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A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

Cat. # 786-072

HOOK[™] Peptide Coupling Kit (Sulfhydryl reactive) with OneQuant[™] BSA

Size: 5 Reactions





Safety Data Sheet according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Date of issue: 10/25/2016 Revision date: 05/11/2017 Version: 7.1

SECTION 1: Identification	
1.1. Identification	
Product form	: Mixture
Product name	: OneQuant BSA (Bovine serum albumin)
Product code	: 0900
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	es.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 mi	xture
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	
2.4. Unknown acute toxicity (GHS US)	
Not applicable	
SECTION 3: Composition/Information	on ingredients
3.1. Substances	
Not applicable	
3.2. Mixtures	
5.2. MIX(0165	
This mixture does not contain any substances to I	pe 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 effect	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) extinguishi	ng media
Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
5.2. Specific hazards arising from the che	
No additional information available	militar
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5.3.	Special protective equipment and pred	cautions for fire-fighters
		Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
SECTIO	N 6: Accidental release measu	ires
	Personal precautions, protective equip	
	For non-emergency personnel	
		Ventilate spillage area.
	For emergency responders equipment :	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
	Environmental precautions ase to the environment.	
	Methods and material for containment	and cleaning up
		Take up liquid spill into absorbent material.
Other info		Dispose of materials or solid residues at an authorized site.
6.4.	Reference to other sections	•
	r information refer to section 13.	
SECTIO	N 7: Handling and storage	
7.1.	Precautions for safe handling	
Precautior	ns for safe handling :	Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene m	neasures :	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 co	onditions :	Store in a well-ventilated place. Keep cool.
g		
	N 8: Exposure controls/persor	nal protection
SECTIO	N 8: Exposure controls/persor Control parameters	nal protection
SECTIO 8.1.		nal protection
SECTIO 8.1. OneQua	Control parameters	nal protection
SECTIO 8.1. OneQua	Control parameters Int BSA (Bovine serum albumin)	nal protection
SECTIO 8.1. OneQua No addit	Control parameters Int BSA (Bovine serum albumin)	nal protection
SECTIO 8.1. OneQua No additi	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls	Ensure good ventilation of the work station.
SECTIO 8.1. OneQua No additi 8.2. Appropriat	Control parameters Int BSA (Bovine serum albumin) Ional information available Appropriate engineering controls te engineering controls	
SECTIO 8.1. OneQua No additi 8.2. Appropriat Environme	Control parameters Int BSA (Bovine serum albumin) Ional information available Appropriate engineering controls te engineering controls	Ensure good ventilation of the work station. Avoid release to the environment.
SECTIO 8.1. No additi 8.2. Appropriat Environme 8.3.	Control parameters Int BSA (Bovine serum albumin) Ional information available Appropriate engineering controls Ite engine	Ensure good ventilation of the work station. Avoid release to the environment.
SECTIO 8.1. No additi 8.2. Appropriat Environme 8.3.	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls te engineering controls ental exposure controls Individual protection measures/Persor otection:	Ensure good ventilation of the work station. Avoid release to the environment.
SECTIO 8.1. OneQua No additi 8.2. Appropriat Environme 8.3. Hand pr	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls te engineering controls ental exposure controls Individual protection measures/Person otection: re gloves	Ensure good ventilation of the work station. Avoid release to the environment.
SECTIO 8.1. OneQua No additi 8.2. Appropriat Environme 8.3. Hand pr Protectiv	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls te engineering	Ensure good ventilation of the work station. Avoid release to the environment.
SECTIO 8.1. OneQua No additi 8.2. Appropriat Environme 8.3. Hand pr Protectiv Eye prot Safety gl	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls te engineering	Ensure good ventilation of the work station. Avoid release to the environment.
SECTIO 8.1. OneQua No additi 8.2. Appropriat Environme 8.3. Hand pr Protectiv Eye prot Safety gl Skin and	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls te engineering controls table	Ensure good ventilation of the work station. Avoid release to the environment.
SECTIO 8.1. OneQua No additi 8.2. Appropriat Environme 8.3. Hand pr Protectiv Eye prot Safety gl Skin and Wear sui	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls te engineering	Ensure good ventilation of the work station. Avoid release to the environment.
SECTIO 8.1. OneQua No additi 8.2. Appropriat Environme 8.3. Hand pr Protectiv Eye prot Safety gl Skin and Wear sui Respirat	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls te engineering	Ensure good ventilation of the work station. Avoid release to the environment. hal protective equipment
SECTIO 8.1. OneQua No additi 8.2. Appropriat Environme 8.3. Hand pr Protectiv Eye prot Safety gl Skin and Wear sui Respirat In case of	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls te engineering	Ensure good ventilation of the work station. Avoid release to the environment. nal protective equipment
SECTIO 8.1. OneQua No additi 8.2. Appropriat Environme 8.3. Hand pr Protectiv Eye prot Safety gl Skin and Wear sui Respirat In case of SECTIO	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls te engineering te engine	Ensure good ventilation of the work station. Avoid release to the environment. nal protective equipment
SECTIO 8.1. OneQua No additi 8.2. Appropriat Environme 8.3. Hand pr Protectiv Eye prot Safety gl Skin and Wear sui Respirat In case of SECTIO	Control parameters Int BSA (Bovine serum albumin) ional information available Appropriate engineering controls te engineering to ry protection: te engineering te eng	Ensure good ventilation of the work station. Avoid release to the environment. nal protective equipment

