

SAFETY DATA SHEET



StrataClone Mammalian Expression N-Terminal FLAG Vector System, Part Number
240229

Section 1. Identification

1.1 Product identifier

Product name : StrataClone Mammalian Expression N-Terminal FLAG Vector System, Part Number 240229

Part No. (Chemical Kit) : 240229

Part No. : StrataClone N-Terminal FLAG Vector Mix 240229-51
 StrataClone Blunt Cloning Buffer 240207-54
 StrataClone CAM Blunt Control Insert 240224-59
 StrataClone SoloPack Competent Cells 200185-41
 pUC 18 DNA Control Plasmid 200231-42

Validation date : 3/29/2017

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

Material uses : Analytical reagent.

<input checked="" type="checkbox"/> StrataClone N-Terminal FLAG Vector Mix	0.021 ml (Use 1 µl)
StrataClone Blunt Cloning Buffer	0.063 ml
StrataClone CAM Blunt Control Insert	0.01 ml (50 ng 5 ng/µl)
StrataClone SoloPack Competent Cells	1.05 ml (21 x 50 µl)
pUC 18 DNA Control Plasmid	0.01 ml (0.1 ng/µl)

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
 5301 Stevens Creek Blvd
 Santa Clara, CA 95051, USA
 800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

<p>OSHA/HCS status : <input checked="" type="checkbox"/> StrataClone N-Terminal FLAG Vector Mix</p> <p>StrataClone Blunt Cloning Buffer</p> <p>StrataClone CAM Blunt Control Insert</p> <p>StrataClone SoloPack Competent Cells</p> <p>pUC 18 DNA Control Plasmid</p>	<p>This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).</p> <p>This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.</p> <p>This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.</p>
---	--

Section 2. Hazards identification

Classification of the substance or mixture

StrataClone N-Terminal FLAG

Vector Mix

H320 EYE IRRITATION - Category 2B

StrataClone Blunt Cloning

Buffer

H319 EYE IRRITATION - Category 2A

StrataClone SoloPack

Competent Cells

H319 EYE IRRITATION - Category 2A

Ingredients of unknown toxicity : StrataClone SoloPack Competent Cells Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 1.1%

2.2 GHS label elements

Hazard pictograms



Signal word

: StrataClone N-Terminal FLAG Vector Mix Warning
 StrataClone Blunt Cloning Buffer Warning
 StrataClone CAM Blunt Control Insert No signal word.
 StrataClone SoloPack Competent Cells Warning
 pUC 18 DNA Control Plasmid No signal word.

Hazard statements

: StrataClone N-Terminal FLAG Vector Mix H320 - Causes eye irritation.
 StrataClone Blunt Cloning Buffer GHS SYMBOL - **Exclamation mark** -
 H319 - Causes serious eye irritation.
 StrataClone CAM Blunt Control Insert No known significant effects or critical hazards.
 StrataClone SoloPack Competent Cells GHS SYMBOL - **Exclamation mark** -
 H319 - Causes serious eye irritation.
 pUC 18 DNA Control Plasmid No known significant effects or critical hazards.

Precautionary statements

Prevention

: StrataClone N-Terminal FLAG Vector Mix P264 - Wash hands thoroughly after handling.
 StrataClone Blunt Cloning Buffer P280 - Wear eye or face protection.
 P264 - Wash hands thoroughly after handling.
 StrataClone CAM Blunt Control Insert Not applicable.
 StrataClone SoloPack Competent Cells P280 - Wear eye or face protection.
 pUC 18 DNA Control Plasmid P264 - Wash hands thoroughly after handling.
 Not applicable.

