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A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

Cat. # 786-642

HOOK[™] GST Protein Spin Purification Kit (Yeast)

Size: 25





Safety Data Sheet according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Date of issue: 06/03/2013 Revision date: 05/11/2017 Version: 7.1

SECTION 1: Identification		
1.1. Identification		
Product form :	Mixture	
Product name :	Longlife Zymolyase	
Product code :	085L	
1.2. Recommended use and restrictions of	nuse	
No additional information available		
1.3. Supplier		
Geno Technology, Inc./ G-Biosciences 9800 Page Avenue		
Saint Louis, 63132-1429 - United States		
T 800-628-7730 - F 314-991-1504		
technical@GBiosciences.com - www.GBiosciences	<u>s.com</u>	
1.4. Emergency telephone number		
Emergency number :	Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)	
SECTION 2: Hazard(s) identification		
2.1. Classification of the substance or mix	ture	
GHS US classification		
Not classified		
2.2. GHS Label elements, including precau	itionary statements	
GHS US labeling		
No labeling applicable		
2.3. Other hazards which do not result in c	lassification	
No additional information available		
2.4. Unknown acute toxicity (GHS US)		
Not applicable		
SECTION 3: Composition/Information	on ingredients	
3.1. Substances		
Not applicable		
3.2. Mixtures		
This mixture does not contain any substances to be	e mentioned according to the criteria of section 3.2 of HazCom 2012	
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	
	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.	
-	Call a poison center/doctor/physician if you feel unwell.	
4.2. Most important symptoms and effects	(acute and delayed)	
No additional information available		
4.3. Immediate medical attention and spec	ial treatment, if necessary	
Treat symptomatically.		
SECTION 5: Fire-fighting measures		
5.1. Suitable (and unsuitable) extinguishin	g media	
	Water spray. Dry powder. Foam. Carbon dioxide.	
5.2. Specific hazards arising from the cher		
No additional information available		
06/28/2010	EN (English LIS)	4

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0.01	5.3. Special protective equipment and precautions for fire-fighters			
Protectio	n during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.		
SECTI	ON 6: Accidental release measu	ures		
6.1.	Personal precautions, protective equi	pment and emergency procedures		
6.1.1.	For non-emergency personnel			
Emergen	cy procedures	: Ventilate spillage area.		
6.1.2.	For emergency responders			
Protectiv	e 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 rel	ease to the environment.			
6.3.	Methods and material for containmen	•		
		: Take up liquid spill into absorbent material.		
Other inf	ormation	: Dispose of materials or solid residues at an authorized site.		
6.4.	Reference to other sections			
For furth	er information refer to section 13.			
SECTI	ON 7: Handling and storage			
7.1.	Precautions for safe handling			
	•	: Ensure good ventilation of the work station. Wear personal protective equipment.		
		: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.		
7.2.	Conditions for safe storage, including			
Storage	conditions	: Store in a well-ventilated place. Keep cool.		
SECTION 8: Exposure controls/personal protection				
SECTI	ON 8: Exposure controls/perso	nal protection		
SECTI 8.1.	ON 8: Exposure controls/perso Control parameters	nal protection		
8.1.		nal protection		
8.1. Longlif	Control parameters	nal protection		
8.1. Longlif	Control parameters e Zymolyase	nal protection		
8.1. Longlif	Control parameters e Zymolyase	nal protection		
8.1. Longlif No add	Control parameters e Zymolyase itional information available Appropriate engineering controls	nal protection : Ensure good ventilation of the work station.		
8.1. Longlif No add 8.2. Appropria	Control parameters e Zymolyase itional information available Appropriate engineering controls ate engineering controls			
8.1. Longlif No add 8.2. Appropria	Control parameters e Zymolyase itional information available Appropriate engineering controls ate engineering controls	 Ensure good ventilation of the work station. Avoid release to the environment. 		
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 8.1. Longlift No add 8.2. Appropria Environm 8.3. Hand p Protect Eye pro Safety p Skin ar Wear s 	Control parameters e Zymolyase itional information available Appropriate engineering controls ate engineering controls inental exposure controls Individual protection measures/Perso protection: ive gloves ptection: glasses ind body protection:	 Ensure good ventilation of the work station. Avoid release to the environment. 		
 8.1. Longlif No add 8.2. Appropria Environm 8.3. Hand p Protect Eye pro Safety s Skin ar Wear s Respira 	Control parameters e Zymolyase itional information available Appropriate engineering controls ate engineering controls teental exposure controls Individual protection measures/Perso protection: glasses ad body protection: uitable protective clothing	Ensure good ventilation of the work station. Avoid release to the environment. nal protective equipment		
 8.1. Longlif No add 8.2. Appropria Environm 8.3. Hand p Protect Eye pro Safety p Skin ar Wear s Respira In case 	Control parameters e Zymolyase itional information available Appropriate engineering controls ate engineering controls ental exposure controls Individual protection measures/Perso protection: glasses ad body protection: uitable protective clothing atory protection: of insufficient ventilation, wear suitable reference	Ensure good ventilation of the work station. Avoid release to the environment. Inal protective equipment Espiratory equipment		
 8.1. Longlif No add 8.2. Appropria Environm 8.3. Hand p Protect Eye pro Safety p Skin ar Wear s Respira In case 	Control parameters e Zymolyase itional information available Appropriate engineering controls ate engineering controls ental exposure controls Individual protection measures/Perso protection: glasses ad body protection: uitable protective clothing atory protection:	: Ensure good ventilation of the work station. : Avoid release to the environment. mal protective equipment espiratory equipment operties		
8.1. Longlif No add 8.2. Appropria Environm 8.3. Hand p Protect Eye pro Safety of Skin ar Wear s Respir In case	Control parameters e Zymolyase itional information available Appropriate engineering controls ate engineering controls nental exposure controls Individual protection measures/Perso protection: ive gloves ptection: glasses ad body protection: uitable protective clothing atory protection: of insufficient ventilation, wear suitable re DN 9: Physical and chemical pr Information on basic physical and chemical pr	: Ensure good ventilation of the work station. : Avoid release to the environment. mal protective equipment espiratory equipment operties		

