



## Section 2. Hazards identification

**StrataClone Blunt Vector Mix amp/kan**  
H320

EYE IRRITATION - Category 2B

**StrataClone Blunt Cloning Buffer**  
H319  
H335

EYE IRRITATION - Category 2A  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

**StrataClone SoloPack Competent Cells**  
H319



EYE IRRITATION - Category 2A

**Ingredients of unknown toxicity**

- : StrataClone Blunt Vector Mix amp/kan  
StrataClone Blunt Cloning Buffer  
StrataClone SoloPack Competent Cells
- Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 10 - 30%  
Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%  
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: 10 - 30%  
Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10%

### 2.2 GHS label elements

**Hazard pictograms**

- : StrataClone Blunt Cloning Buffer 
- StrataClone SoloPack Competent Cells 

**Signal word**

- : StrataClone Blunt Vector Mix amp/kan  
StrataClone Blunt Control Insert  
StrataClone Blunt Cloning Buffer  
StrataClone SoloPack Competent Cells  
pUC 18 DNA Control Plasmid
- Warning  
No signal word.  
Warning  
Warning  
No signal word.

**Hazard statements**

- : StrataClone Blunt Vector Mix amp/kan  
StrataClone Blunt Control Insert  
StrataClone Blunt Cloning Buffer  
StrataClone SoloPack Competent Cells  
pUC 18 DNA Control Plasmid
- H320 - Causes eye irritation.  
No known significant effects or critical hazards.  
H319 - Causes serious eye irritation.  
H335 - May cause respiratory irritation.  
H319 - Causes serious eye irritation.  
No known significant effects or critical hazards.

**Precautionary statements**

## Section 2. Hazards identification

<b>Prevention</b>	:	StrataClone Blunt Vector Mix amp/kan	P264 - Wash hands thoroughly after handling.
		StrataClone Blunt Control Insert	Not applicable.
		StrataClone Blunt Cloning Buffer	P280 - Wear eye or face protection. P271 - Use only outdoors or in a well-ventilated area. P261 - Avoid breathing vapor.
		StrataClone SoloPack Competent Cells	P264 - Wash hands thoroughly after handling. P280 - Wear eye or face protection.
<b>Response</b>	:	pUC 18 DNA Control Plasmid	Not applicable.
		StrataClone Blunt Vector Mix amp/kan	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 Control Insert	Not applicable.
		StrataClone Blunt Cloning Buffer	P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. 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.
<b>Storage</b>	:	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.
		pUC 18 DNA Control Plasmid	Not applicable.
		StrataClone Blunt Vector Mix amp/kan	Not applicable.
		StrataClone Blunt Control Insert	Not applicable.
<b>Disposal</b>	:	StrataClone Blunt Cloning Buffer	P405 - Store locked up.
		StrataClone SoloPack Competent Cells	Not applicable.
		pUC 18 DNA Control Plasmid	Not applicable.
		StrataClone Blunt Vector Mix amp/kan	Not applicable.
		StrataClone Blunt Control Insert	Not applicable.
		StrataClone Blunt Cloning Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		StrataClone SoloPack Competent Cells	Not applicable.
		pUC 18 DNA Control Plasmid	Not applicable.

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<b>Supplemental label elements</b>	: <input checked="" type="checkbox"/> StrataClone Blunt Vector Mix amp/kan	None known.
	StrataClone Blunt Control Insert	None known.
	StrataClone Blunt Cloning Buffer	None known.
	StrataClone SoloPack Competent Cells	None known.
	pUC 18 DNA Control Plasmid	None known.

### 2.3 Other hazards

<b>Hazards not otherwise classified</b>	: <input checked="" type="checkbox"/> StrataClone Blunt Vector Mix amp/kan	None known.
	StrataClone Blunt Control Insert	None known.
	StrataClone Blunt Cloning Buffer	None known.
	StrataClone SoloPack Competent Cells	None known.
	pUC 18 DNA Control Plasmid	None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: StrataClone Blunt Vector Mix amp/kan	Mixture
	StrataClone Blunt Control Insert	Mixture
	StrataClone Blunt Cloning Buffer	Mixture
	StrataClone SoloPack Competent Cells	Mixture
	pUC 18 DNA Control Plasmid	Mixture

Ingredient name	%	CAS number
<input checked="" type="checkbox"/> <b>StrataClone Blunt Vector Mix amp/kan</b> Glycerol	≥25 - ≤50	56-81-5
<b>StrataClone Blunt Cloning Buffer</b> Polyethylene glycol Sodium chloride	≥25 - ≤50 ≤10	25322-68-3 7647-14-5
<b>StrataClone SoloPack Competent Cells</b> Glycerol Calcium chloride (CaCl <sub>2</sub> ), dihydrate	≥10 - ≤25 ≤3	56-81-5 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

<b>Eye contact</b>	: StrataClone Blunt Vector Mix amp/kan	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 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 Blunt Cloning Buffer	Immediately flush eyes with plenty of water,

## Section 4. First aid measures

### Inhalation

		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 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.
	: StrataClone Blunt Vector Mix amp/kan	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 Control Insert	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	StrataClone Blunt Cloning Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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 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.

