Safety data sheet in accordance with Regulation (EC) No 1907/2006

Revision date: 06.02.2023 Version: 0019
Replacement of version 0018 of 28.02.2022

anamed
Elektrophorese GmbH

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 *Product identifier*

Trade name **Tris Glycine native Sample Buffer (2x Concentrate)**

Product number anam0008
Item code TG02004
TG05004
Formulation TG PP
Formulation number 11/05

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

Appropriate use:
The product is used for electrophoresis in analytical laboratories.

1.3 *Details of the supplier of the safety data sheet*

anamed Elektrophorese GmbH
Ringstraße 4
D-64401 Gross-Bieberau
Telephone: +49-6162-809840
e-mail-address of the competent person responsible for this Safety Data Sheet:
info@gefstoff.de
Technical contact:
anamed Elektrophorese GmbH
Frau Dr. Vera Kreis
Telephone +49-6162-809840
Fax +49-6162-8098420

1.4 *Emergency telephone number*

Poison Control Center Mainz (Giftinformationszentrum Mainz) or local poison centers
Telephone +49-6131 19 2 40

SECTION 2: Hazards identification

2.1 *Classification of the substance or mixture*

The mixture does not meet the criteria for a classification as hazardous in accordance with the current version of Regulation (EC) No 1272/2008.

2.2 *Label elements*

Hazard pictogram(s): No pictogram
Signal word(s): No signal word
Product identifier: Not required
Hazard statements: Not required
Precautionary statements: Not required
Supplemental hazard information: Not required

2.3 *Other hazards*

Possible health hazard if not used correctly.
Irritant effect on eyes and skin cannot be ruled out.
The product is classified as slightly hazardous to water.
The mixture does not contain any substances classified as PBT/vPvB or any substances having endocrine disrupting properties in concentrations of more or equal than 0.1%.

SECTION 3: Composition/information on ingredients

3.2 *Mixtures*
REACH registration number:
The ingredients do not require registration according to Regulation (EC) No 1207/2006 [REACH] (exempted from registration or the annual tonnage does not require a registration).

3.2.1 *Characterisation*
Ready-to use buffer solution (concentrate) for electrophoresis (for tris glycine applications).
It is an aqueous mixture based on several special substances.

3.2.2 *Substances presenting a health/environmental hazard within the meaning of Regulation (EC) No 1272/2008*
The mixture does not contain substances above cut-off values in accordance with Regulation (EC) No 1272/2008 above which this substances shall be indicated under this point.

3.2.3 *Substances for which there are Union workplace exposure limits which are not already included under point 3.2.2 (see also Section 8.)*
No substances.

3.2.4 *Additional information*
The product contains 5 – 10% trometamol.
DNEL/PNEC values have been assigned for this substance (see subsection 8.1).

The product contains 20 – 30% glycerol.
National occupational exposure limit values for various EU member states have been assigned for this substance (see subsection 8.1).

SECTION 4: First aid measures

4.1 *Description of first aid measures*

4.1.1 *General information*
Change contaminated clothing and wash before reuse.
Emergency eyewash should be provided in the immediate working surroundings.

4.1.2 *In case of inhalation*
Remove the casualty into fresh air.
In the event of symptoms take medical treatment.

4.1.3 *In case of contact with skin*
In case of contact with skin rinse thoroughly with plenty of water.

4.1.4 *In case of contact with eyes*
In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do.

4.1.5 *In case of ingestion*
If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting.
Let water be swallowed in little sips (dilution effect).
Put victim at rest. Take medical treatment immediately.

4.2 *Most important symptoms and effects, both acute and delayed*
Irritant effect on eyes and skin cannot be ruled out.

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

SECTION 5: Firefighting measures

5.1 *Extinguishing media*

5.1.1 *Suitable extinguishing media*
Water spray jet, carbon dioxide, dry powder, foam.

5.1.2 *Unsuitable extinguishing media*
Full water jet.

5.2 *Special hazards arising from the substance or mixture*
In the event of fire the following can be released: hydrocarbons, carbon oxides, nitrogen oxides, acrolein.
Risk of formation of toxic pyrolysis products.