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<u> </u>	•
Odor	: None
Odor threshold	: No data available
рН	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivi	ity	
10.1. Reactivity		
The product is non-reactive under normal con	ditions of use, storage and transport.	
10.2. Chemical stability		
Stable under normal conditions.		
10.3. Possibility of hazardous reaction	S	
No dangerous reactions known under normal	conditions of use.	
10.4. Conditions to avoid		
None under recommended storage and hand	ling conditions (see section 7).	
10.5. Incompatible materials		
No additional information available		
10.6. Hazardous decomposition produ	cts	
Hazardous decomposition products.		
SECTION 11: Toxicological inform	ation	
11.1. Information on toxicological effect	cts	
Acute toxicity (oral)	: Not classified	
Acute toxicity (dermal)	: Not classified	
Acute toxicity (inhalation)	: Not classified	
Skin corrosion/irritation	: Not classified	
Serious eye damage/irritation	: Not classified	
Respiratory or skin sensitization	: Not classified	
Germ cell mutagenicity	: Not classified	
Carcinogenicity	: Not classified	
Reproductive toxicity	: Not classified	

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Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

SECT	ION 12: Ecological information	
12.1.	Toxicity	
Ecology	r - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
12.2.	Persistence and degradability	
No addi	tional information available	
12.3.	Bioaccumulative potential	
No addi	tional information available	
12.4.	Mobility in soil	
No addi	tional information available	
12.5.	Other adverse effects	

No additional information available

SECTION 13: Disposal consideration	ons
13.1. Disposal methods	
Waste treatment methods	: Waste treatment methods.
SECTION 14: Transport informatio	n
Department of Transportation (DOT) In accordance with DOT	
Not regulated	
Transportation of Dangerous Goods	
Transport by sea	
Not regulated	
Air transport	
Not regulated	
SECTION 15: Regulatory information	on
15.1. US Federal regulations	
No additional information available	
15.2. International regulations	
CANADA	

EU-Regulations

National regulations No additional information available

15.3. US State regulations

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SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date

: 05/11/2017

SDS US (GHS HazCom 2012)

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	
1.1. Identification	
Product form	: Substance
Substance name	GLUTATHIONE
CAS-No.	: 70-18-8
Product code	: 108G
Synonyms	: GSH
1.2. Recommended use and restrictions o	n use
No additional information available	
1.3. Supplier	
Geno Technology, Inc./ G-Biosciences 9800 Page Avenue Saint Louis, 63132-1429 - United States T 800-628-7730 - F 314-991-1504 technical@GBiosciences.com - www.GBioscience	s.com
1.4. Emergency telephone number	
Emergency number	Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)
SECTION 2: Hazard(s) identification	
2.1. Classification of the substance or mix	ture
GHS US classification	
Not classified	
2.2. GHS Label elements, including preca	utionary statements
GHS US labeling	
No labeling applicable	
2.3. Other hazards which do not result in a	classification
No additional information available	
2.4. Unknown acute toxicity (GHS US)	
Not applicable	
SECTION 3: Composition/Information	on ingredients
3.1. Substances	
Name	GLUTATHIONE
CAS-No.	: 70-18-8
Full text of hazard classes and H-statements : see	section 16
3.2. Mixtures	
Not applicable	
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 person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Rinse with water. Soap may be used. Take victim to a doctor if irritation persists. Wash skin with plenty of water.
First-aid measures after eye contact	Rinse with water. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.

