

SAFETY DATA SHEET



CRISPR Library Cloning Kit Early Access, Part Number G7556P

Section 1. Identification

Product identifier	:	CRISPR Library Cloning Kit Early Access, Part Number G7556P	
Part No. (Chemical Kit)	:	G7556P	
Part No.	:	SureSolution	5190-9381
		SureGuide Agarose	5190-9382
		Cloning Mix	5190-9379
		10X Cloning Buffer	5190-9380
		dNTP Mix	200518-56
		ElectroTen-Blue Competent Cells	200159-41
		pUC 18 DNA Control Plasmid	200231-42
		StrataClean Resin	200480-52

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

Analytical reagent.

SureSolution	0.5 ml
SureGuide Agarose	12 g
Cloning Mix	0.03 ml
10X Cloning Buffer	0.2 ml
dNTP Mix	0.03 ml
ElectroTen-Blue Competent Cells	5 x 0.1 ml
pUC 18 DNA Control Plasmid	0.015 ml (0.1 ng/μl)
StrataClean Resin	0.1 ml

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

SureSolution H227	FLAMMABLE LIQUIDS - Category 4
10X Cloning Buffer H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A
Cloning Mix	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
10X Cloning Buffer	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
ElectroTen-Blue Competent Cells	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
10X Cloning Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3.2%

GHS label elements

Section 2. Hazard(s) identification

Hazard pictograms : 10X Cloning Buffer



Signal word :

SureSolution	WARNING
SureGuide Agarose	No signal word.
Cloning Mix	No signal word.
10X Cloning Buffer	WARNING
dNTP Mix	No signal word.
ElectroTen-Blue Competent Cells	No signal word.
pUC 18 DNA Control Plasmid	No signal word.
StrataClean Resin	No signal word.

Hazard statements :

SureSolution	H227 - Combustible liquid.
SureGuide Agarose	No known significant effects or critical hazards.
Cloning Mix	No known significant effects or critical hazards.
10X Cloning Buffer	H319 - Causes serious eye irritation.
dNTP Mix	No known significant effects or critical hazards.
ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
StrataClean Resin	No known significant effects or critical hazards.

Precautionary statements

Prevention :

SureSolution	P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from flames and hot surfaces. - No smoking.
SureGuide Agarose	Not applicable.
Cloning Mix	Not applicable.
10X Cloning Buffer	P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling.
dNTP Mix	Not applicable.
ElectroTen-Blue Competent Cells	Not applicable.
pUC 18 DNA Control Plasmid	Not applicable.
StrataClean Resin	Not applicable.

Response :

SureSolution	Not applicable.
SureGuide Agarose	Not applicable.
Cloning Mix	Not applicable.
10X Cloning Buffer	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
dNTP Mix	Not applicable.
ElectroTen-Blue Competent Cells	Not applicable.
pUC 18 DNA Control Plasmid	Not applicable.
StrataClean Resin	Not applicable.

Storage :

SureSolution	P403 - Store in a well-ventilated place. P235 - Keep cool.
SureGuide Agarose	Not applicable.
Cloning Mix	Not applicable.
10X Cloning Buffer	Not applicable.
dNTP Mix	Not applicable.
ElectroTen-Blue Competent Cells	Not applicable.
pUC 18 DNA Control Plasmid	Not applicable.
StrataClean Resin	Not applicable.

Section 2. Hazard(s) identification

Disposal	: SureSolution	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	SureGuide Agarose	Not applicable.
	Cloning Mix	Not applicable.
	10X Cloning Buffer	Not applicable.
	dNTP Mix	Not applicable.
	ElectroTen-Blue Competent Cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.
	StrataClean Resin	Not applicable.
Supplemental label elements		
Additional warning phrases	: SureSolution	Not applicable.
	SureGuide Agarose	Not applicable.
	Cloning Mix	Not applicable.
	10X Cloning Buffer	Not applicable.
	dNTP Mix	Not applicable.
	ElectroTen-Blue Competent Cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.
	StrataClean Resin	Not applicable.
Other hazards which do not result in classification	: SureSolution	None known.
	SureGuide Agarose	None known.
	Cloning Mix	None known.
	10X Cloning Buffer	None known.
	dNTP Mix	None known.
	ElectroTen-Blue Competent Cells	None known.
	pUC 18 DNA Control Plasmid	None known.
	StrataClean Resin	None known.