5.3 *Advice for firefighters*
Wear self-contained breathing apparatus.
Do not inhale explosion and combustion gases.
Cool endangered containers with water spray jet.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 ***Personal precautions, protective equipment and emergency procedures***

6.1.1 ***For non-emergency personnel***

Ensure adequate ventilation. Use personal protective clothing.
Use respiratory protection if exposed to vapours. Keep away from unprotected people.

6.1.2 ***For emergency responders***

For suitable fabric for personal protective clothing see Section 8.

6.2 ***Environmental precautions***

Do not discharge into the drains, the aquatic environment and soil.

6.3 ***Methods and material for containment and cleaning up***

Pick up with suitable material. Dispose of absorbed material in accordance with the regulations.
Send in suitable containers for recovery or disposal.
Flush away residues with plenty of water.

6.4 ***Reference to other sections***

For personal protective equipment see also Section 8. For disposal considerations see also Section 13.

SECTION 7: Handling and storage

7.1 ***Precautions for safe handling***

7.1.1 ***Advice on safe handling***

The normal safety precautions for handling of chemicals must be observed.
Avoid contact with eyes and skin.
Comply with the minimum standards in accordance with TRGS 500[1].

7.1.2 ***Advice on general occupational hygiene***

Do not inhale vapours. Avoid contact with eyes and skin.
At work do not eat, drink, smoke or take drugs. Change contaminated clothing and wash before reuse.
Wash hands before breaks and after work. Use barrier skin cream.
Emergency eyewash should be provided in the immediate working surroundings.

7.2 ***Conditions for safe storage, including any incompatibilities***

7.2.1 ***Advice on protection against fire and explosion***

None.

7.2.2 ***Requirements for storage rooms and vessels***

Keep container tightly closed. Keep in a cool place.

7.2.3 ***Advice on storage compatibility***

Do not store together with strong oxidising agents.
The information about joint storage given in Table 12 of TRGS 510[1] must be observed.

7.2.4 ***Further information on storage conditions***

None.

7.2.5 ***Storage class (for Germany only)***

LGK 12 in accordance with TRGS 510[1].

7.3 ***Specific end use(s)***

The product is only intended for the uses mentioned under subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1 ***Control parameters***

CAS No	Identification	Limit values	Remarks
56-81-5	glycerol, mist		**National limit values – eight hours**
		10 mg/m³	Belgium
		10 mg/m³ (mist)	Czech Republic
		20 mg/m³	Finland
		10 mg/m³	France
		200 mg/m³ - inhalable fraction	Germany
		10 mg/m³	Ireland
		10 mg/m³	Poland
		10 mg/m³	Slovakia
		10 mg/m³	Spain
		50 mg/m³ - inhalable aerosol	Switzerland
		10 mg/m³	United Kingdom
			National limit values – short term
		15 mg/m³ (mist)	Czech Republic
		400 mg/m³ - inhalable fraction	Germany
		100 mg/m³ - inhalable aerosol	Switzerland

(continued from 8.1 Control parameters)

DNEL values
Additional limit values for trometamol in accordance with the registration dossier:

worker, long-term exposition: inhalation, systemic effect:	117.5 mg/m³
worker, long-term exposition: dermal, systemic effect:	166.7 mg/kg_{bw}/d
general population, long-term exposition: inhalation, systemic effect:	29 mg/m³
general population, long-term exposition: dermal, systemic effect:	83.3 mg/kg_{bw}/d
general population, long-term exposition: oral, systemic effect:	8.3 mg/kg_{bw}/d

PNEC values
Additional limit values for trometamol in accordance with the registration dossier:

aquatic, sewage treatment plant:	300 mg/l

The methods for measuring chemical agents in workplace atmosphere must meet the general requirements of EN 481, EN 482 and EN 689.

8.2 *Exposure controls*

8.2.1 *Appropriate engineering controls*

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See also subsection 7.1.
The effectiveness of suitable protective measures must be controlled.
Suitable assessment methods are described in the German TRGS 402[1].

