ACAO-TI: Technical Instructions by the “International Civil Aviation Organization” (ICAO)
GHS: Globally Harmonized System of Classification and labeling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
VOC: Volatile Organic Compounds (USA, EU)
CAS: Chemical Abstracts Service (division of the American Chemical Society).
EINECS: European Inventory of Existing Commercial Chemical Substances.