

A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

Cat. # 786-341

XIT™ Genomic DNA from Buccal Cells

Size: 25 Samples



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 Revision date: 5/11/2017 Version: 1.1

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

1.1. Product identifier

Product form : Mixture
Product name : TE Buffer
Product code : 036T_T041
Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Research purposes

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences 9800 Page Avenue 63132-1429 Saint Louis - United States T 800-628-7730 - F 314-991-1504

technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

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

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Deionized water	(CAS-No.) 7732-18-5	>= 80	Not classified
tris(hydroxymethyl)aminomethane	(CAS-No.) 77-86-1 (EC-No.) 201-064-4	0.5 - 2	Not classified
disodium dihydrogen ethylenediaminetetraacetate, dihydrate	(CAS-No.) 6381-92-6 (EC-No.) 205-358-3	0.05 - 0.5	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

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4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

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Colour	: Clear.		
Odour	: None.		
Odour threshold	: No data available		
рН	: No data available		
Relative evaporation rate (butylacetate=1)	: No data available		
Melting point	: Not applicable		
Freezing point	: No data available		
Boiling point	: No data available		
Flash point	: No data available		
Auto-ignition temperature	: No data available		
Decomposition temperature	: No data available		
Flammability (solid, gas)	: Not applicable		
Vapour pressure	: No data available		
Relative vapour density at 20 °C	: No data available		
Relative density	: No data available		
Solubility	: No data available		
Log Pow	: No data available		
Viscosity, kinematic	: No data available		
Viscosity, dynamic	: No data available		
Explosive properties	: No data available		
Oxidising properties	: No data available		

: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Explosive limits

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified Acute toxicity (dermal) : Not classified Acute toxicity (inhalation) : Not classified

• • •	
tris(hydroxymethyl)aminomethane (77-86-1)	
LD50 oral rat	> 5000 mg/kg bodyweight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 5000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value. Dermal)

disodium dihydrogen ethylenediam	inetetraacetate, dihydrate (6381-92-6)		
LD50 oral rat	> 2000 mg/kg (Rat)		
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)		
Skin corrosion/irritation	: Not classified		
erious eye damage/irritation : Not classified			
Respiratory or skin sensitisation	spiratory or skin sensitisation : Not classified		
Germ cell mutagenicity : Not classified			
Carcinogenicity : Not classified			
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Reproductive toxicity : Not classified STOT-single exposure : Not classified STOT-repeated exposure : Not classified Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term

adverse effects in the environment.

Acute aquatic toxicity : Not classified Chronic aquatic toxicity : Not classified

tris(hydroxymethyl)aminomethane (77-86-1)	
EC50 Daphnia 1	> 980 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 72h algae (1)	397 mg/l (Equivalent or similar to OECD 201, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)

disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)			
LC50 fish 1 320 mg/l (LC50; 96 h)			
EC50 Daphnia 1 > 100 mg/l (EC50; 24 h)			
12.2. Persistence and degradability			
tris(hydroxymethyl)aminomethane (77-86-1)			
Persistence and degradability Readily biodegradable in water.			

disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)			
Persistence and degradability Not readily biodegradable in water.			
Biochemical oxygen demand (BOD)	0.01 g O ₂ /g substance		
12.3. Bioaccumulative potential			
tris(hydroxymethyl)aminomethane (77-86-1)			
Log Pow	-2.31 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)		
Bioaccumulative potential	Not bioaccumulative.		

disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)				
Bioaccumulative potential No bioaccumulation data available.				
12.4. Mobility in soil				
tris(hydroxymethyl)aminomethane (77-86-1)				
Log Koc	1.87 (log Koc, QSAR)			
Ecology - soil Highly mobile in soil.				
12.5. Results of PBT and vPvB assessment				
Component				
tris(hydroxymethyl)aminomethane (77-86-1) This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XII				

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Waste treatment methods.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

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14.1. UN number	
UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable
UN-No. (ADN)	: Not applicable
UN-No (RID)	· Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

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15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



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

1.1. Product identifier

Product form : Mixture

Product name : Longlife Proteinase K (5mg/ml)