Section 3. Composition and ingredient information

Substance/mixture	: SureSolution	Substance
	SureGuide Agarose	Substance
	Cloning Mix	Mixture
	10X Cloning Buffer	Mixture
	dNTP Mix	Mixture
	ElectroTen-Blue Competent Cells	Mixture
	pUC 18 DNA Control Plasmid	Mixture
	StrataClean Resin	Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
SureSolution Dimethyl sulfoxide	100	67-68-5
SureGuide Agarose Agarose	100	9012-36-6
Cloning Mix Glycerol	≥30 - ≤60	56-81-5
10X Cloning Buffer Polyoxyethylene octyl phenyl ether	≤2.3	9002-93-1
ElectroTen-Blue Competent Cells Dimethyl sulfoxide	≥10 - ≤30	67-68-5

Section 3. Composition and ingredient information

Glycerol	≤10	56-81-5
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: SureSolution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
	SureGuide Agarose	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Cloning Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	10X Cloning Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	dNTP Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	ElectroTen-Blue Competent Cells	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	pUC 18 DNA Control Plasmid	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	StrataClean Resin	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: SureSolution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	SureGuide Agarose	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Cloning Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	10X Cloning Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs,

Section 4. First aid measures

provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

dNTP Mix

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

ElectroTen-Blue Competent Cells

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

pUC 18 DNA Control Plasmid

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

StrataClean Resin

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact

: SureSolution

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SureGuide Agarose

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Cloning Mix

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

10X Cloning Buffer

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

dNTP Mix

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

ElectroTen-Blue Competent Cells

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

pUC 18 DNA Control Plasmid

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

StrataClean Resin

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion

: SureSolution

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if

Section 4. First aid measures

	adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
SureGuide Agarose	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Cloning Mix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
10X Cloning Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
dNTP Mix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
ElectroTen-Blue Competent Cells	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
pUC 18 DNA Control Plasmid	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
StrataClean Resin	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.		
		SureGuide Agarose	No known significant effects or critical hazards.		
		Cloning Mix	No known significant effects or critical hazards.		
		10X Cloning Buffer	Causes serious eye irritation.		
		dNTP Mix	No known significant effects or critical hazards.		
		ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.		
		pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.		
		StrataClean Resin	No known significant effects or critical hazards.		
		Inhalation	:	<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.
				SureGuide Agarose	No known significant effects or critical hazards.
Cloning Mix	No known significant effects or critical hazards.				
10X Cloning Buffer	No known significant effects or critical hazards.				
dNTP Mix	No known significant effects or critical hazards.				
ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.				
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.				
StrataClean Resin	No known significant effects or critical hazards.				
Skin contact	:			<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.
				SureGuide Agarose	No known significant effects or critical hazards.
		Cloning Mix	No known significant effects or critical hazards.		
		10X Cloning Buffer	No known significant effects or critical hazards.		
		dNTP Mix	No known significant effects or critical hazards.		
		ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.		
		pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.		
		StrataClean Resin	No known significant effects or critical hazards.		
		Ingestion	:	<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.
				SureGuide Agarose	No known significant effects or critical hazards.
Cloning Mix	No known significant effects or critical hazards.				
10X Cloning Buffer	No known significant effects or critical hazards.				
dNTP Mix	No known significant effects or critical hazards.				
ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.				
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.				
StrataClean Resin	No known significant effects or critical hazards.				

Over-exposure signs/symptoms

Eye contact	:	<input checked="" type="checkbox"/> SureSolution	No specific data.		
		SureGuide Agarose	No specific data.		
		Cloning Mix	No specific data.		
		10X Cloning Buffer	Adverse symptoms may include the following: pain or irritation watering redness		
		dNTP Mix	No specific data.		
		ElectroTen-Blue Competent Cells	No specific data.		
		pUC 18 DNA Control Plasmid	No specific data.		
		StrataClean Resin	No specific data.		
		Inhalation	:	<input checked="" type="checkbox"/> SureSolution	No specific data.
				SureGuide Agarose	No specific data.
Cloning Mix	No specific data.				
10X Cloning Buffer	No specific data.				
dNTP Mix	No specific data.				
ElectroTen-Blue Competent Cells	No specific data.				
pUC 18 DNA Control Plasmid	No specific data.				
StrataClean Resin	No specific data.				