Section 2. Hazards identification

Response	: <input checked="" type="checkbox"/> StrataClone N-Terminal FLAG Vector Mix	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.	
	StrataClone Blunt 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.	
	StrataClone CAM Blunt Control Insert	Not applicable.	
	StrataClone SoloPack Competent Cells	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.	
Storage	pUC 18 DNA Control Plasmid	Not applicable.	
	: <input checked="" type="checkbox"/> StrataClone N-Terminal FLAG Vector Mix	Not applicable.	
	StrataClone Blunt Cloning Buffer	Not applicable.	
	StrataClone CAM Blunt Control Insert	Not applicable.	
	StrataClone SoloPack Competent Cells	Not applicable.	
Disposal	pUC 18 DNA Control Plasmid	Not applicable.	
	: <input checked="" type="checkbox"/> StrataClone N-Terminal FLAG Vector Mix	Not applicable.	
	StrataClone Blunt Cloning Buffer	Not applicable.	
	StrataClone CAM Blunt Control Insert	Not applicable.	
	StrataClone SoloPack Competent Cells	Not applicable.	
Supplemental label elements	pUC 18 DNA Control Plasmid	Not applicable.	
	: <input checked="" type="checkbox"/> StrataClone N-Terminal FLAG Vector Mix	None known.	
	StrataClone Blunt Cloning Buffer	None known.	
	StrataClone CAM Blunt Control Insert	None known.	
	StrataClone SoloPack Competent Cells	None known.	
2.3 Other hazards	pUC 18 DNA Control Plasmid	None known.	
	Hazards not otherwise classified	: <input checked="" type="checkbox"/> StrataClone N-Terminal FLAG Vector Mix	None known.
		StrataClone Blunt Cloning Buffer	None known.
		StrataClone CAM Blunt Control Insert	None known.
		StrataClone SoloPack Competent Cells	None known.
pUC 18 DNA Control Plasmid		None known.	

Section 3. Composition/information on ingredients

Substance/mixture	:	StrataClone N-Terminal FLAG Vector Mix	Mixture
		StrataClone Blunt Cloning Buffer	Mixture
		StrataClone CAM Blunt Control Insert	Mixture
		StrataClone SoloPack Competent Cells	Mixture
		pUC 18 DNA Control Plasmid	Mixture

Ingredient name	%	CAS number
StrataClone N-Terminal FLAG Vector Mix		
Glycerol	≥25 - ≤50	56-81-5
StrataClone Blunt Cloning Buffer		
Polyethylene glycol	≥25 - ≤50	25322-68-3
Sodium chloride	≤10	7647-14-5
StrataClone SoloPack Competent Cells		
Glycerol	≥10 - ≤25	56-81-5
Calcium chloride (CaCl ₂), dihydrate	≤3	10035-04-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

4.1 Description of necessary first aid measures


Eye contact	:	StrataClone N-Terminal FLAG Vector Mix	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. If irritation persists, get medical attention.
		StrataClone Blunt 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.
		StrataClone CAM Blunt Control Insert	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.
		StrataClone SoloPack Competent Cells	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.
		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.

Section 4. First aid measures

Inhalation

:  StrataClone N-Terminal FLAG Vector Mix	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.
StrataClone Blunt 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, 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.
StrataClone CAM Blunt Control Insert	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
StrataClone SoloPack Competent Cells	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.
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.

Skin contact

:  StrataClone N-Terminal FLAG Vector Mix	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.
StrataClone Blunt 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.
StrataClone CAM Blunt Control Insert	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
StrataClone SoloPack Competent Cells	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

Section 4. First aid measures

Ingestion

pUC 18 DNA Control Plasmid	before reuse. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
: StrataClone N-Terminal FLAG Vector Mix	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.
StrataClone Blunt 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.
StrataClone CAM Blunt Control Insert	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.
StrataClone SoloPack Competent Cells	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.

Section 4. First aid measures

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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

- : StrataClone N-Terminal FLAG Vector Mix Causes eye irritation.
- StrataClone Blunt Cloning Buffer Causes serious eye irritation.
- StrataClone CAM Blunt Control Insert No known significant effects or critical hazards.
- StrataClone SoloPack Competent Cells Causes serious eye irritation.
- pUC 18 DNA Control Plasmid No known significant effects or critical hazards.