 EC Index-No.
 : 647-014-00-9

 EC-No.
 : 254-457-8

 Product code
 : 073L

Type of product : Pure substance

Synonyms : proteinase K / proteinase K, Glyc, PCR-Grade SL / proteinase, tritirachium album serine /

tritirachium album serine / tritirachium alkaline proteinase

Product group : Blend BIG No : 37946

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

1.2.1. Relevant identified uses

Main use category : Research purposes

Use of the substance/mixture : Chemical substance for research

Enzyme

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences 9800 Page Avenue 63132-1429 Saint Louis - United States T 800-628-7730 - F 314-991-1504

technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

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

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	% Classification according to Regulation (EC) No. 1272/2008 [CLP]		
ammonium sulphate	(CAS-No.) 7783-20-2 (EC-No.) 231-984-1	> 50	Not classified	
Deionized water	(CAS-No.) 7732-18-5	< 49.5	Not classified	
Proteinase K, Lyophilized	(CAS-No.) 39450-01-6 (EC-No.) 254-457-8 (EC Index-No.) 647-014-00-9	0.05 - 0.5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335	

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Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration.

Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation.

Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with

legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition:

doctor/hospital.

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. Take victim to a doctor if irritation

persists.

First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do.

Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if

irritation persists.

First-aid measures after ingestion : Rinse mouth with water. Do not induce vomiting. Call Poison Information Centre

(www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of

large quantities: immediately to hospital.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : AFTER INHALATION OF DUST/MIST: Irritation of the respiratory tract. Irritation of the

nasal mucous membranes.

Symptoms/effects after skin contact : Tingling/irritation of the skin.
Symptoms/effects after eye contact : Irritation of the eye tissue.

Symptoms/effects after ingestion : No effects known.

Chronic symptoms : Respiratory difficulties.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Class A foam extinguisher. Water (quick-acting

extinguisher, reel). Water. Class A foam.

Unsuitable extinguishing media : Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD: Non-flammable. Most organic solids may burn if strongly heated.

: DIRECT EXPLOSION HAZARD: Most organic solids are liable to dust explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Explosion hazard

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure

to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Face-shield. Protective clothing. Dust cloud production: compressed air/oxygen

apparatus. Dust cloud production: dust-tight suit.

Emergency procedures : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames.

Wash contaminated clothes

Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors

and windows.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.

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Methods for cleaning up : Stop dust cloud by humidifying. Scoop solid spill into closing containers. Clean

contaminated surfaces with an excess of water. Wash clothing and equipment after

handling

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid raising dust. Keep away from naked flames/heat. In finely divided state: use spark-

/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep container tightly closed. Powdered form: no compressed air

for pumping over.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

Storage temperature : < 0 °C

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents.

Storage area : Keep container in a well-ventilated place. To be kept quick-frozen. Meet the legal

requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements.

Secure fragile packagings in solid containers.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Longlife Proteinase K (5mg/ml)

United Kingdom - Occupational Exposure Limits

WEL TWA (mg/m³) 0.00004 mg/m³

Proteinase K, Lyophilized (39450-01-6)

United Kingdom - Occupational Exposure Limits

WEL TWA (mg/m³) 0.00004 mg/m³

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Gloves

Eye protection:

Face shield. In case of dust production: protective goggles

Skin and body protection:

Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

Respiratory protection:

Dust production: dust mask with filter type P2

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid Appearance : Solid.

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Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: Not applicable
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1.	Information	on	toxicological e	ffects
Acute	toxicity (oral)			

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

ammonium sulphate (7783-20-2)		
LD50 oral rat	4250 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 7 day(s))	
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 434: Acute Dermal Toxicity - Fixed Dose Procedure, Rat, Male / female, Experimental value, Dermal, 14 day(s))	
Skin corrosion/irritation	· Not classified	

Serious eye damage/irritation : Not classified : Not classified Respiratory or skin sensitisation Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Reproductive toxicity : Not classified STOT-single exposure : Not classified STOT-repeated exposure : Not classified Aspiration hazard : Not classified

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Potential adverse human health effects and symptoms

: Causes skin irritation. May cause respiratory irritation. Causes serious eye irritation.

SECTION 12: I	Ecologica	I information

12.1. Toxicity	
	. The man divide is not association of becauseful to associate and

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term

adverse effects in the environment.

Ecology - air : Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014).

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Mild water pollutant (surface water). No data available on ecotoxicity.

