

# SAFETY DATA SHEET



StrataClone Ultra Blunt PCR Cloning Kit, Part Number 240218

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

<b>Product name</b>	: StrataClone Ultra Blunt PCR Cloning Kit, Part Number 240218
<b>Part No. (Kit)</b>	: 240218
<b>Part No.</b>	: StrataClone Blunt Vector 240207-51 Mix amp/kan StrataClone Blunt Cloning Buffer 240207-54 StrataClone Blunt Control Insert 240207-53 StrataClone SoloPack Competent Cells 200185-41 pUC 18 DNA Control Plasmid 200231-42 PfuUltra II Fusion HS DNA Polymerase 600670-51 10X PfuUltra II Reaction Buffer 600670-52

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

Identified uses	
Analytical reagent.	
StrataClone Blunt Vector Mix amp/kan	21 x 0.001 ml
StrataClone Blunt Cloning Buffer	0.063 ml
StrataClone Blunt Control Insert	1 ml (50 ng 5 ng/μl)
StrataClone SoloPack Competent Cells	21 x 0.05 ml
pUC 18 DNA Control Plasmid	0.01 ml (0.1 ng/μl)
PfuUltra II Fusion HS DNA Polymerase	0.04 ml (40 reactions)
10X PfuUltra II Reaction Buffer	1 ml

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG  
Hewlett-Packard-Str. 8  
76337 Waldbronn  
Germany  
0800 603 1000

**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +(44)-870-8200418

StrataClone Ultra Blunt PCR Cloning Kit, Part Number 240218

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

<b>Product definition</b>	:	StrataClone Blunt Vector	Mixture
		Mix amp/kan	
		StrataClone Blunt	Mixture
		Cloning Buffer	
		StrataClone Blunt	Mixture
		Control Insert	
		StrataClone SoloPack	Mixture
		Competent Cells	
		pUC 18 DNA Control	Mixture
		Plasmid	
		PfuUltra II Fusion HS	Mixture
		DNA Polymerase	
		10X PfuUltra II Reaction	Mixture
		Buffer	

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

##### **10X PfuUltra II Reaction Buffer**

H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

<b>Ingredients of unknown toxicity</b>	:	StrataClone Blunt Vector	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
		Mix amp/kan	
		StrataClone Blunt Cloning Buffer	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
		StrataClone SoloPack	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
		Competent Cells	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
		PfuUltra II Fusion HS DNA Polymerase	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
		10X PfuUltra II Reaction Buffer	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
			Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
			Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
<b>Ingredients of unknown ecotoxicity</b>	:	10X PfuUltra II Reaction Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3.4%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** : 10X PfuUltra II Reaction Buffer



<b>Signal word</b>	:	StrataClone Blunt Vector	No signal word.
		Mix amp/kan	
		StrataClone Blunt	No signal word.
		Cloning Buffer	
		StrataClone Blunt	No signal word.
		Control Insert	
		StrataClone SoloPack	No signal word.
		Competent Cells	
		pUC 18 DNA Control	No signal word.
		Plasmid	
		PfuUltra II Fusion HS	No signal word.
		DNA Polymerase	
		10X PfuUltra II Reaction	Warning
		Buffer	

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**SECTION 2: Hazards identification**