Inhalation

- : StrataClone N-Terminal FLAG Vector Mix No known significant effects or critical hazards.
- StrataClone Blunt Cloning Buffer No known significant effects or critical hazards.
- StrataClone CAM Blunt Control Insert No known significant effects or critical hazards.
- StrataClone SoloPack Competent Cells No known significant effects or critical hazards.
- pUC 18 DNA Control Plasmid No known significant effects or critical hazards.

Skin contact

- : StrataClone N-Terminal FLAG Vector Mix No known significant effects or critical hazards.
- StrataClone Blunt Cloning Buffer No known significant effects or critical hazards.
- StrataClone CAM Blunt Control Insert No known significant effects or critical hazards.
- StrataClone SoloPack Competent Cells No known significant effects or critical hazards.
- pUC 18 DNA Control Plasmid No known significant effects or critical hazards.

Ingestion

- : StrataClone N-Terminal FLAG Vector Mix No known significant effects or critical hazards.
- StrataClone Blunt Cloning Buffer No known significant effects or critical hazards.
- StrataClone CAM Blunt Control Insert No known significant effects or critical hazards.
- StrataClone SoloPack Competent Cells No known significant effects or critical hazards.
- pUC 18 DNA Control Plasmid No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact

- : StrataClone N-Terminal FLAG Vector Mix Adverse symptoms may include the following:
irritation
watering
redness
- StrataClone Blunt Cloning Buffer Adverse symptoms may include the following:
pain or irritation
watering
redness
- StrataClone CAM Blunt Control Insert No specific data.
- StrataClone SoloPack Competent Cells Adverse symptoms may include the following:

Section 4. First aid measures

		pain or irritation watering redness
Inhalation	: pUC 18 DNA Control Plasmid	No specific data.
	: StrataClone N-Terminal FLAG Vector Mix	No specific data.
	StrataClone Blunt Cloning Buffer	No specific data.
	StrataClone CAM Blunt Control Insert	No specific data.
	StrataClone SoloPack Competent Cells	No specific data.
Skin contact	: pUC 18 DNA Control Plasmid	No specific data.
	: StrataClone N-Terminal FLAG Vector Mix	No specific data.
	StrataClone Blunt Cloning Buffer	No specific data.
	StrataClone CAM Blunt Control Insert	No specific data.
	StrataClone SoloPack Competent Cells	No specific data.
Ingestion	: pUC 18 DNA Control Plasmid	No specific data.
	: StrataClone N-Terminal FLAG Vector Mix	No specific data.
	StrataClone Blunt Cloning Buffer	No specific data.
	StrataClone CAM Blunt Control Insert	No specific data.
	StrataClone SoloPack Competent Cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.

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

Notes to physician	: StrataClone N-Terminal FLAG Vector Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	StrataClone Blunt Cloning Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	StrataClone CAM Blunt Control Insert	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	StrataClone SoloPack Competent Cells	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	pUC 18 DNA Control Plasmid	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: StrataClone N-Terminal FLAG Vector Mix	No specific treatment.
	StrataClone Blunt Cloning Buffer	No specific treatment.
	StrataClone CAM Blunt Control Insert	No specific treatment.
	StrataClone SoloPack Competent Cells	No specific treatment.
	pUC 18 DNA Control Plasmid	No specific treatment.

Section 4. First aid measures

Protection of first-aiders	: StrataClone N-Terminal FLAG Vector Mix	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.
	StrataClone Blunt Cloning Buffer	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.
	StrataClone CAM Blunt Control Insert	No action shall be taken involving any personal risk or without suitable training.
	StrataClone SoloPack Competent Cells	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.
	pUC 18 DNA Control Plasmid	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures


5.1 Extinguishing media

Suitable extinguishing media	: StrataClone N-Terminal FLAG Vector Mix	Use an extinguishing agent suitable for the surrounding fire.
	StrataClone Blunt Cloning Buffer	Use an extinguishing agent suitable for the surrounding fire.
	StrataClone CAM Blunt Control Insert	Use an extinguishing agent suitable for the surrounding fire.
	StrataClone SoloPack 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.
Unsuitable extinguishing media	: StrataClone N-Terminal FLAG Vector Mix	None known.
	StrataClone Blunt Cloning Buffer	None known.
	StrataClone CAM Blunt Control Insert	None known.
	StrataClone SoloPack Competent Cells	None known.
	pUC 18 DNA Control Plasmid	None known.