8.2.2 *Individual protection measures, such as personal protective equipment*

Personal protective equipment needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled.
In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer/supplier of the personal protective equipment.

8.2.2.1 *Eye/face protection*

Tightly fitting safety glasses in accordance with EN 166 (i.e. safety glasses with side shields).

8.2.2.2 *Skin protection*

Hand protection:
In case of operations where skin contact is possible, wear suitable protective gloves.
Chemical protective gloves needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled.
Information on appropriate protective gloves is currently not available. In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.
The protective gloves to be used must comply with the specifications of the standard EN 374.
Body protection:
Closed work clothing.

8.2.2.3 *Respiratory protection*

With correct and proper use, and adequate ventilation of the working place, respiratory protection is not required.
In case of inadequate ventilation, and in case of formation of vapours/aerosols, wear respiratory protection.
Information on appropriate respirator protection is currently not available.
The limitations in wearing time according to the BGR 190[2] (rule of the German employers' liability insurance association) for the use of respirators have to observed.

8.2.2.4 *Thermal hazards*

Not relevant.

8.2.3 *Environmental exposure controls*

See Section 6.

SECTION 9: Physical and chemical properties

9.1 *Information on basic physical and chemical properties*

Physical state:	liquid
Colour:	blue
Odour:	odourless
Odour threshold:	not applicable
Melting point/freezing point (°C):	not determined
Boiling point/initial boiling point/boiling range (°C):	not determined
Flammability:	not combustible
Lower explosion limit:	not applicable
Upper explosion limit:	not applicable
Flash point (°C), closed cup:	not applicable
Auto-ignition temperature (°C):	no data available
Decomposition temperature (°C):	no data available
pH (as supplied):	8.5 – 8.6
Kinematic viscosity (mm²/s):	no data available

(continued from 9.1 Information on basic physical and chemical properties)

Solubility in water:	miscible		
Soluble in:	not determined		
Partition coefficient: n-octanol/water (log value):	- 1.75 (25°C)	(glycerol)	(OECD Test Guideline 107)
	- 2.3 (20°C)	(trometamol)	(registration dossier)
Vapour pressure (20°C) (mbar):	no data available		
Density (g/cm³):	not determined		
Relative vapour density (20°C):	no data available		
Particle characteristics:	not applicable		

9.2 *Other information*
None.

SECTION 10: Stability and reactivity

10.1 *Reactivity*
No data available for the mixture.

10.2 *Chemical stability*
The product is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 *Possibility of hazardous reactions*
Reaction with strong oxidising agents possible.

10.4 *Conditions to avoid*
No information available for the product.

10.5 *Incompatible materials*
Reaction with strong oxidising agents possible.

10.6 *Hazardous decomposition products*
When used as intended, no hazardous decomposition products known.
For hazardous combustion products see subsection 5.2.

SECTION 11: Toxicological information

11.1 *Information on hazard classes as defined in Regulation (EC) No 1272/2008*
The mixture has not been tested.

11.1.1 *Acute toxicity*

LD50 rat, oral	(mg/kg)	> 5000	(trometamol)	(OECD Test Guideline 425)
		12600	(glycerol)	(RTECS)
LD50 rat/rabbit, dermal	(mg/kg)	> 5000	(trometamol)	(OECD Test Guideline 402)
		> 18700	(glycerol)	(IUCLID)
LC50 rat, inhalation	(mg/l/4h)	5.85	(glycerol)	(registration dossier)

11.1.2 *Skin corrosion/irritation*

Irritant effect on skin (rabbit)	Not irritating	(trometamol)	(OECD Test Guideline 404)
	Not irritating	(glycerol)	(registration dossier)

11.1.3 *Serious eye damage/irritation*

Irritant effect on eyes (rabbit)	Not irritating	(trometamol)	(OECD Test Guideline 405)
	Not irritating	(glycerol)	(registration dossier)

11.1.4 *Respiratory or skin sensitisation*

Skin sensitisation (mouse)	Not sensitising	(glycerol)	(OECD Test Guideline 429)

11.1.5 *Germ cell mutagenicity*
The mixture does not contain substances classified as germ cell mutagens.