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<b>Skin contact</b>	: StrataClone Blunt Vector Mix amp/kan	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 Control Insert	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	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 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 before reuse.
	pUC 18 DNA Control Plasmid	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: StrataClone Blunt Vector Mix amp/kan	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 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 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,

## Section 4. First aid measures

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.
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

<b>Eye contact</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	Causes eye irritation. No known significant effects or critical hazards. Causes serious eye irritation. Causes serious eye irritation. No known significant effects or critical hazards.
<b>Inhalation</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. May cause respiratory irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

## Section 4. First aid measures

<b>Eye contact</b>	: StrataClone Blunt Vector Mix amp/kan	Adverse symptoms may include the following: irritation watering redness
	StrataClone Blunt Control Insert	No specific data.
	StrataClone Blunt Cloning Buffer	Adverse symptoms may include the following: pain or irritation watering redness
	StrataClone SoloPack Competent Cells	Adverse symptoms may include the following: pain or irritation watering redness
	pUC 18 DNA Control Plasmid	No specific data.
<b>Inhalation</b>	: StrataClone Blunt Vector Mix amp/kan	No specific data.
	StrataClone Blunt Control Insert	No specific data.
	StrataClone Blunt Cloning Buffer	Adverse symptoms may include the following: respiratory tract irritation coughing
	StrataClone SoloPack Competent Cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
<b>Skin contact</b>	: StrataClone Blunt Vector Mix amp/kan	No specific data.
	StrataClone Blunt Control Insert	No specific data.
	StrataClone Blunt Cloning Buffer	No specific data.
	StrataClone SoloPack Competent Cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
<b>Ingestion</b>	: StrataClone Blunt Vector Mix amp/kan	No specific data.
	StrataClone Blunt Control Insert	No specific data.
	StrataClone Blunt Cloning Buffer	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

<b>Notes to physician</b>	: StrataClone Blunt Vector Mix amp/kan	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	StrataClone Blunt Control Insert	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 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.



## Section 4. First aid measures

<b>Specific treatments</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment.
<b>Protection of first-aiders</b>	: StrataClone Blunt Vector Mix amp/kan  StrataClone Blunt Control Insert  StrataClone Blunt Cloning Buffer   StrataClone SoloPack Competent Cells   pUC 18 DNA Control Plasmid	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. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. 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. 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

<b>Suitable extinguishing media</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert  StrataClone Blunt Cloning Buffer  StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	None known. None known. None known. None known. None known.

### 5.2 Special hazards arising from the substance or mixture

## Section 5. Fire-fighting measures

<b>Specific hazards arising from the chemical</b>	: StrataClone Blunt Vector Mix amp/kan	In a fire or if heated, a pressure increase will occur and the container may burst.
	StrataClone Blunt Control Insert	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 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.
<b>Hazardous thermal decomposition products</b>	: StrataClone Blunt Vector Mix amp/kan	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	StrataClone Blunt Control Insert	No specific data.
	StrataClone Blunt Cloning Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	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.
<b>5.3 Advice for firefighters</b>		
<b>Special protective actions for fire-fighters</b>	: StrataClone Blunt Vector Mix amp/kan	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 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 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 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.
<b>Special protective equipment for fire-fighters</b>	: StrataClone Blunt Vector Mix amp/kan	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 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.

## Section 5. Fire-fighting measures

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 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 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 Blunt Vector Mix amp/kan	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 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 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 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.

## Section 6. Accidental release measures

<b>For emergency responders</b>	: StrataClone Blunt Vector Mix amp/kan	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 Control Insert	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	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 SoloPack Competent Cells	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".
	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".
<b>6.2 Environmental precautions</b>	: StrataClone Blunt Vector Mix amp/kan	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 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 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 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


<b>Methods for cleaning up</b>	: StrataClone Blunt Vector Mix amp/kan	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 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

## Section 6. Accidental release measures


	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 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.
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.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	:  StrataClone Blunt Vector Mix amp/kan	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 Control Insert	Put on appropriate personal protective equipment (see Section 8).
	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. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 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).