Acute aquatic toxicity : Not classified Chronic aquatic toxicity : Not classified

ammonium	sulphate	(7783-20-2)
		(,

LC50 fish 1 53 mg/l (96 h, Oncorhynchus mykiss, Fresh water)

EC50 Daphnia 1 169 mg/l (48 h, Daphnia magna, Static system, Fresh water)

12.2. Persistence and degradability

Longlife Proteinase K (5mg/ml)

Persistence and degradability Biodegradability in water: no data available.

ammonium sulphate (7783-20-2)

Persistence and degradability Biodegradability in water: no data available.

Proteinase K, Lyophilized (39450-01-6)

Persistence and degradability Biodegradability in water: no data available.

12.3. Bioaccumulative potential

Longlife Proteinase K (5mg/ml)

Bioaccumulative potential No bioaccumulation data available.

ammonium sulphate (7783-20-2)

Log Pow -5.1 (Experimental value, Equivalent or similar to OECD 107, 25 °C)

Bioaccumulative potential Not bioaccumulative

Proteinase K, Lyophilized (39450-01-6)

Bioaccumulative potential No bioaccumulation data available

12.4. Mobility in soil

Longlife Proteinase K (5mg/ml)

Ecology - soil No (test)data on mobility of the substance available.

ammonium sulphate (7783-20-2)

Ecology - soil No (test)data on mobility of the substance available.

Proteinase K, Lyophilized (39450-01-6)

Ecology - soil No (test)data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment

Component

ammonium sulphate (7783-20-2)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods

: Waste treatment methods.

Product/Packaging disposal recommendations

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Dissolve or mix with a combustible solvent.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No

1357/2014 and Regulation (EU) No 2017/997.

European List of Waste (LoW) code : 15 01 10* - packaging containing residues of or contaminated by dangerous substances

16 05 06* - laboratory chemicals consisting of or containing dangerous substances

including mixtures of laboratory chemicals

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Transport regulations (ADR) : Not subject

Transport by sea

Transport regulations (IMDG) : Not subject

Air transport

Transport regulations (IATA) : Not subject

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Inland waterway transport

Transport regulations (ADN) : Not subject

Rail transport

Transport regulations (RID) : Not subject

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

VOC content : 0 %

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:		
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2	
Resp. Sens. 1	Resp. Sens. 1 Respiratory sensitisation, Category 1	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	
H315	Causes skin irritation.	
H319 Causes serious eye irritation.		
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
H335	May cause respiratory irritation.	

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 Revision date: 5/11/2017 Version: 1.1

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

1.1. Product identifier

Product form : Mixture

Product name : LongLife™ RNase

Product code : 079L

Product group : Trade product

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences 9800 Page Avenue

63132-1429 Saint Louis - United States

T 800-628-7730 - F 314-991-1504

technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

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

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ammonium sulphate	(CAS-No.) 7783-20-2 (EC-No.) 231-984-1	> 50	Not classified
Deionized water	(CAS-No.) 7732-18-5	< 45	Not classified
ribonuclease	(CAS-No.) 9001-99-4 (EC-No.) 232-646-6	< 5	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

Storage temperature : -20 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:

Avoid release to the environment.

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : No data available Odour : No data available Odour threshold : No data available No data available pН Relative evaporation rate (butylacetate=1) : No data available : Not applicable Melting point : No data available Freezing point Boiling point : No data available Flash point : No data available : No data available Auto-ignition temperature Decomposition temperature : No data available Flammability (solid, gas) : Not applicable : No data available Vapour pressure Relative vapour density at 20 °C : No data available Relative density : No data available Solubility : No data available Log Pow : No data available : No data available Viscosity, kinematic Viscosity, dynamic : No data available : No data available Explosive properties

9.2. Other information

Oxidising properties

Explosive limits

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

l1.1. Information on	toxicological	effects
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Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

ammonium sulphate (7783-20-2)		
LD50 oral rat	4250 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 7 day(s))	
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 434: Acute Dermal Toxicity - Fixed Dose Procedure, Rat, Male / female, Experimental value, Dermal, 14 day(s))	

: No data available

: No data available

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

STOT-repeated exposure : Not classified Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

: The product is not considered harmful to aquatic organisms nor to cause long-term Ecology - general

adverse effects in the environment.