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First-aid measures after ingestion :	Rinse mouth with water. Immediately after ingestion: give lots of water to drink. 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. Call a poison center/doctor/physician if you feel unwell.	
4.2. Most important symptoms and effects	(acute and delayed)	
Symptoms/effects :	No data available.	
4.3. Immediate medical attention and spec	ial treatment, if necessary	
Treat symptomatically.		
SECTION 5: Fire-fighting measures		
5.1. Suitable (and unsuitable) extinguishin	g media	
Suitable extinguishing media :	Water. ABC powder. Carbon dioxide. Water spray. Dry powder. Foam.	
5.2. Specific hazards arising from the cher No additional information available	nical	
5.3. Special protective equipment and pred	pautions for fire-fighters	
	Dilute toxic gases with water spray.	
	Heat/fire exposure: compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.	
SECTION 6: Accidental release measu	res	
6.1. Personal precautions, protective equip	oment and emergency procedures	
6.1.1. For non-emergency personnel		
Emergency procedures :	Ventilate spillage area. Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.	
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 :	Mechanically recover the product. 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		
· · · · ·	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	
-	Store in a well-ventilated place. Keep cool.	
Storage temperature :	-20 °C	
SECTION 8: Exposure controls/personal protection		
8.1. Control parameters		
GLUTATHIONE (70-18-8)		
No additional information available		
8.2. Appropriate engineering controls		
Appropriate engineering controls :	Ensure good ventilation of the work station.	

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Environmental exposure controls

: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

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

SECTION 9: Physical and chemical properties		
9.1. Information on basic physical and c	hemical properties	
Physical state	: Solid	
Appearance	: Crystalline solid.	
Color	: No data available	
Odor	: No data available	
Odor threshold	: No data available	
рН	: No data available	
Melting point	: No data available	
Freezing point	: Not applicable	
Boiling point	: No data available	
Flash point	: Not applicable	
Relative evaporation rate (butyl acetate=1)	: No data available	
Flammability (solid, gas)	: Non flammable.	
Vapor pressure	: No data available	
Relative vapor density at 20 °C	: No data available	
Relative density	: Not applicable	
Molecular mass	: 307.3 g/mol	
Solubility	: No data available	
Log Pow	: No data available	
Auto-ignition temperature	: Not applicable	
Decomposition temperature	: No data available	
Viscosity, kinematic	: No data available	
Viscosity, dynamic	: No data available	
Explosion limits	: Not applicable	
Explosive properties	: No data available	
Oxidizing properties	: No data available	

9.2. Other information

No additional information available

SECTIC	DN 10: Stability and reactivity
10.1.	Reactivity
The produ	ict 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.

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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 informat	ion
11.1. Information on toxicological effects	
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects	: No data available.

SECT	ON 12: Ecological information	
12.1.	Toxicity	
Ecology	- general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
12.2.	Persistence and degradability	
No addi	tional information available	
12.3.	Bioaccumulative potential	
No addi	tional information available	
12.4.	Mobility in soil	
No addi	tional information available	
12.5.	Other adverse effects	

No additional information available

SECTION 13: Disposal considerations			
13.1.	Disposal methods		
Waste	treatment methods	: Waste treatment methods.	
SECT	FION 14: Transport information	n	
Depart	tment of Transportation (DOT)		

In accordance with DOT

Not regulated

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Transportation of Dangerous Goods