<b>Hazard statements</b>	:	StrataClone Blunt Vector Mix amp/kan	No known significant effects or critical hazards.
		StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
		StrataClone 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.
		PfuUltra II Fusion HS DNA Polymerase	No known significant effects or critical hazards.
		10X PfuUltra II Reaction Buffer	H319 - Causes serious eye irritation.
<b>Precautionary statements</b>			
<b>Prevention</b>	:	StrataClone Blunt Vector Mix amp/kan	Not applicable.
		StrataClone Blunt Cloning Buffer	Not applicable.
		StrataClone Blunt Control Insert	Not applicable.
		StrataClone SoloPack Competent Cells	Not applicable.
		pUC 18 DNA Control Plasmid	Not applicable.
		PfuUltra II Fusion HS DNA Polymerase	Not applicable.
		10X PfuUltra II Reaction Buffer	P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling.
<b>Response</b>	:	StrataClone Blunt Vector Mix amp/kan	Not applicable.
		StrataClone Blunt Cloning Buffer	Not applicable.
		StrataClone Blunt Control Insert	Not applicable.
		StrataClone SoloPack Competent Cells	Not applicable.
		pUC 18 DNA Control Plasmid	Not applicable.
		PfuUltra II Fusion HS DNA Polymerase	Not applicable.
		10X PfuUltra II Reaction 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.
<b>Storage</b>	:	StrataClone Blunt Vector Mix amp/kan	Not applicable.
		StrataClone Blunt Cloning Buffer	Not applicable.
		StrataClone Blunt Control Insert	Not applicable.
		StrataClone SoloPack Competent Cells	Not applicable.
		pUC 18 DNA Control Plasmid	Not applicable.
		PfuUltra II Fusion HS DNA Polymerase	Not applicable.
		10X PfuUltra II Reaction Buffer	Not applicable.

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## SECTION 2: Hazards identification

<b>Disposal</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Hazardous ingredients</b>	: StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells 10X PfuUltra II Reaction Buffer	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Supplemental label elements</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	Not applicable. Safety data sheet available on request. Not applicable. Safety data sheet available on request. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Special packaging requirements</b>		
<b>Tactile warning of danger</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

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## SECTION 2: Hazards identification

DNA Polymerase  
10X PfuUltra II Reaction Buffer Not applicable.

### 2.3 Other hazards

**Other hazards which do not result in classification** :

- StrataClone Blunt Vector Mix amp/kan None known.
- StrataClone Blunt Cloning Buffer None known.
- StrataClone Blunt Control Insert None known.
- StrataClone SoloPack Competent Cells None known.
- pUC 18 DNA Control Plasmid None known.
- PfuUltra II Fusion HS DNA Polymerase None known.
- 10X PfuUltra II Reaction Buffer None known.

## SECTION 3: Composition/information on ingredients

**3.1 Substances** :

- StrataClone Blunt Vector Mix amp/kan Mixture
- StrataClone Blunt Cloning Buffer Mixture
- StrataClone Blunt Control Insert Mixture
- StrataClone SoloPack Competent Cells Mixture
- pUC 18 DNA Control Plasmid Mixture
- PfuUltra II Fusion HS DNA Polymerase Mixture
- 10X PfuUltra II Reaction Buffer Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<b>StrataClone Blunt Vector Mix amp/kan</b> Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥25 - ≤50	Not classified.	[2]
<b>StrataClone Blunt Cloning Buffer</b> Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	<10	Eye Irrit. 2, H319	[1]
<b>StrataClone SoloPack Competent Cells</b> Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥10 - ≤25	Not classified.	[2]
Calcium chloride (CaCl <sub>2</sub> ), dihydrate	EC: 233-140-8 CAS: 10035-04-8 Index: 017-013-00-2	≤3	Eye Irrit. 2, H319	[1]
<b>PfuUltra II Fusion HS DNA Polymerase</b> Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
<b>10X PfuUltra II Reaction Buffer</b>				

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**SECTION 3: Composition/information on ingredients**

Trometamol	EC: 201-064-4 CAS: 77-86-1	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
Polyoxyethylene octyl phenyl ether	CAS: 9002-93-1	<2.5	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411  <b>See Section 16 for the full text of the H statements declared above.</b>	[1] [5]

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.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

**Eye contact**

- : 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. Get medical attention if irritation occurs.
- 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. Get medical attention if irritation occurs.
- 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 SoloPack Competent Cells  
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- pUC 18 DNA Control Plasmid  
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- PfuUltra II Fusion HS DNA Polymerase  
Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- 10X PfuUltra II Reaction 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.