Section 4. First aid measures

Skin contact	:	<input checked="" type="checkbox"/> SureSolution	No specific data.		
		SureGuide Agarose	No specific data.		
		Cloning Mix	No specific data.		
		10X Cloning Buffer	No specific data.		
		dNTP Mix	No specific data.		
		ElectroTen-Blue Competent Cells	No specific data.		
		pUC 18 DNA Control Plasmid	No specific data.		
		StrataClean Resin	No specific data.		
		Ingestion	:	<input checked="" type="checkbox"/> SureSolution	No specific data.
				SureGuide Agarose	No specific data.
Cloning Mix	No specific data.				
10X Cloning Buffer	No specific data.				
dNTP Mix	No specific data.				
ElectroTen-Blue Competent Cells	No specific data.				
pUC 18 DNA Control Plasmid	No specific data.				
StrataClean Resin	No specific data.				

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	:	<input checked="" type="checkbox"/> SureSolution	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.		
		SureGuide Agarose	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.		
		Cloning Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.		
		10X Cloning Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.		
		dNTP Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.		
		ElectroTen-Blue Competent Cells	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.		
		pUC 18 DNA Control Plasmid	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.		
		StrataClean Resin	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.		
		Specific treatments	:	<input checked="" type="checkbox"/> SureSolution	No specific treatment.
				SureGuide Agarose	No specific treatment.
Cloning Mix	No specific treatment.				
10X Cloning Buffer	No specific treatment.				
dNTP Mix	No specific treatment.				
ElectroTen-Blue Competent Cells	No specific treatment.				
pUC 18 DNA Control Plasmid	No specific treatment.				
StrataClean Resin	No specific treatment.				
Protection of first-aiders	:	<input checked="" type="checkbox"/> SureSolution	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.		
		SureGuide Agarose	No action shall be taken involving any personal risk or without suitable training.		
		Cloning Mix	No action shall be taken involving any personal risk		

Section 4. First aid measures

10X Cloning Buffer	or without suitable training. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
dNTP Mix	No action shall be taken involving any personal risk or without suitable training.
ElectroTen-Blue Competent Cells	No action shall be taken involving any personal risk or without suitable training.
pUC 18 DNA Control Plasmid	No action shall be taken involving any personal risk or without suitable training.
StrataClean Resin	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media

SureSolution	Use dry chemical, CO ₂ , water spray (fog) or foam.
SureGuide Agarose	Use an extinguishing agent suitable for the surrounding fire.
Cloning Mix	Use an extinguishing agent suitable for the surrounding fire.
10X Cloning Buffer	Use an extinguishing agent suitable for the surrounding fire.
dNTP Mix	Use an extinguishing agent suitable for the surrounding fire.
ElectroTen-Blue Competent Cells	Use an extinguishing agent suitable for the surrounding fire.
pUC 18 DNA Control Plasmid	Use an extinguishing agent suitable for the surrounding fire.
StrataClean Resin	Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

SureSolution	Do not use water jet.
SureGuide Agarose	None known.
Cloning Mix	None known.
10X Cloning Buffer	None known.
dNTP Mix	None known.
ElectroTen-Blue Competent Cells	None known.
pUC 18 DNA Control Plasmid	None known.
StrataClean Resin	None known.

Specific hazards arising from the chemical

SureSolution	Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
SureGuide Agarose	In a fire or if heated, a pressure increase will occur and the container may burst.
Cloning Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
10X Cloning Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
dNTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
ElectroTen-Blue Competent Cells	In a fire or if heated, a pressure increase will occur and the container may burst.

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	pUC 18 DNA Control Plasmid	In a fire or if heated, a pressure increase will occur and the container may burst.
	StrataClean Resin	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: SureSolution	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	SureGuide Agarose	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Cloning Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	10X Cloning Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides
	dNTP Mix	No specific data.
	ElectroTen-Blue Competent Cells	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides phosphorus oxides
	pUC 18 DNA Control Plasmid	No specific data.
	StrataClean Resin	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
Special protective actions for fire-fighters	: SureSolution	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
	SureGuide Agarose	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Cloning Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	10X Cloning Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	dNTP Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	ElectroTen-Blue Competent	Promptly isolate the scene by removing all persons

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	Cells	from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	pUC 18 DNA Control Plasmid	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	StrataClean Resin	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: SureSolution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	SureGuide Agarose	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Cloning Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	10X Cloning Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	dNTP Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	ElectroTen-Blue Competent Cells	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	pUC 18 DNA Control Plasmid	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	StrataClean Resin	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: SureSolution