11.1.6 *Carcinogenicity*
The mixture does not contain substances classified as carcinogenic.

11.1.7 *Reproductive toxicity*
The mixture does not contain substances classified as toxic for the reproduction.

11.1.8 *Specific target organ toxicity (STOT)-single exposure*
The mixture does not contain substances classified as being a specific target organ toxicant after single exposure

11.1.9 *Specific target organ toxicity (STOT)-repeated exposure*
The mixture does not contain substances classified as being a specific target organ toxicant after repeated exposure.

11.1.10 *Aspiration hazard*
The mixure does not contain aspiration toxicants.

11.1.11 *Symptoms related to the physical, chemical and toxicological characteristics*
Irritant effect on eyes and skin cannot be ruled out if the product is not used correctly.

11.1.12 *Delayed and immediate effects as well as chronic effects from short and long-term exposure*
Irritant effect on eyes and skin cannot be ruled out if the product is not used correctly.

11.2 *Information on other hazards*
The mixture has not been tested.

11.2.1 *Endocrine disrupting properties*
The mixture does not contain any substances having endocrine disrupting properties in concentrations of more or equal than 0.1%.

11.2.2 *Other information*
None.

SECTION 12: Ecological information

12.1 *Toxicity*

Aquatic toxicity:

96 h LC50	(fish)	885 mg/l	(Pimephales promelas; fathead minnow) (glycerol)	(registration dossier)
48 h EC50	(daphnia)	> 980 mg/l	(Daphnia magna) (trometamol)	(OECD Test Guideline 202)
		1955 mg/l	(Daphnia magna) (glycerol)	(registration dossier)
72 h EC50	(algae)	397 mg/l	(Pseudokirchneriella subcapitata) (trometamol)	(OECD Test Guideline 201)

Behaviour in sewage works:
Treat by state-of-the-art technology before discharging into drains.

12.2 *Persistence and degradability*
The product has not been tested.
Glycerol:
biodegradation 94% (24 h) (registration dossier); readily biodegradable.
Trometamol:
biodegradation 100.7%, exposure time 28 days (OECD Test Guideline 301 F); readily biodegradable.

Chemical oxygen demand (COD)	No data available.
Biochemical oxygen demand (BOD5)	No data available.
AOX-hint	Not to apply.

12.3 *Bioaccumulative potential*

Partition coefficient n-octanol/water:	- 1.75	(25°C)	(glycerol)	(OECD Test Guideline 107)
	- 2.3	(20°C)	(trometamol)	(registration dossier)

Bioaccumulation is not expected.

12.4 *Mobility in soil*
The product has not been tested.

12.5 *Results of PBT and vPvB assessment*
The mixture does not contain any substances classified as PBT/vPvB in a concentration of 0.1% or more.

12.6 *Endocrine disrupting properties*
The mixture does not contain any substances having endocrine disrupting properties in concentrations of more or equal than 0.1%.

12.7 *Other adverse effects*

Ozone depletion potential	No data available.
Photochemical ozone creation potential	No data available.
Global warming potential	No data available.

The product is classified as slightly hazardous to water.
Contains according to the formulation following heavy metals and compounds of EC-Directives 2006/11/EC and 80/68/EEC:
None.

SECTION 13: Disposal considerations

13.1 *Waste treatment methods*
Waste disposal according to official state regulations.
Sewage disposal must be avoided.
Consult the local waste disposal expert about waste disposal.
Disposal operations/recovery operations according to Directive 2008/98/EC

Disposal operations:	D 9	Physico-chemical treatment
Recovery operations:	R 3	Recycling/reclamation of organic substances which are not used as solvents

Properties of waste which render it hazardous in accordance with Annex III of Directive 2008/98/EC
Not relevant.

13.1.1 *Product / unused product*

Waste disposal corresponding to European Waste Catalogue. Wastes must be classified with respect to their origin and depending on different processing steps. The waste codes mentioned as follows are only constituted as our recommendations. Referring to the particular case they should be completed or revised.