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

GLUTATHIONE (70-18-8)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

EU-Regulations

National regulations No additional information available

15.3. US State regulations

SECTION 16: Other information

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SECTION 1: Identification	
1.1. Identification	Mixture
Product form	: Mixture
Product name	: Glutathione Resin
roduct code	: 109G_110G_111G_112G_113G
.2. Recommended use and rest	trictions on use
o additional information available	
.3. Supplier	
Geno Technology, Inc./ G-Biosciences 1800 Page Avenue Saint Louis, 63132-1429 - United States ⁷ 800-628-7730 - F 314-991-1504 echnical@GBiosciences.com - www.GB	
.4. Emergency telephone numb	per
mergency number	: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)
ECTION 2: Hazard(s) identific	cation
.1. Classification of the substan	nce or mixture
GHS US classification	
lammable liquids Category 4 H227	Combustible liquid
ull text of H statements : see section 16	
.2. GHS Label elements, includi	ing precautionary statements
HS US labeling	
ignal word (GHS US)	: Warning
azard statements (GHS US)	: H227 - Combustible liquid
Precautionary statements (GHS US)	 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P370+P378 - In case of fire: Use media other than water to extinguish. P403+P235 - Store in a well-ventilated place. Keep cool.
	P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation
.3. Other hazards which do not	accordance with local, regional, national and/or international regulation
	accordance with local, regional, national and/or international regulation
lo additional information available	accordance with local, regional, national and/or international regulation
o additional information available 4. Unknown acute toxicity (GH	accordance with local, regional, national and/or international regulation
lo additional information available .4. Unknown acute toxicity (GH lot applicable	accordance with local, regional, national and/or international regulation result in classification IS US)
lo additional information available 4. Unknown acute toxicity (GHS lot applicable BECTION 3: Composition/Info	accordance with local, regional, national and/or international regulation result in classification IS US)
lo additional information available .4. Unknown acute toxicity (GH lot applicable SECTION 3: Composition/Infor .1. Substances	accordance with local, regional, national and/or international regulation result in classification IS US)
Ao additional information available 2.4. Unknown acute toxicity (GH Aot applicable SECTION 3: Composition/Infor 3.1. Substances Not applicable	accordance with local, regional, national and/or international regulation result in classification IS US)
Io additional information available .4. Unknown acute toxicity (GHS Iot applicable SECTION 3: Composition/Infor .1. Substances Iot applicable .2. Mixtures	accordance with local, regional, national and/or international regulation result in classification IS US) rmation on ingredients
lo additional information available .4. Unknown acute toxicity (GHS lot applicable SECTION 3: Composition/Infor .1. Substances lot applicable .2. Mixtures Name	accordance with local, regional, national and/or international regulation result in classification IS US) rmation on ingredients Common Name (Synonyms) Product identifier % GHS US classification
Io additional information available .4. Unknown acute toxicity (GHS Iot applicable SECTION 3: Composition/Infor .1. Substances Iot applicable .2. Mixtures	accordance with local, regional, national and/or international regulation result in classification IS US) remation on ingredients
Io additional information available .4. Unknown acute toxicity (GHS Iot applicable SECTION 3: Composition/Infor .1. Substances Iot applicable .2. Mixtures Name	accordance with local, regional, national and/or international regulation result in classification IS US) rmation on ingredients Common Name (Synonyms) Product identifier % GHS US classification ethanol (ethyl alcohol) / ethanol, anhydrous, undenatured / ethyl alcohol (CAS-No.) 64-17-5 > 50 Flam. Liq. 2, H225
o additional information available 4. Unknown acute toxicity (GHS ot applicable ECTION 3: Composition/Infor 1. Substances ot applicable 2. Mixtures Name ethanol ull text of hazard classes and H-statem	accordance with local, regional, national and/or international regulation result in classification SUS) rmation on ingredients Image: Common Name (Synonyms) Product identifier % GHS US classification thanol (ethyl alcohol) / ethanol, anhydrous, undenatured / ethyl alcohol in the section 16
lo additional information available 4. Unknown acute toxicity (GH2 lot applicable ECTION 3: Composition/Infor 1. Substances lot applicable 2. Mixtures Name ethanol ull text of hazard classes and H-statem ECTION 4: First-aid measure	accordance with local, regional, national and/or international regulation result in classification IS US) rmation on ingredients Common Name (Synonyms) Product identifier % GHS US classification ethanol (ethyl alcohol) / ethanol, anhydrous, undenatured / ethyl alcohol (CAS-No.) 64-17-5 > 50 Flam. Liq. 2, H225 hents : see section 16
lo additional information available .4. Unknown acute toxicity (GHS lot applicable SECTION 3: Composition/Infor .1. Substances lot applicable .2. Mixtures Name ethanol full text of hazard classes and H-statem SECTION 4: First-aid measure	accordance with local, regional, national and/or international regulation result in classification IS US) rmation on ingredients Common Name (Synonyms) Product identifier % GHS US classification ethanol (ethyl alcohol) / ethanol, anhydrous, undenatured / ethyl alcohol (CAS-No.) 64-17-5 > 50 Flam. Liq. 2, H225 hents : see section 16
lo additional information available .4. Unknown acute toxicity (GH lot applicable SECTION 3: Composition/Infor .1. Substances lot applicable .2. Mixtures Name ethanol full text of hazard classes and H-statem SECTION 4: First-aid measure .1. Description of first aid meas	accordance with local, regional, national and/or international regulation result in classification IS US) rmation on ingredients
lo additional information available .4. Unknown acute toxicity (GH lot applicable ECTION 3: Composition/Infor .1. Substances lot applicable .2. Mixtures Name ethanol full text of hazard classes and H-statem ECTION 4: First-aid measure .1. Description of first aid meas irst-aid measures after inhalation	accordance with local, regional, national and/or international regulation result in classification S US) rmation on ingredients Image: Common Name (Synonyms) Product identifier % GHS US classification

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5 5	
4.2. Most important sy	mptoms and effects (acute and delayed)
No additional information avai	lable
4.3. Immediate medica	I attention and special treatment, if necessary
Treat symptomatically.	
SECTION 5: Fire-fighti	ng measures
5.1. Suitable (and unsu	uitable) extinguishing media
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
5.2. Specific hazards a	rising from the chemical
Fire hazard	: Combustible liquid.
5.3. Special protective Protection during firefighting	equipment and precautions for fire-fighters Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
SECTION 6: Accidenta	l release measures
6.1. Personal precaution	ons, protective equipment and emergency procedures
6.1.1. For non-emergence	y personnel
Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking.
6.1.2. For emergency res Protective equipment	 Sponders Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
6.2. Environmental pre	cautions
Avoid release to the environm	ent.
6.3. Methods and mate	rial for containment and cleaning up
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.
6.4. Reference to other	sections
For further information refer to	o section 13.
SECTION 7: Handling	and storage
7.1. Precautions for sa	fe handling
Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
	e storage, including any incompatibilities
Storage conditions	: Store in a well-ventilated place. Keep cool.
Storage temperature	: 4 °C
SECTION 8: Exposure	controls/personal protection
8.1. Control parameter	
Glutathione Resin	
No additional information av	ailable
ethanol (64-17-5)	
USA - ACGIH - Occupation	al Exposure Limits
ACGIH STEL (ppm)	1000 ppm
8.2. Appropriate engin	
Appropriate engineering contr Environmental exposure contr	-
T TRACTOR DE LA EXPOSULE CONT	