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

SureGuide Agarose

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

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Cloning Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
10X Cloning Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
dNTP Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
ElectroTen-Blue Competent Cells	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
pUC 18 DNA Control Plasmid	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
StrataClean Resin	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders : SureSolution	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
SureGuide Agarose	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Cloning Mix	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
10X Cloning Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
dNTP Mix	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
ElectroTen-Blue Competent Cells	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
pUC 18 DNA Control Plasmid	If specialised clothing is required to deal with the

Section 6. Accidental release measures

StrataClean Resin

spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : SureSolution

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

SureGuide Agarose

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Cloning Mix

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

10X Cloning Buffer

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

dNTP Mix

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

ElectroTen-Blue Competent Cells

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

pUC 18 DNA Control Plasmid

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

StrataClean Resin

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up : SureSolution

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SureGuide Agarose

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Cloning Mix	disposal contractor. Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
10X Cloning Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
dNTP Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
ElectroTen-Blue Competent Cells	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
pUC 18 DNA Control Plasmid	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
StrataClean Resin	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

[Precautions for safe handling](#)

Protective measures :  SureSolution

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

SureGuide Agarose Put on appropriate personal protective equipment (see Section 8).

Cloning Mix Put on appropriate personal protective equipment (see Section 8).

10X Cloning Buffer Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or

Section 7. Handling and storage

mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

dNTP Mix Put on appropriate personal protective equipment (see Section 8).

ElectroTen-Blue Competent Cells Put on appropriate personal protective equipment (see Section 8).

pUC 18 DNA Control Plasmid Put on appropriate personal protective equipment (see Section 8).

StrataClean Resin Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

: SureSolution Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

SureGuide Agarose Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Cloning Mix Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

10X Cloning Buffer Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

dNTP Mix Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

ElectroTen-Blue Competent Cells Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

pUC 18 DNA Control Plasmid Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

StrataClean Resin

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : SureSolution

Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

SureGuide Agarose

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Cloning Mix

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

10X Cloning Buffer

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

dNTP Mix

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled

Section 7. Handling and storage

ElectroTen-Blue Competent Cells

containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

pUC 18 DNA Control Plasmid

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

StrataClean Resin

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
SureSolution Dimethyl sulfoxide	DFG MAC-values list (Germany, 7/2015). Absorbed through skin. PEAK: 320 mg/m ³ , 4 times per shift, 15 minutes. TWA: 160 mg/m ³ 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 50 ppm 8 hours.
Cloning Mix Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
ElectroTen-Blue Competent Cells Dimethyl sulfoxide	DFG MAC-values list (Germany, 7/2015). Absorbed through skin. PEAK: 320 mg/m ³ , 4 times per shift, 15 minutes. TWA: 160 mg/m ³ 8 hours.

Section 8. Exposure controls and personal protection

Glycerol

PEAK: 100 ppm, 4 times per shift, 15 minutes.

TWA: 50 ppm 8 hours.

Safe Work Australia (Australia, 1/2014).TWA: 10 mg/m³ 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Handle as biohazard material (Biosafety level 1). Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : SureSolution Liquid. [Clear.]
 SureGuide Agarose Liquid.
 Cloning Mix Liquid.
 10X Cloning Buffer Liquid.
 dNTP Mix Liquid.
 ElectroTen-Blue Competent Cells Liquid.
 pUC 18 DNA Control Plasmid Liquid.