## Section 7. Handling and storage

<b>Advice on general occupational hygiene</b>	: StrataClone Blunt Vector Mix amp/kan	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 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 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 SoloPack 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.
<b>7.2 Conditions for safe storage, including any incompatibilities</b>	:  StrataClone Blunt Vector Mix amp/kan	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. See Section 10 for incompatible materials before handling or use.
	StrataClone 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. See Section 10 for

## Section 7. Handling and storage

StrataClone Blunt Cloning Buffer	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. Store locked up. 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. See Section 10 for incompatible materials before handling or use.
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. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

#### Recommendations

: StrataClone Blunt Vector Mix amp/kan	Industrial applications, Professional applications.
StrataClone Blunt Control Insert	Industrial applications, Professional applications.
StrataClone Blunt Cloning Buffer	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 Blunt Vector Mix amp/kan	Not applicable.
StrataClone Blunt Control Insert	Not applicable.
StrataClone Blunt Cloning Buffer	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
<b>StrataClone Blunt Vector Mix amp/kan</b> Glycerol	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Total dust <b>OSHA PEL (United States, 6/2016).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m <sup>3</sup> 8 hours. Form: Total dust
<b>StrataClone Blunt Cloning Buffer</b> Polyethylene glycol  Sodium chloride	<b>AIHA WEEL (United States, 10/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Aerosol None.
<b>StrataClone SoloPack Competent Cells</b> Glycerol	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Total dust <b>OSHA PEL (United States, 6/2016).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m <sup>3</sup> 8 hours. Form: Total dust
Calcium chloride (CaCl <sub>2</sub> ), 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



## Section 8. Exposure controls/personal 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 Blunt Vector Mix amp/kan Liquid.  
StrataClone Blunt Control Insert Liquid.  
StrataClone Blunt Cloning Buffer Liquid.  
StrataClone SoloPack Competent Cells Liquid.  
pUC 18 DNA Control Plasmid Liquid.
- Color** : StrataClone Blunt Vector Mix amp/kan Not available.  
StrataClone Blunt Control Insert Not available.  
StrataClone Blunt Cloning Buffer Not available.  
StrataClone SoloPack Competent Cells Not available.  
pUC 18 DNA Control Plasmid Not available.
- Odor** : StrataClone Blunt Vector Mix amp/kan Not available.  
StrataClone Blunt Control Insert Not available.  
StrataClone Blunt Cloning Buffer Not available.  
StrataClone SoloPack Competent Cells Not available.  
pUC 18 DNA Control Plasmid Not available.
- Odor threshold** : StrataClone Blunt Vector Mix amp/kan Not available.  
StrataClone Blunt Control Insert Not available.  
StrataClone Blunt Cloning Buffer Not available.  
StrataClone SoloPack Competent Cells Not available.  
pUC 18 DNA Control Plasmid Not available.
- pH** : StrataClone Blunt Vector Mix amp/kan Not available.  
StrataClone Blunt Control Insert 7.5  
StrataClone Blunt Cloning Buffer Not available.  
StrataClone SoloPack Competent Cells Not available.  
pUC 18 DNA Control Plasmid 7.5

## Section 9. Physical and chemical properties

<b>Melting point</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	0°C (32°F)
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	0°C (32°F)
<b>Boiling point</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	100°C (212°F)
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	100°C (212°F)
<b>Flash point</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
<b>Evaporation rate</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
<b>Flammability (solid, gas)</b>	: StrataClone Blunt Vector Mix amp/kan	Not applicable.
	StrataClone Blunt Control Insert	Not applicable.
	StrataClone Blunt Cloning Buffer	Not applicable.
	StrataClone SoloPack Competent Cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
<b>Vapor pressure</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
<b>Vapor density</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.

## Section 9. Physical and chemical properties

<b>Relative density</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
<b>Solubility</b>	: StrataClone Blunt Vector Mix amp/kan	Soluble in the following materials: cold water and hot water.
	StrataClone Blunt Control Insert	Easily 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 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.
<b>Partition coefficient: n-octanol/water</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
<b>Auto-ignition temperature</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
<b>Decomposition temperature</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
<b>Viscosity</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: StrataClone Blunt Vector Mix amp/kan	No specific test data related to reactivity available for this product or its ingredients.
	StrataClone Blunt Control Insert	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 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.