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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	6
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	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	3
13.1. Disposa	Imethods	
Waste treatment m	ethods	: Waste treatment methods.
SECTION 14: 1	Fransport information	
Department of Tra	Insportation (DOT)	
In accordance with		
Not applicable		
Transportation of	Dangerous Goods	
Not applicable		
Transport by sea		
Not applicable		

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

OneQuant BSA (Bovine serum albumin)

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

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15.3. US State regulations

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	: sulfo-SMCC
Chemical name	 4-(N-Maleimidomethyl)cyclohexane-1-carboxylic acid 3-sulfo-N-hydroxysuccinimide ester sodium salt
CAS-No.	: 92921-24-9
Product code	: 526S_144O
1.2. Recommended use and restriction	ns 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	ences.com
1.4. Emergency telephone number	
Emergency number	: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)
SECTION 2: Hazard(s) identificatio	n
2.1. Classification of the substance or	mixture
GHS US classification	
Skin corrosion/irritation Category 2 Serious eye damage/eye irritation Category 2/ Specific target organ toxicity (single exposure) Full text of H statements : see section 16	
2.2. GHS Label elements, including pr	ecautionary statements
GHS US labeling	
Hazard pictograms (GHS US)	
Signal word (GHS US)	: Warning
Hazard statements (GHS US)	 H315 - Causes skin irritation H319 - Causes serious eye irritation H335 - May cause respiratory irritation
Precautionary statements (GHS US)	 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray. P264 - Wash hands, forearms and face thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 - If on skin: Wash with plenty of water P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P312 - Call a poison center or doctor if you feel unwell P321 - Specific treatment (see supplemental first aid instruction on this label) P332+P313 - If skin irritation occurs: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation
2.3. Other hazards which do not result	t in classification