Section 9. Physical and chemical properties

Colour	:	StrataClean Resin	Liquid.	
	:	☑ SureSolution	Blue.	
		SureGuide Agarose	Not available.	
		Cloning Mix	Not available.	
		10X Cloning Buffer	Not available.	
		dNTP Mix	Not available.	
		ElectroTen-Blue Competent Cells	Not available.	
		pUC 18 DNA Control Plasmid	Not available.	
		StrataClean Resin	Not available.	
	Odour	:	☑ SureSolution	Odourless. [Slight]
		SureGuide Agarose	Not available.	
		Cloning Mix	Not available.	
		10X Cloning Buffer	Not available.	
		dNTP Mix	Not available.	
		ElectroTen-Blue Competent Cells	Not available.	
		pUC 18 DNA Control Plasmid	Not available.	
		StrataClean Resin	Not available.	
Odour threshold		:	☑ SureSolution	Not available.
			SureGuide Agarose	Not available.
		Cloning Mix	Not available.	
		10X Cloning Buffer	Not available.	
		dNTP Mix	Not available.	
		ElectroTen-Blue Competent Cells	Not available.	
		pUC 18 DNA Control Plasmid	Not available.	
		StrataClean Resin	Not available.	
	pH	:	☑ SureSolution	Not available.
			SureGuide Agarose	Not available.
		Cloning Mix	8.2	
		10X Cloning Buffer	8.8	
		dNTP Mix	7.5	
		ElectroTen-Blue Competent Cells	7.5	
		pUC 18 DNA Control Plasmid	7.5	
		StrataClean Resin	7.5	
Melting point		:	☑ SureSolution	18.5°C (65.3°F)
			SureGuide Agarose	Not available.
		Cloning Mix	Not available.	
		10X Cloning Buffer	Not available.	
		dNTP Mix	0°C (32°F)	
		ElectroTen-Blue Competent Cells	Not available.	
		pUC 18 DNA Control Plasmid	0°C (32°F)	
		StrataClean Resin	Not available.	
	Boiling point	:	☑ SureSolution	189°C (372.2°F)
			SureGuide Agarose	Not available.
		Cloning Mix	Not available.	
		10X Cloning Buffer	Not available.	
		dNTP Mix	100°C (212°F)	
		ElectroTen-Blue Competent Cells	Not available.	
		pUC 18 DNA Control Plasmid	100°C (212°F)	
		StrataClean Resin	Not available.	


Section 9. Physical and chemical properties


Flash point	: <input checked="" type="checkbox"/> SureSolution	Closed cup: 87°C (188.6°F)	
	SureGuide Agarose	Not available.	
	Cloning Mix	Not available.	
	10X Cloning Buffer	Not available.	
	dNTP Mix	Not available.	
	ElectroTen-Blue Competent Cells	Not available.	
	pUC 18 DNA Control Plasmid	Not available.	
	StrataClean Resin	Not available.	
	Evaporation rate	: <input checked="" type="checkbox"/> SureSolution	0.026 (butyl acetate = 1)
		SureGuide Agarose	Not available.
Cloning Mix		Not available.	
10X Cloning Buffer		Not available.	
dNTP Mix		Not available.	
ElectroTen-Blue Competent Cells		Not available.	
pUC 18 DNA Control Plasmid		Not available.	
StrataClean Resin		Not available.	
Flammability (solid, gas)		: <input checked="" type="checkbox"/> SureSolution	Not applicable.
		SureGuide Agarose	Not applicable.
	Cloning Mix	Not applicable.	
	10X Cloning Buffer	Not applicable.	
	dNTP Mix	Not applicable.	
	ElectroTen-Blue Competent Cells	Not applicable.	
	pUC 18 DNA Control Plasmid	Not applicable.	
	StrataClean Resin	Not applicable.	
	Lower and upper explosive (flammable) limits	: <input checked="" type="checkbox"/> SureSolution	Lower: 2.6% Upper: 28.5%
		SureGuide Agarose	Not available.
Cloning Mix		Not available.	
10X Cloning Buffer		Not available.	
dNTP Mix		Not available.	
ElectroTen-Blue Competent Cells		Not available.	
pUC 18 DNA Control Plasmid		Not available.	
StrataClean Resin		Not available.	
Vapour pressure		: <input checked="" type="checkbox"/> SureSolution	0.056 kPa (0.42 mm Hg) [room temperature]
		SureGuide Agarose	Not available.
	Cloning Mix	Not available.	
	10X Cloning Buffer	Not available.	
	dNTP Mix	Not available.	
	ElectroTen-Blue Competent Cells	Not available.	
	pUC 18 DNA Control Plasmid	Not available.	
	StrataClean Resin	Not available.	
	Vapour density	: <input checked="" type="checkbox"/> SureSolution	2.7 [Air = 1]
		SureGuide Agarose	Not available.
Cloning Mix		Not available.	
10X Cloning Buffer		Not available.	
dNTP Mix		Not available.	
ElectroTen-Blue Competent Cells		Not available.	
pUC 18 DNA Control Plasmid		Not available.	
StrataClean Resin		Not available.	
Relative density		: <input checked="" type="checkbox"/> SureSolution	1.1
		SureGuide Agarose	Not available.
	Cloning Mix	Not available.	
	10X Cloning Buffer	Not available.	
	dNTP Mix	Not available.	
	ElectroTen-Blue Competent Cells	Not available.	