8.3. Individual protection measures/Personal protective equipment

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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

SECTION 9: Physical and chemical	properties
9.1. Information on basic physical and	chemical properties
Physical state	: Liquid
Color	: No data available
Odor	: No data available
Odor threshold	: No data available
рН	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 65 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
9.2. Other information	

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

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

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0.6. Hazardous decomposition products	
Hazardous decomposition products.	
SECTION 11: Toxicological information	on
11.1. Information on toxicological effects	
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg body weight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	> 20 mg/l (4 h, Rat, Inhalation)
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
ethanol (64-17-5)	
IARC group	1 - Carcinogenic to humans
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
SECTION 12: Ecological information	
12.1. Toxicity	
Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
ethanol (64-17-5)	
LC50 fish 1	14200 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)
EC50 Daphnia 1	9300 mg/l (48 h, Daphnia magna, Pure substance)
12.2. Persistence and degradability	
ethanol (64-17-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O ₂ /g substance
Chemical oxygen demand (COD)	1.7 g O ₂ /g substance
ThOD	2.1 g O ₂ /g substance
BOD (% of ThOD)	0.43
12.3. Bioaccumulative potential	
ethanol (64-17-5)	
BCF fish 1	1 (Other, 72 h, Cyprinus carpio, Static system, Fresh water, Read-across)
	-0.35 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask
Log Pow	Method; 24 °C)

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ethanol (64-17-5)	
Surface tension	0.0245 N/m (20 °C)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal consider	ations
13.1. Disposal methods Waste treatment methods Image: Comparison of the second secon	: Waste treatment methods.
SECTION 14: Transport information	lion
Department of Transportation (DOT)	
In accordance with DOT	
Not regulated	
Transportation of Dangerous Goods	
Transport by sea	
Not regulated	
Air transport	
Not regulated	
SECTION 15: Regulatory inform	ation
15.1. US Federal regulations	
ethanol (64-17-5)	
Listed on the United States TSCA (Toxic	Substances Control Act) inventory
15.2. International regulations	
CANADA	
ethanol (64-17-5)	
Listed on the Canadian DSL (Domestic S	ubstances List)
EU-Regulations	
National regulations	
ethanol (64-17-5)	
Listed on IARC (International Agency for	Research on Cancer)
15.3. US State regulations	
SECTION 16: Other information	
according to Foderal Deviator (Mal 77 No. 59 /	Janday March 26, 2012 / Dulas and Desulations

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date	:	05/11/2017
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Full text of H-phrases:

· • · · ·		
	H225	Highly flammable liquid and vapour
	H227	Combustible liquid

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SDS US (GHS HazCom 2012)