Acute aquatic toxicity : Not classified Chronic aquatic toxicity : Not classified

ammonium sulphate (7783-20-2)		
LC50 fish 1 53 mg/l (96 h, Oncorhynchus mykiss, Fresh water)		
EC50 Daphnia 1 169 mg/l (48 h, Daphnia magna, Static system, Fresh water)		
12.2. Persistence and degradability		

ribonuclease (9001-99-4)

Persistence and degradability Biodegradability in water: no data available.

ammonium sulphate (7783-20-2)		
Persistence and degradability Biodegradability in water: no data available.		
12.3. Bioaccumulative potential		
ribonuclease (9001-99-4)		
Bioaccumulative potential No bioaccumulation data available.		

ammonium sulphate (7783-20-2)			
Log Pow -5.1 (Experimental value, Equivalent or similar to OECD 107, 25 °C)			
Bioaccumulative potential Not bioaccumulative.			
12.4. Mobility in soil			
ammonium sulphate (7783-20-2)			
Ecology - soil No (test)data on mobility of the substance available.			
12.5. Results of PBT and vPvB assessment			
Component			
ammonium sulphate (7783-20-2) This substance/mixture does not meet the PBT criteria of REACH regulation, annex to the substance/mixture does not meet the vPvB criteria of REACH regulation, annex to the vPvB criteria of REACH regulation.			

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Waste treatment methods.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not applicable UN-No. (IMDG) : Not applicable UN-No. (IATA) : Not applicable UN-No. (ADN) : Not applicable UN-No. (RID) : Not applicable

14.2. UN proper shipping name

: Not applicable Proper Shipping Name (ADR) Proper Shipping Name (IMDG) : Not applicable Proper Shipping Name (IATA) : Not applicable Proper Shipping Name (ADN) : Not applicable Proper Shipping Name (RID) : Not applicable

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830



Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 Revision date: 5/11/2017

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

1.1. Product identifier

Product form : Mixture

Product name : XIT™ Lysis Buffer

Product code : 136X

Product group : Trade product

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences 9800 Page Avenue

63132-1429 Saint Louis - United States T 800-628-7730 - F 314-991-1504

technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

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

EUH-statements : EUH210 - Safety data sheet available on request.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Deionized water	(CAS-No.) 7732-18-5	>= 80	Not classified
sodium dodecyl sulphate	(CAS-No.) 151-21-3 (EC-No.) 205-788-1	2 - 5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319
disodium dihydrogen ethylenediaminetetraacetate, dihydrate	(CAS-No.) 6381-92-6 (EC-No.) 205-358-3	0.5 - 2	Not classified
sodium chloride	(CAS-No.) 7647-14-5 (EC-No.) 231-598-3	0.5 - 2	Not classified
tris(hydroxymethyl)aminomethane	(CAS-No.) 77-86-1 (EC-No.) 201-064-4	0.05 - 0.5	Not classified

Full text of H-statements: see section 16

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

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Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : No data available Odour : No data available · No data available Odour threshold рΗ : No data available Relative evaporation rate (butylacetate=1) : No data available Melting point : Not applicable Freezing point : No data available Boiling point : No data available : No data available Flash point Auto-ignition temperature : No data available Decomposition temperature : No data available Flammability (solid, gas) : Not applicable Vapour pressure : No data available Relative vapour density at 20 °C : No data available Relative density : No data available Solubility : No data available Log Pow : No data available Viscosity, kinematic : No data available : No data available Viscosity, dynamic

9.2. Other information

Explosive properties

Oxidising properties

Explosive limits

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

tris(hydroxymethyl)aminomethane (77-86-1)

	> 5000 mg/kg bodyweight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 5000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female,

· No data available

: No data available

: No data available

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

sodium chloride (7647-14-5)	
LD50 oral rat	> 3980 mg/kg bodyweight (Rat, Experimental value, 20% aqueous solution, Oral)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	> 42 mg/l air (1 h, Rat, Male, Experimental value, 20% aqueous solution, Inhalation (aerosol))

disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)	
LD50 oral rat	> 2000 mg/kg (Rat)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit)

sodium dodecyl sulphate (151-21-3)		
LD50 oral rat	1200 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))	
LD50 dermal rat	< 2000 mg/kg (Rat; Literature study)	
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Read-across, Dermal, 14 day(s))	
Skin corrosion/irritation	: Not classified	
Serious eye damage/irritation	: Not classified	
Respiratory or skin sensitisation	: Not classified	
Germ cell mutagenicity	: Not classified	
Carcinogenicity	: Not classified	
Reproductive toxicity	: Not classified	
STOT-single exposure	: Not classified	
STOT-repeated exposure	: Not classified	
Aspiration hazard	: Not classified	

SECTION 12: Ecological information

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Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term

adverse effects in the environment.