5.2 Special hazards arising from the substance or mixture


Specific hazards arising from the chemical	: StrataClone N-Terminal FLAG Vector Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	StrataClone Blunt Cloning Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	StrataClone CAM Blunt Control Insert	In a fire or if heated, a pressure increase will occur and the container may burst.
	StrataClone SoloPack Competent Cells	In a fire or if heated, a pressure increase will occur and the container may burst.
	pUC 18 DNA Control Plasmid	In a fire or if heated, a pressure increase will occur and the container may burst.

Section 5. Fire-fighting measures


Hazardous thermal decomposition products	:  StrataClone N-Terminal FLAG Vector Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	StrataClone Blunt Cloning Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	StrataClone CAM Blunt Control Insert	No specific data.
	StrataClone SoloPack Competent Cells	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	pUC 18 DNA Control Plasmid	No specific data.

5.3 Advice for firefighters

Special protective actions for fire-fighters

:  StrataClone N-Terminal FLAG Vector 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.
StrataClone Blunt 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.
StrataClone CAM Blunt Control Insert	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.
StrataClone SoloPack Competent Cells	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.
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.

Special protective equipment for fire-fighters

:  StrataClone N-Terminal FLAG Vector Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
StrataClone Blunt 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.
StrataClone CAM Blunt Control Insert	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
StrataClone SoloPack 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

Section 5. Fire-fighting measures

equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: StrataClone N-Terminal FLAG Vector 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

StrataClone Blunt 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

StrataClone CAM Blunt Control Insert

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 spilled material. Put on appropriate personal protective equipment.

StrataClone SoloPack 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 spilled material. Put on appropriate personal protective equipment.

For emergency responders

: StrataClone N-Terminal FLAG Vector Mix


If specialized 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".
 If specialized 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".
 If specialized 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".
 If specialized 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".

StrataClone Blunt Cloning Buffer


StrataClone CAM Blunt Control Insert

StrataClone SoloPack Competent

Section 6. Accidental release measures

	Cells	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 specialized 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".
6.2 Environmental precautions	:  StrataClone N-Terminal FLAG Vector Mix	Avoid dispersal of spilled 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).
	StrataClone Blunt Cloning Buffer	Avoid dispersal of spilled 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).
	StrataClone CAM Blunt Control Insert	Avoid dispersal of spilled 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).
	StrataClone SoloPack Competent Cells	Avoid dispersal of spilled 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 spilled 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).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	:  StrataClone N-Terminal FLAG Vector 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.
	StrataClone Blunt 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.
	StrataClone CAM Blunt Control Insert	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.
	StrataClone SoloPack 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.

Section 6. Accidental release measures

pUC 18 DNA Control Plasmid	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.
----------------------------	---

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures

: StrataClone N-Terminal FLAG Vector Mix	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or 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.
StrataClone Blunt Cloning Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or 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.
StrataClone CAM Blunt Control Insert	Put on appropriate personal protective equipment (see Section 8).
StrataClone SoloPack Competent Cells	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or 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.
pUC 18 DNA Control Plasmid	Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

: StrataClone N-Terminal FLAG Vector 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.
StrataClone Blunt 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.
StrataClone CAM Blunt Control Insert	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

Section 7. Handling and storage

	StrataClone SoloPack Competent Cells	for additional information on hygiene measures. 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.
<p>7.2 Conditions for safe storage, including any incompatibilities</p>	: StrataClone N-Terminal FLAG Vector 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
	StrataClone Blunt 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
	StrataClone CAM Blunt Control Insert	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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
	StrataClone SoloPack Competent Cells	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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
	pUC 18 DNA Control Plasmid	Store in accordance with local regulations. Store in original container protected from direct sunlight in a