No additional information available

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<u> </u>	ederal Register / Vol. 77, No. 58 / Mon		ations		
	Jnknown acute toxicity (GHS US	i)			
Not applica					
	N 3: Composition/Informa	tion on ingredients			
3.1. S	Substances				
Name	-	Common Name (Synonyms)	Product identifier	%	GHS US classification
sulfo-SMC (Main constit			(CAS-No.) 92921-24-9	100	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
ull text of	hazard classes and H-statements	: see section 16			
8.2. N	Mixtures				
Not applica					
SECTIO	N 4: First-aid measures				
	Description of first aid measures				
	easures general	: Call a poison center/doctor			
	easures after inhalation	: Remove person to fresh ai center/doctor/physician if y	ou feel unwell.		. .
	easures after skin contact	medical advice/attention.			g. If skin irritation occurs: Get
	easures after eye contact	do. Continue rinsing. If eye	irritation persists: Get m	edical adv	act lenses, if present and easy to ice/attention.
	easures after ingestion Most important symptoms and e	: Call a poison center/doctor	/physician if you feel unv	vell.	
	/effects after inhalation	: May cause respiratory irrita	ation.		
	/effects after skin contact	: Irritation.			
	/effects after eye contact	: Eye irritation.			
l.3. li	mmediate medical attention and	special treatment, if necessary			
	otomatically.	opoolar in outmonty in noocooury			
	N 5: Fire-fighting measure	20			
	Suitable (and unsuitable) exting				
	tinguishing media	: Water spray. Dry powder. I	Foam		
	Specific hazards arising from the		- Cum		
	nal information available	chemical			
	Special protective equipment an		an and the state of the later second second	. (¹	wast. Oalf as stairs of bas sthing
rotection	during firefighting	 Do not attempt to take action apparatus. Complete prote 		ctive equip	ment. Self-contained breathing
	N 6: Accidental release m				
6.1. F	Personal precautions, protective	equipment and emergency pro	cedures		
	For non-emergency personnel				
imergency	y procedures	: Ventilate spillage area. Avo skin and eyes.	bid breathing dust/fume/g	jas/mist/va	apors/spray. Avoid contact with
	For emergency responders				, markan and a second
rotective e	equipment	: Do not attempt to take active refer to section 8: "Exposure			ment. For further information
	Environmental precautions				
б. 2 . Е	Linvironmental precautions				
	ase to the environment.				
Avoid relea		ment and cleaning up			
Avoid relea	ase to the environment.	ment and cleaning up : Mechanically recover the p	roduct.		

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SECTION 7: Handling and storage	
7.1. Precautions for safe handling	
Precautions for safe handling	: Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
7.2. Conditions for safe storage, includir	ng any incompatibilities
Storage conditions	: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

SECT	TION 8: Exposure controls/personal protection
8.1.	Control parameters
sulfo	D-SMCC (92921-24-9)
No a	dditional 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.

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 chemica	I properties	
9.1. Information on basic physical an	d chemical properties	
Physical state	: 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	
Solubility	: No data available	
Log Pow	: No data available	
Auto-ignition temperature	: Not applicable	
Decomposition temperature	: No data available	
Viscosity, kinematic	: No data available	

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	-
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	
SECTION 10: Stability and reactivity	V.
10.1. Reactivity	
The product is non-reactive under normal condi	itions 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.

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SECTION 11: Toxicological informati	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	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: May cause respiratory irritation.
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.
SECTION 12: Ecological information	

SECH	JN 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 additio	onal information available	
12.3.	Bioaccumulative potential	
No additio	onal information available	

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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerati	
13.1. Disposal methods	IOIIS
Waste treatment methods	: Waste treatment methods.
SECTION 14: Transport information	on la constante de la constante
Department of Transportation (DOT) In accordance with DOT	
Not regulated	
Transportation of Dangerous Goods	
Not applicable	
Transport by sea	
Not regulated	
Air transport	
Not regulated	
SECTION 15: Regulatory informati	ion
15.1. US Federal regulations	
sulfo-SMCC (92921-24-9)	
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

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

Revision date

: 05/11/2017

Full text of H-phrases:

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

SDS US (GHS HazCom 2012)

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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 Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Date of issue: 12/03/2015 Revision date: 05/11/2017 Version: 7.1