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		
1.1. Identification		
	: Mixture	
Product name	: Yeast PE LB Buffer	
Product code	: 113Y	
1.2. Recommended use and restrictions of	on use	
No additional information available		
1.3. Supplier		
Geno Technology, Inc./ G-Biosciences		
9800 Page Avenue Saint Louis, 63132-1429 - United States		
T 800-628-7730 - F 314-991-1504		
technical@GBiosciences.com - www.GBioscience	<u>s.com</u>	
1.4. Emergency telephone number		
Emergency number	: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)	
SECTION 2: Hazard(s) identification		
2.1. Classification of the substance or mix	kture	
GHS US classification		
Not classified		
2.2. GHS Label elements, including preca	utionary statements	
GHS US labeling		
No labeling applicable		
2.3. Other hazards which do not result in	classification	
No additional information available	classification	
2.4. Unknown acute toxicity (GHS US)		
Not applicable		
SECTION 3: Composition/Information	on ingradiants	
	on ingredients	
3.1. Substances		
Not applicable 3.2. Mixtures		
This mixture does not contain any substances to b	e mentioned according to the criteria of section 3.2 of HazCom 2012	
SECTION 4: First-aid measures		
4.1. Description of first aid measures		
	: 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.	
-	: Call a poison center/doctor/physician if you feel unwell.	
4.2. Most important symptoms and effects		
No additional information available		
	iel treatment if personny	
4.3. Immediate medical attention and spec	cial treatment, if necessary	
Treat symptomatically.		
SECTION 5: Fire-fighting measures		
5.1. Suitable (and unsuitable) extinguishing		
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.	
5.2. Specific hazards arising from the che	mical	
No additional information available		
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5.3. Special protective equipment and pre	ecautions for fire-fighters
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing
	apparatus. Complete protective clothing.
SECTION 6: Accidental release meas	ures
6.1. Personal precautions, protective equ	ipment 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 containmer	nt 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	g any incompatibilities
Storage conditions	: Store in a well-ventilated place. Keep cool.
SECTION 8: Exposure controls/perso	
SECTION 8: Exposure controls/perso 8.1. Control parameters	
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer	
SECTION 8: Exposure controls/perso 8.1. Control parameters	
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available	
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls	nal protection
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available	
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls	Ensure good ventilation of the work station. Avoid release to the environment.
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso	Ensure good ventilation of the work station. Avoid release to the environment.
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection:	Ensure good ventilation of the work station. Avoid release to the environment.
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso	Ensure good ventilation of the work station. Avoid release to the environment.
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection:	Ensure good ventilation of the work station. Avoid release to the environment.
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves	Ensure good ventilation of the work station. Avoid release to the environment.
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection:	Ensure good ventilation of the work station. Avoid release to the environment.
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection: Safety glasses	Ensure good ventilation of the work station. Avoid release to the environment.
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection: Safety glasses Skin and body protection: Wear suitable protective clothing	Ensure good ventilation of the work station. Avoid release to the environment.
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection: Safety glasses Skin and body protection:	ensure good ventilation of the work station. Avoid release to the environment.
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection: Safety glasses Skin and body protection: Wear suitable protection: In case of insufficient ventilation, wear suitable reference	nal protection : Ensure good ventilation of the work station. : Avoid release to the environment. onal protective equipment espiratory equipment
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso 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 responses SECTION 9: Physical and chemical person	nal protection : Ensure good ventilation of the work station. : Avoid release to the environment. mal protective equipment espiratory equipment roperties
SECTION 8: Exposure controls/perso 8.1. Control parameters Yeast PE LB Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection: Safety glasses Skin and body protection: Wear suitable protection: In case of insufficient ventilation, wear suitable reference	nal protection : Ensure good ventilation of the work station. : Avoid release to the environment. mal protective equipment espiratory equipment roperties

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Odor	: No data available
Odor threshold	: No data available
рН	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity	
10.1. Reactivity	
The product is non-reactive under normal condit	tions 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 co	onditions of use.
10.4. Conditions to avoid	
None under recommended storage and handling	g conditions (see section 7).
10.5. Incompatible materials	
No additional information available	
10.6. Hazardous decomposition products	S .
Hazardous decomposition products.	
SECTION 11: Toxicological information	tion
11.1. Information on toxicological effects	3
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified

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Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

SECT	ION 12: Ecological information	
12.1.	Toxicity	
Ecology	/ - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
12.2.	Persistence and degradability	
No addi	itional information available	
12.3.	Bioaccumulative potential	
No addi	itional information available	
12.4.	Mobility in soil	
No addi	itional information available	
12.5.	Other adverse effects	

No additional information available

SECTION 12, Dispasal consideratio	
SECTION 13: Disposal consideration 13.1. Disposal methods	
Waste treatment methods	: Waste treatment methods.
SECTION 14: Transport information	n
Department of Transportation (DOT) In accordance with DOT	
Not applicable	
Transportation of Dangerous Goods	
Not applicable	
Transport by sea	
Not applicable	
Air transport	
Not applicable	
SECTION 15: Regulatory information	bn
15.1. US Federal regulations	
No additional information available	
15.2. International regulations	
CANADA	
EU-Regulations	

National regulations No additional information available

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SECTION 16: Other information

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Revision date

: 06/01/2017

SDS US (GHS HazCom 2012)

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	
1.1. Identification	
Product form : Mixture	9
Product name : Yeast	Suspension Buffer
Product code : 120Y	
1.2. Recommended use and restrictions on use	
No additional information available	
1.3. Supplier	
Geno Technology, Inc./ G-Biosciences	
9800 Page Avenue	
Saint Louis, 63132-1429 - United States	
T 800-628-7730 - F 314-991-1504 technical@GBiosciences.com - www.GBiosciences.com	
1.4. Emergency telephone number	roa 1 800 424 0200 (LISA (Canada) + 1 702 527 2887 (Intil)
Emergency number : Chemt	rec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)
SECTION 2: Hazard(s) identification	
2.1. Classification of the substance or mixture	
GHS US classification	
Not classified	
Not classified	
2.2. GHS Label elements, including precautionary	statements
GHS US labeling	
No labeling applicable	
2.3. Other hazards which do not result in classific	ation
No additional information available	
2.4. Unknown acute toxicity (GHS US)	
Not applicable	
SECTION 3: Composition/Information on ing	redients
3.1. Substances	
Not applicable	
3.2. Mixtures	
5.2. MIAUICS	
This mixture does not contain any substances to be mentio	ned according to the criteria of section 3.2 of HazCom 2012
SECTION 4: First-aid measures	
4.1. Description of first aid measures	
	ve person to fresh air and keep comfortable for breathing.
	skin with plenty of water.
	eyes with water as a precaution.
-	poison center/doctor/physician if you feel unwell.
4.2. Most important symptoms and effects (acute	
No additional information available	and delayed)
4.3. Immediate medical attention and special treat	ment, if necessary
Treat symptomatically.	
SECTION 5: Fire-fighting measures	
5.1. Suitable (and unsuitable) extinguishing media	l de la construcción de la constru
Suitable extinguishing media : Water	spray. Dry powder. Foam. Carbon dioxide.
5.2. Specific hazards arising from the chemical	
No additional information available	
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5.3. Special protective equipment and precautions for fire-fighters	
	Do not attempt to take action without suitable protective equipment. Self-contained breathing
	apparatus. Complete protective clothing.
SECTION 6: Accidental release measurement	Ires
6.1. Personal precautions, protective equi	pment 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
2.0 Endermontal manuality	refer to section 8: "Exposure controls/personal protection".
6.2. Environmental precautions Avoid release to the environment.	
	t and elegning up
	: Take up liquid spill into absorbent material.
	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.
SECTION 8: Exposure controls/perso	nal protection
8.1. Control parameters	
Yeast Suspension Buffer	
No additional information available	
8.2. Appropriate engineering controls	
	Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.
8.3. Individual protection measures/Perso	nal protective equipment
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 re	
	espiratory equipment
SECTION 9: Physical and chemical pr	
9.1. Information on basic physical and ch	operties emical properties
	operties