Section 7. Handling and storage

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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations	: StrataClone N-Terminal FLAG Vector Mix	Industrial applications, Professional applications.
	StrataClone Blunt Cloning Buffer	Industrial applications, Professional applications.
	StrataClone CAM Blunt Control Insert	Industrial applications, Professional applications.
	StrataClone SoloPack Competent Cells	Industrial applications, Professional applications.
	pUC 18 DNA Control Plasmid	Industrial applications, Professional applications.
Industrial sector specific solutions	: StrataClone N-Terminal FLAG Vector Mix	Not applicable.
	StrataClone Blunt Cloning Buffer	Not applicable.
	StrataClone CAM Blunt Control Insert	Not applicable.
	StrataClone SoloPack Competent Cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
StrataClone N-Terminal FLAG Vector Mix Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 6/2016). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust
StrataClone Blunt Cloning Buffer Polyethylene glycol Sodium chloride	AIHA WEEL (United States, 10/2011). TWA: 10 mg/m ³ 8 hours. Form: Aerosol None.
StrataClone SoloPack Competent Cells Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 6/2016). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust

Section 8. Exposure controls/personal protection

Calcium chloride (CaCl₂), dihydrate

None.

8.2 Exposure controls

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- 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

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** :
- | | |
|--|---------|
| StrataClone N-Terminal FLAG Vector Mix | Liquid. |
| StrataClone Blunt Cloning Buffer | Liquid. |
| StrataClone CAM Blunt Control Insert | Liquid. |
| StrataClone SoloPack Competent Cells | Liquid. |
| pUC 18 DNA Control Plasmid | Liquid. |

Section 9. Physical and chemical properties

Color	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Odor	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Odor threshold	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
pH	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	7.5
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	7.5
Melting point	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	0°C (32°F)
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	0°C (32°F)
Boiling point	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	100°C (212°F)
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	100°C (212°F)
Flash point	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.

Section 9. Physical and chemical properties

Evaporation rate	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Flammability (solid, gas)	: StrataClone N-Terminal FLAG Vector Mix	Not applicable.
	StrataClone Blunt Cloning Buffer	Not applicable.
	StrataClone CAM Blunt Control Insert	Not applicable.
	StrataClone SoloPack Competent Cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.
Lower and upper explosive (flammable) limits	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Vapor pressure	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Vapor density	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Relative density	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Solubility	: StrataClone N-Terminal FLAG Vector Mix	Soluble in the following materials: cold water and hot water.
	StrataClone Blunt Cloning Buffer	Soluble in the following materials: cold water and hot water.
	StrataClone CAM Blunt Control Insert	Easily soluble in the following materials: cold water and hot water.
	StrataClone SoloPack 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.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Auto-ignition temperature	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Decomposition temperature	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
Viscosity	: StrataClone N-Terminal FLAG Vector Mix	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone CAM Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: StrataClone N-Terminal FLAG Vector Mix	No specific test data related to reactivity available for this product or its ingredients.
	StrataClone Blunt Cloning Buffer	No specific test data related to reactivity available for this product or its ingredients.
	StrataClone CAM Blunt Control Insert	No specific test data related to reactivity available for this product or its ingredients.
	StrataClone SoloPack 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.
10.2 Chemical stability	: StrataClone N-Terminal FLAG Vector Mix	The product is stable.
	StrataClone Blunt Cloning Buffer	The product is stable.
	StrataClone CAM Blunt Control Insert	The product is stable.
	StrataClone SoloPack Competent Cells	The product is stable.
	pUC 18 DNA Control Plasmid	The product is stable.