SECTION 1: Identification	
1.1. Identification	
Product form	: Mixture
Product name	: Optimizer Buffer III [5X]
Product code	: 2610
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	<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	
	at an ann a falann an fa
2.2. GHS Label elements, including precat	utionary statements
GHS US labeling	
No labeling applicable	
2.3. Other hazards which do not result in o	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	
	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	cial treatment, if necessary
Treat symptomatically.	
SECTION 5: Fire-fighting measures	
5.1. Suitable (and unsuitable) extinguishir	ng media
	: Water spray. Dry powder. Foam. Carbon dioxide.
5.2. Specific hazards arising from the che No additional information available	IIIIva
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5.3. Special protective equipment and precautions 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 measure	ires	
6.1. Personal precautions, protective equi	pment and emergency procedures	
6.1.1. For non-emergency personnel		
	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	
	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		
Storage conditions	Store in a well-ventilated place. Keep cool.	
SECTION 8: Exposure controls/perso		
SECTION 8: Exposure controls/persor		
SECTION 8: Exposure controls/person 8.1. Control parameters		
SECTION 8: Exposure controls/persor 8.1. Control parameters Optimizer Buffer III [5X]		
SECTION 8: Exposure controls/persor 8.1. Control parameters Optimizer Buffer III [5X]		
SECTION 8: Exposure controls/persor 8.1. Control parameters Optimizer Buffer III [5X] No additional information available 8.2. Appropriate engineering controls		
SECTION 8: Exposure controls/persor 8.1. Control parameters Optimizer Buffer III [5X] No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Controls	nal protection	
SECTION 8: Exposure controls/persor 8.1. Control parameters Optimizer Buffer III [5X] No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Sector for the sector	Ensure good ventilation of the work station. Avoid release to the environment.	
SECTION 8: Exposure controls/persor 8.1. Control parameters Optimizer Buffer III [5X] No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Person	Ensure good ventilation of the work station. Avoid release to the environment.	
SECTION 8: Exposure controls/persor 8.1. Control parameters Optimizer Buffer III [5X] No additional information available 8.2. Appropriate engineering controls Appropriate engineering controls Environmental exposure controls 8.3. Individual protection measures/Perso Hand protection: Controls	Ensure good ventilation of the work station. Avoid release to the environment.	
SECTION 8: Exposure controls/persor 8.1. Control parameters Optimizer Buffer III [5X] 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/persor 8.1. Control parameters Optimizer Buffer III [5X] 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/persor 8.1. Control parameters Optimizer Buffer III [5X] 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	
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SECTION 8: Exposure controls/persor 8.1. Control parameters Optimizer Buffer III [5X] 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 resultable protection is a suitable protection. SECTION 9: Physical and chemical protection is a suitable protec	nal protection Ensure good ventilation of the work station. Avoid release to the environment. nal protective equipment spiratory 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

9.2. Other information

No additional information available

SECTION 10: Stability and reactive	vity
10.1. Reactivity	
The product is non-reactive under normal co	onditions of use, storage and transport.
10.2. Chemical stability	
Stable under normal conditions.	
10.3. Possibility of hazardous reaction	ns
No dangerous reactions known under norma	al conditions of use.
10.4. Conditions to avoid	
None under recommended storage and han	dling conditions (see section 7).
10.5. Incompatible materials	
No additional information available	
10.6. Hazardous decomposition prod	ucts
Hazardous decomposition products.	
SECTION 11: Toxicological inform	mation
11.1. Information on toxicological eff	ects
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

SECTION 12: Ecological info	rmation
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 degradab	ility
No additional information available	
12.3. Bioaccumulative potential	
No additional information available	
12.4. Mobility in soil	
No additional 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.
SECTION 14: Transport information	
Department of Transportation (DOT)	
In accordance with DOT	
Other information :	No supplementary information available.
Transportation of Dangerous Goods	
Transport by sea	
Air transport	
SECTION 15: Regulatory information	
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

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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	: Tube-O-DIALYZER Stora	ge Solution		
Product code	: Tube-O	-		
I.2. Recommended use and restrict	ions 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.GBios	<u>ciences.com</u>			
1.4. Emergency telephone number				
Emergency number	: Chemtrec 1-800-424-930	0 (USA/Canada), +1-70	3 -527-3887 (I	ntl)
SECTION 2: Hazard(s) identificat	ion			
2.1. Classification of the substance				
	or mixture			
GHS US classification	nhuotible liguid			
Flammable liquids Category 4 H227 Cor	ndustible liquid			
Full text of H statements : see section 16				
2.2. GHS Label elements, including	precautionary statements			
GHS US labeling				
Signal word (GHS US)	: Warning			
Hazard statements (GHS US)	: H227 - Combustible liquid	4		
Precautionary statements (GHS US)			s onen flame	es and other ignition sources. No
recationary statements (Cric CC)	smoking.	icat, not sunaces, spans	s, open name	s and other ignition sources. No
	P280 - Wear protective g			
	P370+P378 - In case of f P403+P235 - Store in a v			tinguish.
	P501 - Dispose of conten			waste collection point. in
	accordance with local, re-			
2.3. Other hazards which do not res	ult in classification			
No additional information available				
2.4. Unknown acute toxicity (GHS U	S)			
Not applicable				
SECTION 3: Composition/Inform	ation on ingredients			
3.1. Substances				
Not applicable				
3.2. Mixtures				
Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
ethanol	ethanol (ethyl alcohol) / ethanol,	(CAS-No.) 64-17-5	10 - 50	Flam. Liq. 2, H225
	anhydrous, undenatured / ethyl			
L	alcohol			
Full text of hazard classes and H-statement	s : see section 16			
SECTION 4: First-aid measures				
4.1. Description of first aid measure	es			
First-aid measures after inhalation	: Remove person to fresh a	air and keep comfortable	e for breathing	g.
First-aid measures after skin contact : Wash skin with plenty of water.				
First-aid measures after eye contact	: Rinse eyes with water as			
First-aid measures after ingestion	: Call a poison center/doct		nwell.	