## Section 10. Stability and reactivity

<b>10.2 Chemical stability</b>	<ul style="list-style-type: none"> <li>: StrataClone Blunt Vector Mix amp/kan</li> <li>StrataClone Blunt Control Insert</li> <li>StrataClone Blunt Cloning Buffer</li> <li>StrataClone SoloPack Competent Cells</li> <li>pUC 18 DNA Control Plasmid</li> </ul>	<ul style="list-style-type: none"> <li>The product is stable.</li> <li>The product is stable.</li> <li>The product is stable.</li> <li>The product is stable.</li> <li>The product is stable.</li> </ul>
<b>10.3 Possibility of hazardous reactions</b>	<ul style="list-style-type: none"> <li>: StrataClone Blunt Vector Mix amp/kan</li> <li>StrataClone Blunt Control Insert</li> <li>StrataClone Blunt Cloning Buffer</li> <li>StrataClone SoloPack Competent Cells</li> <li>pUC 18 DNA Control Plasmid</li> </ul>	<ul style="list-style-type: none"> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> <li>Under normal conditions of storage and use, hazardous reactions will not occur.</li> </ul>
<b>10.4 Conditions to avoid</b>	<ul style="list-style-type: none"> <li>: StrataClone Blunt Vector Mix amp/kan</li> <li>StrataClone Blunt Control Insert</li> <li>StrataClone Blunt Cloning Buffer</li> <li>StrataClone SoloPack Competent Cells</li> <li>pUC 18 DNA Control Plasmid</li> </ul>	<ul style="list-style-type: none"> <li>No specific data.</li> <li>No specific data.</li> <li>No specific data.</li> <li>No specific data.</li> <li>No specific data.</li> </ul>
<b>10.5 Incompatible materials</b>	<ul style="list-style-type: none"> <li>: StrataClone Blunt Vector Mix amp/kan</li> <li>StrataClone Blunt Control Insert</li> <li>StrataClone Blunt Cloning Buffer</li> <li>StrataClone SoloPack Competent Cells</li> <li>pUC 18 DNA Control Plasmid</li> </ul>	<ul style="list-style-type: none"> <li>May react or be incompatible with oxidizing materials.</li> <li>May react or be incompatible with oxidizing materials.</li> <li>May react or be incompatible with oxidizing materials.</li> <li>May react or be incompatible with oxidizing materials.</li> <li>May react or be incompatible with oxidizing materials.</li> </ul>
<b>10.6 Hazardous decomposition products</b>	<ul style="list-style-type: none"> <li>: StrataClone Blunt Vector Mix amp/kan</li> <li>StrataClone Blunt Control Insert</li> <li>StrataClone Blunt Cloning Buffer</li> <li>StrataClone SoloPack Competent Cells</li> <li>pUC 18 DNA Control Plasmid</li> </ul>	<ul style="list-style-type: none"> <li>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</li> <li>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</li> <li>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</li> <li>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</li> <li>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</li> </ul>

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>StrataClone Blunt Vector Mix amp/kan</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>StrataClone Blunt Cloning Buffer</b> Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>StrataClone SoloPack Competent Cells</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>StrataClone Blunt Vector Mix amp/kan</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>StrataClone Blunt Cloning Buffer</b> 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	-
<b>StrataClone SoloPack Competent Cells</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

#### Sensitization

Not available.

#### Mutagenicity

**Conclusion/Summary** : Not available.

#### Carcinogenicity

**Conclusion/Summary** : Not available.

#### Reproductive toxicity

## Section 11. Toxicological information

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
StrataClone Blunt Cloning Buffer Polyethylene glycol	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

<b>Information on the likely routes of exposure</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer  StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available.
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### Potential acute health effects

<b>Eye contact</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	Causes eye irritation. No known significant effects or critical hazards. Causes serious eye irritation. Causes serious eye irritation. No known significant effects or critical hazards.
<b>Inhalation</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. May cause respiratory irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