Section 9. Physical and chemical properties


	pUC 18 DNA Control Plasmid	Not available.
	StrataClean Resin	Not available.
Solubility	: SureSolution	Easily soluble in the following materials: cold water and hot water.
	SureGuide Agarose Cloning Mix	Not available. Soluble in the following materials: cold water and hot water.
	10X Cloning Buffer	Soluble in the following materials: cold water and hot water.
	dNTP Mix	Easily soluble in the following materials: cold water and hot water.
	ElectroTen-Blue Competent Cells	Soluble in the following materials: cold water and hot water.
	pUC 18 DNA Control Plasmid	Easily soluble in the following materials: cold water and hot water.
	StrataClean Resin	Soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: SureSolution	-1.35
	SureGuide Agarose Cloning Mix	Not available.
	10X Cloning Buffer	Not available.
	dNTP Mix	Not available.
	ElectroTen-Blue Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	StrataClean Resin	Not available.
Auto-ignition temperature	: SureSolution	300 to 302°C (572 to 575.6°F)
	SureGuide Agarose Cloning Mix	Not available.
	10X Cloning Buffer	Not available.
	dNTP Mix	Not available.
	ElectroTen-Blue Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	StrataClean Resin	Not available.
Decomposition temperature	: SureSolution	140 to 189°C (284 to 372.2°F)
	SureGuide Agarose Cloning Mix	Not available.
	10X Cloning Buffer	Not available.
	dNTP Mix	Not available.
	ElectroTen-Blue Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	StrataClean Resin	Not available.
Viscosity	: SureSolution	Dynamic (room temperature): 2.14 mPa·s (2.14 cP)
	SureGuide Agarose Cloning Mix	Not available.
	10X Cloning Buffer	Not available.
	dNTP Mix	Not available.
	ElectroTen-Blue Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	StrataClean Resin	Not available.

Section 10. Stability and reactivity

Reactivity	:  SureSolution	No specific test data related to reactivity available for this product or its ingredients.
	SureGuide Agarose	No specific test data related to reactivity available for this product or its ingredients.
	Cloning Mix	No specific test data related to reactivity available for this product or its ingredients.
	10X Cloning Buffer	No specific test data related to reactivity available for this product or its ingredients.
	dNTP Mix	No specific test data related to reactivity available for this product or its ingredients.
	ElectroTen-Blue Competent Cells	No specific test data related to reactivity available for this product or its ingredients.
	pUC 18 DNA Control Plasmid	No specific test data related to reactivity available for this product or its ingredients.
	StrataClean Resin	No specific test data related to reactivity available for this product or its ingredients.

Chemical stability	:  SureSolution	The product is stable.
	SureGuide Agarose	The product is stable.
	Cloning Mix	The product is stable.
	10X Cloning Buffer	The product is stable.
	dNTP Mix	The product is stable.
	ElectroTen-Blue Competent Cells	The product is stable.
	pUC 18 DNA Control Plasmid	The product is stable.
	StrataClean Resin	The product is stable.

Possibility of hazardous reactions	:  SureSolution	Under normal conditions of storage and use, hazardous reactions will not occur.
	SureGuide Agarose	Under normal conditions of storage and use, hazardous reactions will not occur.
	Cloning Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
	10X Cloning Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	dNTP Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
	ElectroTen-Blue Competent Cells	Under normal conditions of storage and use, hazardous reactions will not occur.
	pUC 18 DNA Control Plasmid	Under normal conditions of storage and use, hazardous reactions will not occur.
	StrataClean Resin	Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid	:  SureSolution	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.
	SureGuide Agarose	No specific data.
	Cloning Mix	No specific data.
	10X Cloning Buffer	No specific data.
	dNTP Mix	No specific data.
	ElectroTen-Blue Competent Cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
	StrataClean Resin	No specific data.