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4.2. Most important symptoms and effects (acute and delayed)		
No additional information available		
4.3. Immediate medical attention and special treatment, if necessary		
Treat symptomatically.		
SECTION 5: Fire-fighting measures		
5.1. Suitable (and unsuitable) extinguishing	g media	
Suitable extinguishing media :	Water spray. Dry powder. Foam. Carbon dioxide.	
5.2. Specific hazards arising from the chem	nical	
Fire hazard :	Combustible liquid.	
5.3. Special protective equipment and pred	autions 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 measu	res	
6.1. Personal precautions, protective equip	pment and emergency procedures	
6.1.1. For non-emergency personnel		
Emergency procedures :	Ventilate spillage area. No open flames, no sparks, and no smoking.	
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. Notify authorities if product enters sewers or public	
Other information :	waters. 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. Keep every	
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.	
7.2. Conditions for safe storage, including	any incompatibilities	
Storage conditions :	Store in a well-ventilated place. Keep cool.	
SECTION 8: Exposure controls/person	al protection	
8.1. Control parameters		
Tube-O-DIALYZER Storage Solution		
No additional information available		
ethanol (64-17-5)		
USA - ACGIH - Occupational Exposure Limits		
ACGIH STEL (ppm)	1000 ppm	
8.2. Appropriate engineering controls		
Appropriate engineering controls :	Ensure good ventilation of the work station.	
Environmental exposure controls :	Avoid release to the environment.	
8.3. Individual protection measures/Persor	nal 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 o	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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10.6. Hazardous decomposition products Hazardous decomposition products. SECTION 11: Toxicological information 11.1. Information on toxicological effects Acute toxicity (darmal) : Not classified Acute toxicity (dermal) : Not classified Acute toxicity (inhalation) : Not classified Ethanol (64-17-5) LD50 oral rat LD50 derma rabbit > 10740 mg/kg body weight (Rat; OECD 401: Acute Oral Toxicity; Experimental value LD50 derma rabbit > 16000 mg/kg (Rabbit; Literature study) LC50 inhalation rat (mg/l) > 20 mg/l (4 h, Rat, Inhalation) Skin corrosion/irritation : Not classified Germ cell mutagenicity : Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Zerdouctive toxicity : Not classified Specific target organ toxicity – single exposure : Not classified Specific target organ toxicity – repeated : Not classified Specific target organ toxicity – repeated : Not classified Specific target organ toxicity – repeated : Not classified Specific target organ toxicity – repeated : Not classified <tr< th=""><th>Ie)</th></tr<>	Ie)
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Acute toxicity (dermal) : Not classified ethanol (64-17-5) 10740 mg/kg body weight (Rat; OECD 401: Acute Oral Toxicity; Experimental value 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 Gespiratory or skin sensitization : Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified ethanol (64-17-5) IARC group IARC group 1 - Carcinogenic to humans Reproductive toxicity : Not classified Specific target organ toxicity – single exposure : Not classified sxposure : Not classified xspiration hazard : Not classified Specific target organ toxicity – repeated : Not classified spiration hazard : Not classified Specific target organ toxicity – repeated : Not classified Specific target organ toxicity – repeated : Not classified Specific target organ to	ie)
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 > 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 Gern cell mutagenicity : Not classified Carcinogenicity : Not classified Carcinogenicity : Not classified Carcinogenicity : Not classified Exproductive toxicity : Not classified Specific target organ toxicity – single exposure : Not classified Specific target organ toxicity – repeated exposure : Not classified Specific target organ toxicity – repeated exposure : Not classified Specific target organ toxicity – repeated exposure : Not classified Specific target organ toxicity – repeated exposure : Not classified Specific target organ toxicity – repeated exposure : Not classified Specific target organ toxicity – repeated exposure : Not classified Specific target organ toxicity – repeated exposure : Not classified Specific target organ toxicity	Ie)