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Odor	: Odourless
Odor threshold	: No data available
рН	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: -3 (Calculated)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity	
10.1. Reactivity	
The product is non-reactive under normal conditio	ns 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 cond	ditions of use.
10.4. Conditions to avoid	
None under recommended storage and handling of	conditions (see section 7).
10.5. Incompatible materials	
No additional information available	
10.6. Hazardous decomposition products	
Hazardous decomposition products.	
SECTION 11: Toxicological information	on
11.1. Information on toxicological effects	
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Yeast Suspension Buffer	
LD50 oral rat	3000 mg/kg (Rat)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit)
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
	: Not classified

Carcinogenicity

: Not classified

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Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

SECTION 12: Ecological info	ormation
12.1. Toxicity	
Ecology - general	: Classification concerning the environment: not applicable.
Ecology - air	: Not dangerous for the ozone layer (Council Regulation (EC) no 1005/2009).
Ecology - water	: Maximum concentration in drinking water: 250 mg/l (chloride) (Directive 98/83/EC); 200 mg/l (sodium) (Directive 98/83/EC). Not harmful to fishes (LC50(96h) >1000 mg/l). Slightly harmful to invertebrates (Daphnia) (EC50 (48h): 100 - 1000 mg/l). Not harmful to algae (EC50 (72h) >1000 mg/l).
Yeast Suspension Buffer	
LC50 fish 1	11100 mg/l (96 Hours; Salmo gairdneri / Oncorhynchus mykiss; FLOW-THROUGH SYSTEM)
EC50 Daphnia 1	1000 mg/l (48 Hours; Daphnia magna)
LC50 fish 2	5840 mg/l (96 Hours; Lepomis macrochirus; FLOW-THROUGH SYSTEM)
EC50 Daphnia 2	340.7 mg/l (48 Hours: Daphnia magna)

12.2. Persistence and degradability

Yeast Suspension Buffer	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Yeast Suspension Buffer	
Log Pow	-3 (Calculated)
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal consi	derations	
13.1. Disposal methods		
Waste treatment methods	: Waste treatment methods.	
SECTION 14: Transport infor	mation	
Department of Transportation (DOT		
In accordance with DOT		
Not regulated		
Transportation of Dangerous Goods		
Transport by sea		
Not regulated		

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Air transport

Not regulated

	SECTION 15:	Regulator	y information
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15.1. US Federal regulations

No additional information available

15.2. International regulations

CANADA

EU-Regulations

National regulations No additional information available

15.3. US State regulations

SECTION 16: Other information

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Revision date

: 05/11/2017

SDS US (GHS HazCom 2012)