EC waste code:	16 05 09
Waste notation:	Discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08

13.1.2 *Contaminated packaging*

Recommendation:	Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
Recommended cleansing agent:	Water
Packaging that cannot be cleaned:	
EC waste code:	15 01 06
Waste notation:	Mixed packaging

SECTION 14: Transport information

14.1 *UN number or ID number*

No dangerous good in accordance with the UN Model Regulations (ADR/RID/ADN/IMDG/ICAO/IATA).

14.2 *UN proper shipping name*

Not relevant.

14.3 *Transport hazard class(es)*

Not relevant.

14.4 *Packing group*

Not relevant.

14.5 *Environmental hazards*

Not relevant.

14.6 *Special precautions for user*

Not relevant.

14.7 *Maritime transport in bulk according to IMO instruments*

Not relevant.

SECTION 15: Regulatory information

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

15.1.1 *Information regarding relevant Union safety, health and environmental provisions*

- Conditions of restriction in accordance with Annex XVII Regulation (EC) No 1907/2006: None.
- The mixture does not contain substances classified as substances of very high concern (SVHC) in accordance with Article 57 or which are listed in Annex XIV of the regulation (list of substances subject to authorisation) in concentrations of more or equal than 0.1%.

15.1.2 *Information regarding national laws/national measures that may be relevant (for Germany only)*

Restriction of occupation:	Not relevant
Major-accident Ordinance:	Not relevant
Fire and explosion hazards:	Not relevant
Regulation on clean air (TA Luft):	Not relevant
Water hazard class:	WGK 1 – slightly hazardous to water (deduction of the WGK according to Annex 1 No 5.2 AwSV)[3] The German Ordinance on facilities for handling substances that are hazardous to water (AwSV) has to be observed

(continued from 15.1.2 Information regarding national laws/national measures that may be relevant (for Germany only))

German Ordinance on Hazardous Substances (in accordance with EC-Directive 98/24/EC):	Article 6 must be observed Articles 7, 8 and 14 must be observed as required
Technical Rules for Hazardous Substances[1]:	TRGS 400, 500, 510, 900
Rules of the employers' liability insurance association[2]:	DGUV Regel 112-190, 112-192, 112-195

15.2 *Chemical safety assessment*

No chemical safety assessment has been carried out for the mixture.

SECTION 16: Other information

16.1 ***Keeping (restrictions)*** Not relevant
Supply University (college, academy), industry consumer

16.2 ***Full text of the hazard statements referred to under Sections 2 and 3 of the Safety Data Sheet***
Not to apply.

16.3 ***Key or legend to abbreviations and acronyms used in the safety data sheet***

ADN:	Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ADR:	Accord relatif au transport international des marchandises dangereuses par route
AOX:	adsorbable organically bound halogens
AwSV:	Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances that are hazardous to water)
DNEL:	Derived No-Effect Level
ICAO/IATA:	International Civil Aviation Organisation/International Air Transport Association-Dangerous Goods Regulations
IMDG-Code:	International Maritime Dangerous Goods-Code
IMO:	International Maritime Organization
KBwS:	Commission for the Evaluation of substances hazardous to waters (Kommission Bewertung wassergefährdende Stoffe)
LGK:	Lagerklasse (storage class)
OECD:	Organisation for Economic Co-operation and Development
PBT:	persistent, bioaccumulative and toxic
PNEC:	Predicted No-Effect Concentration
RID:	Règlement international concernant le transport des marchandises dangereuses par chemin de fer
RTECS:	Registry of Toxic Effects of Chemical Substances
TRGS:	Technische Regeln für Gefahrstoffe (Technical Rules for Hazardous Substances)
vPvB:	very persistent and very bioaccumulative

16.4 ***Literature references and sources for data***
[1] https://www.baua.de
[2] https://www.arbeitssicherheit.de
[3] https://www.umweltbundesamt.de

16.5 ***Method used for the classification of the mixture***
The product does not meet the criteria for a classification as hazardous in accordance with the current version of Regulation (EC) No 1272/2008.

16.6 ***Changes which have been made to the previous version of the safety data sheet***
Revised sections: 3.2.4, 8.1, 11.1.4

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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