Section 10. Stability and reactivity

Incompatible materials	: SureSolution	Reactive or incompatible with the following materials: oxidizing materials
	SureGuide Agarose	May react or be incompatible with oxidising materials.
	Cloning Mix	May react or be incompatible with oxidising materials.
	10X Cloning Buffer	May react or be incompatible with oxidising materials.
	dNTP Mix	May react or be incompatible with oxidising materials.
	ElectroTen-Blue Competent Cells	May react or be incompatible with oxidising materials.
	pUC 18 DNA Control Plasmid	May react or be incompatible with oxidising materials.
	StrataClean Resin	May react or be incompatible with oxidising materials.
Hazardous decomposition products	: SureSolution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	SureGuide Agarose	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Cloning Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	10X Cloning Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	dNTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	ElectroTen-Blue Competent Cells	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pUC 18 DNA Control Plasmid	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	StrataClean Resin	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
SureSolution Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
Cloning Mix Glycerol	LD50 Oral	Rat	12600 mg/kg	-
	LD50 Oral	Rat	1800 mg/kg	-
10X Cloning Buffer Polyoxyethylene octyl phenyl ether	LD50 Oral	Rat	1800 mg/kg	-
	LD50 Oral	Rat	1800 mg/kg	-
ElectroTen-Blue Competent Cells Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
	LD50 Oral	Rat	12600 mg/kg	-
Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation	
SureSolution Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
	Skin - Mild irritant	Rabbit	-	100 milligrams	-	
Cloning Mix Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
10X Cloning Buffer Polyoxyethylene octyl phenyl ether	Eyes - Moderate irritant	Rabbit	-	24 hours 10 microliters	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-	
ElectroTen-Blue Competent Cells Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-	
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
	Skin - Mild irritant	Rabbit	-	100 milligrams	-	
	Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
		Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on likely routes of exposure	<input checked="" type="checkbox"/> SureSolution	Routes of entry anticipated: Oral, Dermal, Inhalation.
	SureGuide Agarose	Not available.
	Cloning Mix	Routes of entry anticipated: Oral, Dermal, Inhalation.
	10X Cloning Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
	dNTP Mix	Not available.
	ElectroTen-Blue Competent Cells	Routes of entry anticipated: Oral, Dermal, Inhalation.
	pUC 18 DNA Control Plasmid	Not available.
StrataClean Resin	Not available.	

Potential acute health effects

Eye contact

<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.
SureGuide Agarose	No known significant effects or critical hazards.
Cloning Mix	No known significant effects or critical hazards.
10X Cloning Buffer	Causes serious eye irritation.
dNTP Mix	No known significant effects or critical hazards.
ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
StrataClean Resin	No known significant effects or critical hazards.

Inhalation

<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.
SureGuide Agarose	No known significant effects or critical hazards.
Cloning Mix	No known significant effects or critical hazards.
10X Cloning Buffer	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
StrataClean Resin	No known significant effects or critical hazards.

Skin contact

<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.
SureGuide Agarose	No known significant effects or critical hazards.
Cloning Mix	No known significant effects or critical hazards.
10X Cloning Buffer	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
StrataClean Resin	No known significant effects or critical hazards.

Ingestion

<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.
SureGuide Agarose	No known significant effects or critical hazards.
Cloning Mix	No known significant effects or critical hazards.
10X Cloning Buffer	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
StrataClean Resin	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

<input checked="" type="checkbox"/> SureSolution	No specific data.
SureGuide Agarose	No specific data.
Cloning Mix	No specific data.
10X Cloning Buffer	Adverse symptoms may include the following: pain or irritation watering redness
dNTP Mix	No specific data.
ElectroTen-Blue Competent Cells	No specific data.
pUC 18 DNA Control Plasmid	No specific data.
StrataClean Resin	No specific data.

Section 11. Toxicological information

Inhalation	: SureSolution	No specific data.	
	SureGuide Agarose	No specific data.	
	Cloning Mix	No specific data.	
	10X Cloning Buffer	No specific data.	
	dNTP Mix	No specific data.	
	ElectroTen-Blue Competent Cells	No specific data.	
	pUC 18 DNA Control Plasmid	No specific data.	
	StrataClean Resin	No specific data.	
	Skin contact	: SureSolution	No specific data.
		SureGuide Agarose	No specific data.
Cloning Mix		No specific data.	
10X Cloning Buffer		No specific data.	
dNTP Mix		No specific data.	
ElectroTen-Blue Competent Cells		No specific data.	
pUC 18 DNA Control Plasmid		No specific data.	
StrataClean Resin		No specific data.	
Ingestion		: SureSolution	No specific data.
		SureGuide Agarose	No specific data.
	Cloning Mix	No specific data.	
	10X Cloning Buffer	No specific data.	
	dNTP Mix	No specific data.	
	ElectroTen-Blue Competent Cells	No specific data.	
	pUC 18 DNA Control Plasmid	No specific data.	
	StrataClean Resin	No specific data.	