## Section 11. Toxicological information

<b>Eye contact</b>	: StrataClone Blunt Vector Mix amp/kan	Adverse symptoms may include the following: irritation watering redness
	StrataClone Blunt Control Insert	No specific data.
	StrataClone Blunt Cloning Buffer	Adverse symptoms may include the following: pain or irritation watering redness
	StrataClone SoloPack Competent Cells	Adverse symptoms may include the following: pain or irritation watering redness
	pUC 18 DNA Control Plasmid	No specific data.
<b>Inhalation</b>	: StrataClone Blunt Vector Mix amp/kan	No specific data.
	StrataClone Blunt Control Insert	No specific data.
	StrataClone Blunt Cloning Buffer	Adverse symptoms may include the following: respiratory tract irritation coughing
	StrataClone SoloPack Competent Cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
<b>Skin contact</b>	: StrataClone Blunt Vector Mix amp/kan	No specific data.
	StrataClone Blunt Control Insert	No specific data.
	StrataClone Blunt Cloning Buffer	No specific data.
	StrataClone SoloPack Competent Cells	No specific data.
	pUC 18 DNA Control Plasmid	No specific data.
<b>Ingestion</b>	: StrataClone Blunt Vector Mix amp/kan	No specific data.
	StrataClone Blunt Control Insert	No specific data.
	StrataClone Blunt Cloning Buffer	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

<b>General</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Control Insert StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. 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
<b>StrataClone Blunt Vector Mix amp/kan</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>StrataClone Blunt Cloning Buffer</b> Polyethylene glycol Sodium chloride	Acute LC50 >1000000 µg/l Fresh water Acute EC50 4.74 g/L Fresh water	Fish - Salmo salar - Parr Algae - Chlamydomonas reinhardtii	96 hours 96 hours
	Acute EC50 519.6 mg/l Fresh water Acute EC50 402600 µg/l Fresh water Acute IC50 6.87 g/L Fresh water Acute LC50 1000000 µg/l Fresh water Chronic LC10 781 mg/l Fresh water	Crustaceans - Cypris subglobosa Daphnia - Daphnia magna Aquatic plants - Lemna minor Fish - Morone saxatilis - Larvae Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 48 hours 96 hours 96 hours 3 weeks
	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks
<b>StrataClone SoloPack Competent Cells</b> Glycerol Calcium chloride (CaCl <sub>2</sub> ), 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

Product/ingredient name	Test	Result	Dose	Inoculum
<b>StrataClone Blunt Vector Mix amp/kan</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
<b>StrataClone SoloPack Competent Cells</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

### 12.3 Bioaccumulative potential

## Section 12. Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>StrataClone Blunt Vector Mix amp/kan</b> Glycerol	-1.76	-	low
<b>StrataClone Blunt Cloning Buffer</b> Polyethylene glycol	-	3.2	low
<b>StrataClone SoloPack Competent Cells</b> Glycerol	-1.76	-	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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

**DOT / TDG / Mexico / IMDG / IATA** : Not regulated.

**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.

## Section 14. Transport information

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

## 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  
 TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
 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

**Classification** :

StrataClone Blunt Vector Mix amp/kan	EYE IRRITATION - Category 2B
StrataClone Blunt Control Insert	Not applicable.
StrataClone Blunt Cloning Buffer	EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
StrataClone SoloPack Competent Cells	EYE IRRITATION - Category 2A
pUC 18 DNA Control Plasmid	Not applicable.

#### Composition/information on ingredients

Name	%	Classification
<b>StrataClone Blunt Vector Mix amp/kan</b>		
Glycerol	≥25 - ≤50	EYE IRRITATION - Category 2A
<b>StrataClone Blunt Cloning Buffer</b>		
Polyethylene glycol	≥25 - ≤50	EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Sodium chloride	≤10	EYE IRRITATION - Category 2A
<b>StrataClone SoloPack Competent Cells</b>		
Glycerol	≥10 - ≤25	EYE IRRITATION - Category 2A

## Section 15. Regulatory information

Calcium chloride (CaCl <sub>2</sub> ), dihydrate	≤3	EYE IRRITATION - Category 2A
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### 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

### 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** : 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.
- Philippines** : Not determined.
- Republic of Korea** : Not determined.
- Taiwan** : All components are listed or exempted.
- Thailand** :  Not determined.
- Turkey** : Not determined.
- United States** : All components are listed or exempted.
- Viet Nam** :  Not determined.

## Section 16. Other information

### History

- Date of issue** : 02/19/2018
- Date of previous issue** : 08/31/2016
- Version** : 5

### Procedure used to derive the classification

## Section 16. Other information

Classification	Justification
<b>StrataClone Blunt Vector Mix amp/kan</b> EYE IRRITATION - Category 2B	Calculation method
<b>StrataClone Blunt Cloning Buffer</b> EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method Calculation method
<b>StrataClone SoloPack Competent Cells</b> EYE IRRITATION - Category 2A	Calculation method

✔ Indicates information that has changed from previously issued version.

### [Notice to reader](#)

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