Section 10. Stability and reactivity

10.3 Possibility of hazardous reactions	: StrataClone N-Terminal FLAG Vector Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
	StrataClone Blunt Cloning Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	StrataClone CAM Blunt Control Insert	Under normal conditions of storage and use, hazardous reactions will not occur.
	StrataClone SoloPack 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.
10.4 Conditions to avoid	: StrataClone N-Terminal FLAG Vector Mix	No specific data.
	StrataClone Blunt Cloning Buffer	No specific data.
	StrataClone CAM Blunt Control Insert	No specific data.
	StrataClone SoloPack Competent Cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
10.5 Incompatible materials	: StrataClone N-Terminal FLAG Vector Mix	May react or be incompatible with oxidizing materials.
	StrataClone Blunt Cloning Buffer	May react or be incompatible with oxidizing materials.
	StrataClone CAM Blunt Control Insert	May react or be incompatible with oxidizing materials.
	StrataClone SoloPack Competent Cells	May react or be incompatible with oxidizing materials.
	pUC 18 DNA Control Plasmid	May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	: StrataClone N-Terminal FLAG Vector Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	StrataClone Blunt Cloning Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	StrataClone CAM Blunt Control Insert	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	StrataClone SoloPack 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.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
StrataClone N-Terminal FLAG Vector Mix Glycerol	LD50 Oral	Rat	12600 mg/kg	-
StrataClone Blunt Cloning Buffer Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
StrataClone SoloPack Competent Cells Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation	
StrataClone N-Terminal FLAG Vector Mix Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
	Skin - Mild irritant	Rabbit	-		24 hours 500 milligrams	-
StrataClone Blunt Cloning Buffer Polyethylene glycol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
	Eyes - Mild irritant	Rabbit	-		500 milligrams	-
	Skin - Mild irritant	Rabbit	-		24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-		500 milligrams	-
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-	
	Eyes - Moderate irritant	Rabbit	-		10 milligrams	-
	Skin - Mild irritant	Rabbit	-		24 hours 500 milligrams	-
StrataClone SoloPack Competent Cells Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-	
	Skin - Mild irritant	Rabbit	-		24 hours 500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Section 11. Toxicological information

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

StrataClone N-Terminal FLAG Vector Mix	Routes of entry anticipated: Oral, Dermal, Inhalation.
StrataClone Blunt Cloning Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
StrataClone CAM Blunt Control Insert	Not available.
StrataClone SoloPack Competent Cells	Routes of entry anticipated: Oral, Dermal, Inhalation.
pUC 18 DNA Control Plasmid	Not available.

Potential acute health effects

Eye contact

StrataClone N-Terminal FLAG Vector Mix	Causes eye irritation.
StrataClone Blunt Cloning Buffer	Causes serious eye irritation.
StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
StrataClone SoloPack Competent Cells	Causes serious eye irritation.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Inhalation

StrataClone N-Terminal FLAG Vector Mix	No known significant effects or critical hazards.
StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
StrataClone SoloPack Competent Cells	No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Skin contact

StrataClone N-Terminal FLAG Vector Mix	No known significant effects or critical hazards.
StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
StrataClone SoloPack Competent Cells	No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Ingestion

StrataClone N-Terminal FLAG Vector Mix	No known significant effects or critical hazards.
StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
StrataClone SoloPack Competent Cells	No known significant effects or critical hazards.
pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

Eye contact	: StrataClone N-Terminal FLAG Vector Mix	Adverse symptoms may include the following: irritation watering redness
	StrataClone Blunt Cloning Buffer	Adverse symptoms may include the following: pain or irritation watering redness
	StrataClone CAM Blunt Control Insert	No specific data.
	StrataClone SoloPack Competent Cells	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	pUC 18 DNA Control Plasmid	No specific data.
	: StrataClone N-Terminal FLAG Vector Mix	No specific data.
	StrataClone Blunt Cloning Buffer	No specific data.
	StrataClone CAM Blunt Control Insert	No specific data.
Skin contact	StrataClone SoloPack Competent Cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
	: StrataClone N-Terminal FLAG Vector Mix	No specific data.
	StrataClone Blunt Cloning Buffer	No specific data.
Ingestion	StrataClone CAM Blunt Control Insert	No specific data.
	StrataClone SoloPack Competent Cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
	: StrataClone N-Terminal FLAG Vector Mix	No specific data.
	StrataClone Blunt Cloning Buffer	No specific data.
	StrataClone CAM Blunt Control Insert	No specific data.
	StrataClone SoloPack Competent Cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.