**Inhalation**

- : StrataClone Blunt Vector Mix amp/kan  
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. Get medical attention if symptoms occur.
- 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 SoloPack Competent Cells  
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- pUC 18 DNA Control Plasmid  
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if

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**SECTION 4: First aid measures**

		symptoms occur.
	PfuUltra II Fusion HS DNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	10X PfuUltra II Reaction 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<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.
	StrataClone Blunt Cloning Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	StrataClone 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.
	pUC 18 DNA Control Plasmid	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	PfuUltra II Fusion HS DNA Polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	10X PfuUltra II Reaction 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.
<b>Ingestion</b>	: StrataClone Blunt Vector Mix amp/kan	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 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 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 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

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pUC 18 DNA Control Plasmid	induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. 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.
PfuUltra II Fusion HS DNA Polymerase	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
10X PfuUltra II Reaction 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.

<b>Protection of first-aiders</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	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. 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. 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. 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.
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**4.2 Most important symptoms and effects, both acute and delayed**

**Potential acute health effects**

<b>Eye contact</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	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. No known significant effects or critical hazards. Causes serious eye irritation.
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**SECTION 4: First aid measures**

<b>Inhalation</b>	:	StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	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. No known significant effects or critical hazards. 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 Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	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. 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 Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	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. 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**

<b>Eye contact</b>	:	StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following:  pain or irritation watering redness
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<b>Inhalation</b>	:	StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	No specific data.  No specific data.  No specific data.  No specific data.  No specific data.  No specific data.  No specific data.
<b>Skin contact</b>	:	StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	No specific data.  No specific data.  No specific data.  No specific data.  No specific data.  No specific data.  No specific data.
<b>Ingestion</b>	:	StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	No specific data.  No specific data.  No specific data.  No specific data.  No specific data.  No specific data.  No specific data.

**4.3 Indication of any immediate medical attention and special treatment needed**

<b>Notes to physician</b>	:	StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
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**SECTION 4: First aid measures**

<b>Specific treatments</b>	:	StrataClone Blunt Vector Mix amp/kan	No specific treatment.
		StrataClone Blunt Cloning Buffer	No specific treatment.
		StrataClone Blunt Control Insert	No specific treatment.
		StrataClone SoloPack Competent Cells	No specific treatment.
		pUC 18 DNA Control Plasmid	No specific treatment.
		PfuUltra II Fusion HS DNA Polymerase	No specific treatment.
		10X PfuUltra II Reaction Buffer	No specific treatment.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

<b>Suitable extinguishing media</b>	:	StrataClone Blunt Vector Mix amp/kan	Use an extinguishing agent suitable for the surrounding fire.
		StrataClone Blunt Cloning Buffer	Use an extinguishing agent suitable for the surrounding fire.
		StrataClone 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.
		PfuUltra II Fusion HS DNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
		10X PfuUltra II Reaction Buffer	Use an extinguishing agent suitable for the surrounding fire.

<b>Unsuitable extinguishing media</b>	:	StrataClone Blunt Vector Mix amp/kan	None known.
		StrataClone Blunt Cloning Buffer	None known.
		StrataClone Blunt Control Insert	None known.
		StrataClone SoloPack Competent Cells	None known.
		pUC 18 DNA Control Plasmid	None known.
		PfuUltra II Fusion HS DNA Polymerase	None known.
		10X PfuUltra II Reaction Buffer	None known.

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

<b>Hazards from the substance or mixture</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 Cloning Buffer	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 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.
		PfuUltra II Fusion HS DNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
		10X PfuUltra II Reaction	In a fire or if heated, a pressure increase will occur and the

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**SECTION 5: Firefighting measures**

	Buffer	container may burst.
<b>Hazardous combustion products</b>	: StrataClone Blunt Vector Mix amp/kan	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 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.
	PfuUltra II Fusion HS DNA Polymerase	Decomposition products may include the following materials:  carbon dioxide carbon monoxide
	10X PfuUltra II Reaction Buffer	Decomposition products may include the following materials:  carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides

**5.3 Advice for firefighters**

<b>Special precautions 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 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 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.
	PfuUltra II Fusion HS DNA Polymerase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	10X PfuUltra II Reaction 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.