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General	: SureSolution	No known significant effects or critical hazards.	
	SureGuide Agarose	No known significant effects or critical hazards.	
	Cloning Mix	No known significant effects or critical hazards.	
	10X Cloning Buffer	No known significant effects or critical hazards.	
	dNTP Mix	No known significant effects or critical hazards.	
	ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.	
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.	
	StrataClean Resin	No known significant effects or critical hazards.	
	Carcinogenicity	: SureSolution	No known significant effects or critical hazards.
		SureGuide Agarose	No known significant effects or critical hazards.
Cloning Mix		No known significant effects or critical hazards.	
10X Cloning Buffer		No known significant effects or critical hazards.	
dNTP Mix		No known significant effects or critical hazards.	
ElectroTen-Blue Competent Cells		No known significant effects or critical hazards.	
pUC 18 DNA Control Plasmid		No known significant effects or critical hazards.	
StrataClean Resin		No known significant effects or critical hazards.	

Section 11. Toxicological information

Mutagenicity	:	<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.		
		SureGuide Agarose	No known significant effects or critical hazards.		
		Cloning Mix	No known significant effects or critical hazards.		
		10X Cloning Buffer	No known significant effects or critical hazards.		
		dNTP Mix	No known significant effects or critical hazards.		
		ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.		
		pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.		
		StrataClean Resin	No known significant effects or critical hazards.		
		Teratogenicity	:	<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.
				SureGuide Agarose	No known significant effects or critical hazards.
Cloning Mix	No known significant effects or critical hazards.				
10X Cloning Buffer	No known significant effects or critical hazards.				
dNTP Mix	No known significant effects or critical hazards.				
ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.				
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.				
StrataClean Resin	No known significant effects or critical hazards.				
Developmental effects	:			<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.
				SureGuide Agarose	No known significant effects or critical hazards.
		Cloning Mix	No known significant effects or critical hazards.		
		10X Cloning Buffer	No known significant effects or critical hazards.		
		dNTP Mix	No known significant effects or critical hazards.		
		ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.		
		pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.		
		StrataClean Resin	No known significant effects or critical hazards.		
		Fertility effects	:	<input checked="" type="checkbox"/> SureSolution	No known significant effects or critical hazards.
				SureGuide Agarose	No known significant effects or critical hazards.
Cloning Mix	No known significant effects or critical hazards.				
10X Cloning Buffer	No known significant effects or critical hazards.				
dNTP Mix	No known significant effects or critical hazards.				
ElectroTen-Blue Competent Cells	No known significant effects or critical hazards.				
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.				
StrataClean Resin	No known significant effects or critical hazards.				

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
<input checked="" type="checkbox"/> 10X Cloning Buffer Oral	180000 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> SureSolution Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 34000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Ulva lactuca	72 hours
Cloning Mix Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
10X Cloning Buffer			

Section 12. Ecological information

Polyoxyethylene octyl phenyl ether	Acute LC50 5.85 mg/l Fresh water	Crustaceans - Ceriodaphnia rigaudi - Neonate	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
ElectroTen-Blue Competent Cells Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 34000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Ulva lactuca	72 hours
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<input checked="" type="checkbox"/> Cloning Mix Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
ElectroTen-Blue Competent Cells Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
10X Cloning Buffer Polyoxyethylene octyl phenyl ether	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
<input checked="" type="checkbox"/> SureSolution Dimethyl sulfoxide	-1.35	3.16	low
Cloning Mix Glycerol	-1.76	-	low
10X Cloning Buffer Polyoxyethylene octyl phenyl ether	4.86	-	high
ElectroTen-Blue Competent Cells Dimethyl sulfoxide	-1.35	3.16	low
Glycerol	-1.76	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

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Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.
Canada : Not determined.
China : Not determined.
Europe : All components are listed or exempted.
Japan : **Japan inventory (ENCS):** Not determined.
Japan inventory (ISHL): Not determined.
Malaysia : Not determined.

Section 15. Regulatory information

New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: <input checked="" type="checkbox"/> All components are listed or exempted.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: <input checked="" type="checkbox"/> Not determined.
United States	: All components are listed or exempted.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision	: 22/01/2018
Date of previous issue	: 30/09/2015.
Version	: 2

Key to abbreviations

: ADG = Australian Dangerous Goods
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NOHSC = National Occupational Health and Safety Commission
SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> SureSolution Flam. Liq. 4, H227	On basis of test data
10X Cloning Buffer Eye Irrit. 2A, H319	Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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