Delayed and immediate effects and also 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

Section 11. Toxicological information

General	: StrataClone N-Terminal FLAG Vector Mix	No known significant effects or critical hazards.
	StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
	StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
	StrataClone SoloPack Competent Cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Carcinogenicity	: StrataClone N-Terminal FLAG Vector Mix	No known significant effects or critical hazards.
	StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
	StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
	StrataClone SoloPack Competent Cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Mutagenicity	: StrataClone N-Terminal FLAG Vector Mix	No known significant effects or critical hazards.
	StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
	StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
	StrataClone SoloPack Competent Cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Teratogenicity	: StrataClone N-Terminal FLAG Vector Mix	No known significant effects or critical hazards.
	StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
	StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
	StrataClone SoloPack Competent Cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Developmental effects	: StrataClone N-Terminal FLAG Vector Mix	No known significant effects or critical hazards.
	StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
	StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
	StrataClone SoloPack Competent Cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Fertility effects	: StrataClone N-Terminal FLAG Vector Mix	No known significant effects or critical hazards.
	StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
	StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
	StrataClone SoloPack Competent Cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
StrataClone Blunt Cloning Buffer Oral	49180.3 mg/kg

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
StrataClone N-Terminal FLAG Vector Mix Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
StrataClone Blunt Cloning Buffer Polyethylene glycol Sodium chloride	Acute LC50 >1000000 µg/l Fresh water Acute EC50 2430000 µg/l Fresh water Acute EC50 28.85 mg/dm ³ Fresh water Acute EC50 519.6 mg/l Fresh water Acute IC50 6.87 g/L Fresh water Acute LC50 1.56 g/L Fresh water Acute LC50 1000000 µg/l Fresh water Chronic LC10 781 mg/l Fresh water Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Fish - Salmo salar - Parr Algae - Navicula seminulum Algae - Pseudokirchneriella subcapitata Crustaceans - Cypris subglobosa Aquatic plants - Lemna minor Daphnia - Daphnia magna Fish - Morone saxatilis - Larvae Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling) Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 96 hours 72 hours 48 hours 96 hours 48 hours 96 hours 3 weeks 96 hours 21 days 8 weeks
StrataClone SoloPack Competent Cells Glycerol Calcium chloride (CaCl ₂), dihydrate	Acute LC50 54000 mg/l Fresh water Acute EC50 2900 mg/l Fresh water Acute NOEC 2000 mg/l Fresh water	Fish - Oncorhynchus mykiss Algae Daphnia	96 hours 72 hours 48 hours

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
StrataClone N-Terminal FLAG Vector Mix Glycerol	-1.76	-	low
StrataClone Blunt Cloning Buffer Polyethylene glycol	-	3.2	low
StrataClone SoloPack Competent Cells Glycerol	-1.76	-	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Regulatory information

DOT / IMDG / IATA : Not regulated.

Section 15. Regulatory information

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

U.S. Federal regulations : **TSCA 8(a) PAIR**: Polyoxyethylene octyl phenyl ether
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Water Act (CWA) 311: Edetic acid; Potassium hydroxide

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Section 15. Regulatory information

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
StrataClone N-Terminal FLAG Vector Mix Glycerol	≥25 - ≤50	No.	No.	No.	Yes.	No.
StrataClone Blunt Cloning Buffer Polyethylene glycol Sodium chloride	≥25 - ≤50 ≤10	No. No.	No. No.	No. No.	Yes. Yes.	No. No.
StrataClone SoloPack Competent Cells Glycerol Calcium chloride (CaCl ₂), dihydrate	≥10 - ≤25 ≤3	No. No.	No. No.	No. No.	Yes. Yes.	No. No.

State regulations

- Massachusetts** : The following components are listed: GLYCERINE MIST
New York : None of the components are listed.
New Jersey : The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL
Pennsylvania : The following components are listed: 1,2,3-PROPANETRIOL

California Prop. 65

No products were found.

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

Section 15. Regulatory information

Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: <input checked="" type="checkbox"/> All components are listed or exempted.
Turkey	: <input checked="" type="checkbox"/> Not determined.

Section 16. Other information

History

Date of issue	: 03/29/2017
Date of previous issue	: 12/08/2014.
Version	: 4

Indicates information that has changed from previously issued version.

Notice to reader

Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.