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	
1.1. Identification	
Product form	: Mixture
Product name	: GST Binding/ Wash Buffer
Product code	: 198G
1.2. Recommended use and restrictions of	on use
No additional information available	
1.3. Supplier	
Geno Technology, Inc./ G-Biosciences	
9800 Page Avenue Saint Louis, 63132-1429 - United States	
T 800-628-7730 - F 314-991-1504	
technical@GBiosciences.com - www.GBioscience	is.com
1.4. Emergency telephone number	
Emergency number	: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)
SECTION 2: Hazard(s) identification	
2.1. Classification of the substance or mix	xture
GHS US classification	
Not classified	
2.2. GHS Label elements, including preca	utionary statements
GHS US labeling	unonary statements
No labeling applicable	
	all and the states
2.3. Other hazards which do not result in	classification
No additional information available	
2.4. Unknown acute toxicity (GHS US)	
Not applicable	
SECTION 3: Composition/Information	on ingredients
3.1. Substances	
Not applicable	
3.2. Mixtures	
This mixture does not contain any substances to b	e mentioned according to the criteria of section 3.2 of HazCom 2012
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/doctor/physician if you feel unwell.
-	
4.2. Most important symptoms and effects	s (acute and delayed)
No additional information available	
4.3. Immediate medical attention and spe	cial treatment, if necessary
Treat symptomatically.	
SECTION 5: Fire-fighting measures	
5.1. Suitable (and unsuitable) extinguishing	ng media
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
5.2. Specific hazards arising from the che	mical
No additional information available	
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5.3. Special protective equipment and precautions for fire-fighters			
	 Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. 		
SECTION 6: Accidental release measure	ıres		
6.1. Personal precautions, protective equi	pment 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 containmen	t 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			
· · · · ·	: Ensure good ventilation of the work station. Wear personal protective equipment.		
	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.		
7.2. Conditions for safe storage, including			
Storade conditions			
Storage conditions	: Store in a well-ventilated place. Keep cool.		
SECTION 8: Exposure controls/perso			
SECTION 8: Exposure controls/perso			
SECTION 8: Exposure controls/perso 8.1. Control parameters			
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SECTION 8: Exposure controls/perso 8.1. Control parameters GST Binding/ Wash Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls	 Ensure good ventilation of the work station. Avoid release to the environment. 		
SECTION 8: Exposure controls/perso 8.1. Control parameters GST Binding/ Wash Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso	 Ensure good ventilation of the work station. Avoid release to the environment. 		
SECTION 8: Exposure controls/perso 8.1. Control parameters GST Binding/ Wash Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection:	 Ensure good ventilation of the work station. Avoid release to the environment. 		
SECTION 8: Exposure controls/perso 8.1. Control parameters GST Binding/ Wash Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves	 Ensure good ventilation of the work station. Avoid release to the environment. 		
SECTION 8: Exposure controls/perso 8.1. Control parameters GST Binding/ Wash Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection:	 Ensure good ventilation of the work station. Avoid release to the environment. 		
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SECTION 8: Exposure controls/perso 8.1. Control parameters GST Binding/ Wash Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection: Safety glasses Skin and body protection:	 Ensure good ventilation of the work station. Avoid release to the environment. 		
SECTION 8: Exposure controls/perso 8.1. Control parameters GST Binding/ Wash Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection: Safety glasses Skin and body protection: Wear suitable protective clothing	Ensure good ventilation of the work station. Avoid release to the environment. nal protective equipment		
SECTION 8: Exposure controls/perso 8.1. Control parameters GST Binding/ Wash Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection: Safety glasses Skin and body protection: Wear suitable protective clothing Respiratory protection:	Protection Ensure good ventilation of the work station. Avoid release to the environment. Inal protective equipment espiratory equipment		
SECTION 8: Exposure controls/perso 8.1. Control parameters GST Binding/ Wash Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection: Safety glasses Skin and body protection: Wear suitable protection: In case of insufficient ventilation, wear suitable reference	nal protection Ensure good ventilation of the work station. Avoid release to the environment. nal protective equipment espiratory equipment operties		
SECTION 8: Exposure controls/perso 8.1. Control parameters GST Binding/ Wash Buffer No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Protective gloves Eye protection: Safety glasses Skin and body protection: Wear suitable protection: In case of insufficient ventilation, wear suitable reference SECTION 9: Physical and chemical protection	nal protection Ensure good ventilation of the work station. Avoid release to the environment. nal protective equipment espiratory equipment operties		

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Odor	: No data available
Odor threshold	: No data available
рН	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

Other information 9.2.

No additional information available

SECTION 10: Stability and reactivity	
10.1. Reactivity	
The product is non-reactive under normal condit	tions 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 co	onditions of use.
10.4. Conditions to avoid	
None under recommended storage and handling	g conditions (see section 7).
10.5. Incompatible materials	
No additional information available	
10.6. Hazardous decomposition products	S
Hazardous decomposition products.	
SECTION 11: Toxicological information	tion
11.1. Information on toxicological effects	3
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified

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Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

SECT	ON 12: Ecological information	
12.1.	Toxicity	
Ecology	- general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
12.2.	Persistence and degradability	
No addi	tional information available	
12.3.	Bioaccumulative potential	
No addi	tional information available	
12.4.	Mobility in soil	
No addi	tional information available	
12.5.	Other adverse effects	

No additional information available

SECTION 13: Disposal considerat	ions	
13.1. Disposal methods Waste treatment methods Image: Comparison of the second secon	: Waste treatment methods.	
SECTION 14: Transport information	on	
Department of Transportation (DOT)		
In accordance with DOT		
Not applicable		
Transportation of Dangerous Goods		
Not applicable		
Transport by sea		
Not applicable		
Air transport		
Not applicable		
SECTION 15: Regulatory informat	ion	
15.1. US Federal regulations		
No additional information available		
15.2. International regulations		
CANADA		

EU-Regulations

National regulations No additional information available

15.3. US State regulations

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