Acute aquatic toxicity : Not classified Chronic aquatic toxicity : Not classified

tris(hydroxymethyl)aminomethane (77-86-1)	
EC50 Daphnia 1	> 980 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 72h algae (1)	397 mg/l (Equivalent or similar to OECD 201, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)

sodium chloride (7647-14-5)		
LC50 fish 1	5840 mg/l (ASTM, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value)	

disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)	
LC50 fish 1	320 mg/l (LC50; 96 h)
EC50 Daphnia 1	> 100 mg/l (EC50; 24 h)

sodium dodecyl sulphate (151-21-3)	
EC50 72h algae (1)	> 120 mg/l (DIN 38412-9, Scenedesmus subspicatus, Static system, Fresh water, Experimental value, Growth rate)
EC50 72h algae (2)	53 mg/l (DIN 38412-9, Scenedesmus subspicatus, Static system, Fresh water, Experimental value, Biomass)

Ecology - soil

XITTM Lysis Buffer
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

coording to regulation (20) no. 1007/2000 (regulation) with the dimensional regulation (20) 2010/000	
12.2. Persistence and degradability	
tris(hydroxymethyl)aminomethane (77-86-1)	
Persistence and degradability Readily biodegradable in water.	

sodium chloride (7647-14-5)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.01 g O ₂ /g substance

sodium dodecyl sulphate (151-21-3)			
Persistence and degradability Readily biodegradable in water.			
12.3. Bioaccumulative potential			
tris(hydroxymethyl)aminomethane (77-86-1)			
Log Pow	-2.31 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)		
Bioaccumulative potential	Not bioaccumulative.		

sodium chloride (7647-14-5)	
Log Pow	-3 (Calculated)
Bioaccumulative potential	Not bioaccumulative.

disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)	
Bioaccumulative potential	No bioaccumulation data available.

sodium dodecyl sulphate (151-21-3)				
BCF fish 1	3.9 - 5.3 (72 h, Cyprinus carpio)			
BCF fish 2	7.15 (Pisces, Chronic)			
Log Pow	<= -2.03 (Calculated, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)			
Bioaccumulative potential	Not bioaccumulative.			
12.4. Mobility in soil				
tris(hydroxymethyl)aminomethane (77-86-1)				
Log Koc	1.87 (log Koc, QSAR)			

Ecology - soil	Highly mobile in soil.
sodium chloride (7647-14-5)	
Surface tension 73.03 mN/m (23 °C, 14.5 g/l)	

No (test)data on mobility of the substance available.

sodium dodecyl sulphate (151-21-3)		
Surface tension	0.0252 N/m (23 °C, 1 g/l, EU Method A.5: Surface tension)	
Log Koc	1.545 (log Koc, SRC PCKOCWIN v2.0, Experimental value)	
Ecology - soil	Highly mobile in soil.	

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

12.5. Results of PBT and vPvB assessment	
Component	
tris(hydroxymethyl)aminomethane (77-86-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
sodium chloride (7647-14-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
sodium dodecyl sulphate (151-21-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Waste treatment methods.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN numberUN-No. (ADR): Not applicableUN-No. (IMDG): Not applicableUN-No. (IATA): Not applicableUN-No. (ADN): Not applicableUN-No. (RID): Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:		
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
H302	Harmful if swallowed.	
H312	Harmful in contact with skin.	
H315	Causes skin irritation.	
H319	Causes serious eye irritation.	
EUH210	Safety data sheet available on request.	

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 Revision date: 5/11/2017

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

1.1. Product identifier

Product form : Mixture

Product name : XIT™ Protein Precipitation Buffer

 EC-No.
 : 231-598-3

 CAS-No.
 : 7647-14-5

 Product code
 : 139X

 Type of product
 : Solution

 Formula
 : NaCl

Synonyms : sodium chloride (NaCl)

Product group : Trade product

BIG No : 21627

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences 9800 Page Avenue 63132-1429 Saint Louis - United States T 800-628-7730 - F 314-991-1504

technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

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

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Deionized water	(CAS-No.) 7732-18-5	50 - 80	Not classified
sodium chloride	(CAS-No.) 7647-14-5 (EC-No.) 231-598-3	10 - 50	Not classified

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration.

Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition:

doctor/hospital.

First-aid measures after inhalation : Remove the victim into fresh air.