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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 IARC group 1 - Carcinogenic to humans Reproductive toxicity : Not classified Specific target organ toxicity – single exposure : Not classified exposure : Not classified Aspiration hazard : Not classified /iscosity, kinematic : Not classified SECTION 12: Ecological information : No data available SECTION 12: Ecological information : The product is not considered harmful to aquatic organisms or to cause long-term	
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 Carcinogenicity : Not classified ethanol (64-17-5) IARC group IARC group 1 - Carcinogenic to humans Reproductive toxicity : Not classified Specific target organ toxicity – single exposure : Not classified Specific target organ toxicity – repeated : Not classified exposure : Not classified Specific target organ toxicity – repeated : Not classified exposure : Not classified Specific target organ toxicity – repeated : Not classified viscosity, kinematic : Not classified SECTION 12: Ecological information : No data available SECTION 12: Ecological information : The product is not considered harmful to aquatic organisms or to cause long-term 12.1. Toxicity : The product is not considered harmful to aquatic organisms or to cause long-term	
Serious eye damage/irritation : Not classified Respiratory or skin sensitization : Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Carcinogenicity : Not classified Carcinogenicity : Not classified 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 : Not classified SECTION 12: Ecological information : No data available 121. Toxicity Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term	
Respiratory or skin sensitization : Not classified Gern cell mutagenicity : Not classified Carcinogenicity : Not classified ethanol (64-17-5) IARC group 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 : Not classified SECTION 12: Ecological information : No data available 12.1. Toxicity : The product is not considered harmful to aquatic organisms or to cause long-term	
Germ cell mutagenicity : Not classified Carcinogenicity : Not classified ethanol (64-17-5)	
Carcinogenicity : Not classified ethanol (64-17-5) 1 - Carcinogenic to humans IARC group 1 - Carcinogenic to humans Reproductive toxicity : Not classified Specific target organ toxicity – single exposure : Not classified Specific target organ toxicity – repeated : Not classified Aspiration hazard : Not classified Viscosity, kinematic : Not classified SECTION 12: Ecological information 12.1. Toxicity Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term	
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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	
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	
SECTION 12: Ecological information 12.1. Toxicity Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term	
Toxicity Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term	
Toxicity Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term	
Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term	
enects in the environment.	adverse
ethanol (64-17-5)	
LC50 fish 1 14200 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh wa	iter,
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 mobilit substance available.	y of the
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)	
Log Pow -0.35 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Sha Method; 24 °C)	<e flask<="" td=""></e>
	<e flask<="" td=""></e>

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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 considera	
13.1. Disposal methods	ations
Waste treatment methods	: Waste treatment methods.
SECTION 14: Transport informat	ion
Department of Transportation (DOT) In accordance with DOT	
Not regulated	
Transportation of Dangerous Goods	
Not applicable	
Transport by sea	
Not regulated	
Air transport	
Not regulated	
SECTION 15: Regulatory information	ation
15.1. US Federal regulations	
ethanol (64-17-5)	
Listed on the United States TSCA (Toxic S	Substances Control Act) inventory
15.2. International regulations	
CANADA	
ethanol (64-17-5)	
ethanol (64-17-5) Listed on the Canadian DSL (Domestic Su	ubstances List)
	Jostances List)
Listed on the Canadian DSL (Domestic Su	Jbstances List)
Listed on the Canadian DSL (Domestic St EU-Regulations	ubstances List)
Listed on the Canadian DSL (Domestic St EU-Regulations National regulations	
Listed on the Canadian DSL (Domestic Su EU-Regulations National regulations ethanol (64-17-5)	

SECTION 16: Other information

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Full text of H-phrases:

H225	Highly flammable liquid and vapour
H227	Combustible liquid

SDS US (GHS HazCom 2012)

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