First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Remove clothing before

washing.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present

and easy to do. Continue rinsing. Take victim to an ophthalmologist.

First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : ON CONTINUOUS EXPOSURE/CONTACT: Tingling/irritation of the skin.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting

class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (alcohol-

resistant). Water spray if puddle cannot expand.

Unsuitable extinguishing media : Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle

expansion.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Safety glasses. Protective clothing.

Emergency procedures : Mark the danger area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply.

Methods for cleaning up : Liquid spill: wash down with an excess of water.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Clean contaminated clothing

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

Storage area : Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: correctly labelled. meet the legal requirements. Secure fragile

packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: polyethylene.

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7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Han	ıd	nr	ote	cti	on	1:

Gloves

Eye protection:

Safety glasses

Skin and body protection:

Protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Liquid.
Molecular mass : 58.44 g/mol
Colour : Colourless.
Odour : No data available
Odour threshold : No data available

pH : 7

Relative evaporation rate (butylacetate=1) : No data available Melting point : Not applicable Freezing point : No data available Boiling point : No data available Flash point : Not applicable Auto-ignition temperature : Not applicable Decomposition temperature : No data available Flammability (solid, gas) : Not applicable Vapour pressure : No data available Relative vapour density at 20 °C : No data available

Relative density : 1.1

Density : 1056 kg/m³
Solubility : No data available

Log Pow : -0.3

Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information

SADT : Not applicable

VOC content : 0 %

Other properties : Clear. Neutral reaction.

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects	
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	Not classified

Acute toxicity (inhalation)	: Not classified
sodium chloride (7647-14-5)	
LD50 oral rat	> 3980 mg/kg bodyweight (Rat, Experimental value, 20% aqueous solution, Oral)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	> 42 mg/l air (1 h, Rat, Male, Experimental value, 20% aqueous solution, Inhalation (aerosol))
Skin corrosion/irritation	: Not classified
	pH: 7
Serious eye damage/irritation	: Not classified
	pH: 7
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecolog	ical information
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ThOD

BOD (% of ThOD)

12.1. Toxicity	
Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Ecology - water	: Slightly harmful to aquatic organisms. Not harmful to fishes. Mild water pollutant (surface water).
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	Not classified

Chironic aquatic toxicity .	Not classified		
sodium chloride (7647-14-5)			
LC50 fish 1	5840 mg/l (ASTM, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value)		
12.2. Persistence and degradability			
XIT™ Protein Precipitation Buffer (7647-14-5)			
Persistence and degradability	Biodegradability in soil: not applicable.		
Biochemical oxygen demand (BOD)	Not applicable		
Chemical oxygen demand (COD)	Not applicable		

Not applicable

Not applicable

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Bioaccumulative potential

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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sodium chloride (7647-14-5)			
Persistence and degradability	Biodegradability: not applicable.		
Chemical oxygen demand (COD)	Not applicable		
ThOD	Not applicable		
BOD (% of ThOD)	Not applicable		
12.3. Bioaccumulative potential			
XIT™ Protein Precipitation Buffer (7647-14-5)			
Log Pow	-0.3		

sodium chloride (7647-14-5)	dium chloride (7647-14-5)		
Log Pow	-3 (Calculated)		
Bioaccumulative potential	Not bioaccumulative.		
12.4. Mobility in soil			
XIT™ Protein Precipitation Buffer (7647-14-5)			
Ecology - soil No (test)data on mobility of the components available.			

Not bioaccumulative.

sodium chloride (7647-14-5)			
Surface tension	73.03 mN/m (23 °C, 14.5 g/l)		
Ecology - soil	No (test)data on mobility of the substance available.		
12.5. Results of PBT and vPvB assessment			
Component			
sodium chloride (7647-14-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII		

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

1	3.1	١. ١	Na	ste	trea	tment	t meti	nods
	O .	_		310	ucu			1003

Waste treatment methods : Waste treatment methods.

Product/Packaging disposal recommendations : Treat using the best available techniques before discharge into drains or the aquatic environment. Remove to an authorized dump (Class I). Precipitate/make insoluble.

Dehydrate. Immobilize the toxic or harmful components.

Derrydrate. Infinobilize the toxic of hamilul components.

Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

: 16 03 04 - inorganic wastes other than those mentioned in 16 03 03

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

European List of Waste (LoW) code

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

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IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

VOC content : 0 %

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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