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**SECTION 5: Firefighting measures**

<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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	PfuUltra II Fusion HS DNA Polymerase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	10X PfuUltra II Reaction Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

<b>For non-emergency personnel</b>	: 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 spilt 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 spilt material. 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 spilt material. Put on appropriate personal protective equipment.
	StrataClone SoloPack	No action shall be taken involving any personal risk or

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## SECTION 6: Accidental release measures

	Competent Cells	without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	pUC 18 DNA Control Plasmid	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	PfuUltra II Fusion HS DNA Polymerase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	10X PfuUltra II Reaction Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: StrataClone Blunt Vector Mix amp/kan	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	StrataClone Blunt Cloning Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	StrataClone Blunt Control Insert	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	StrataClone SoloPack Competent Cells	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	pUC 18 DNA Control Plasmid	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	PfuUltra II Fusion HS DNA Polymerase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	10X PfuUltra II Reaction Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>6.2 Environmental precautions</b>	: StrataClone Blunt Vector Mix amp/kan	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	StrataClone Blunt Cloning Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	StrataClone Blunt Control Insert	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution

## SECTION 6: Accidental release measures

	(sewers, waterways, soil or air).
StrataClone SoloPack Competent Cells	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
pUC 18 DNA Control Plasmid	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
PfuUltra II Fusion HS DNA Polymerase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
10X PfuUltra II Reaction Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and material 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 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 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.
		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.
		PfuUltra II Fusion HS DNA Polymerase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
		10X PfuUltra II Reaction 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.

<b>6.4 Reference to other sections</b>	:	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.
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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour 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.
<b>Advice on general occupational hygiene</b>	: StrataClone Blunt Vector Mix amp/kan  StrataClone Blunt Cloning Buffer  StrataClone Blunt Control Insert  StrataClone SoloPack Competent Cells  pUC 18 DNA Control Plasmid  PfuUltra II Fusion HS DNA Polymerase  10X PfuUltra II Reaction 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. 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. 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. 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. 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. 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.



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## SECTION 7: Handling and storage

protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage

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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabelled 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 unlabelled 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
pUC 18 DNA Control Plasmid	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
PfuUltra II Fusion HS DNA Polymerase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use

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**SECTION 7: Handling and storage**

10X PfuUltra II Reaction Buffer

appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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

**7.3 Specific end use(s)**

**Recommendations**

- : StrataClone Blunt Vector Mix amp/kan Industrial applications, Professional applications.
- StrataClone Blunt Cloning Buffer Industrial applications, Professional applications.
- StrataClone Blunt Control Insert Industrial applications, Professional applications.
- StrataClone SoloPack Competent Cells Industrial applications, Professional applications.
- pUC 18 DNA Control Plasmid Industrial applications, Professional applications.
- PfuUltra II Fusion HS DNA Polymerase Industrial applications, Professional applications.
- 10X PfuUltra II Reaction Buffer Industrial applications, Professional applications.

**Industrial sector specific solutions**

- : StrataClone Blunt Vector Mix amp/kan Not applicable.
- StrataClone Blunt Cloning Buffer Not applicable.
- StrataClone Blunt Control Insert Not applicable.
- StrataClone SoloPack Competent Cells Not applicable.
- pUC 18 DNA Control Plasmid Not applicable.
- PfuUltra II Fusion HS DNA Polymerase Not applicable.
- 10X PfuUltra II Reaction Buffer Not applicable.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limits**

Product/ingredient name	Exposure limit values
StrataClone Blunt Vector Mix amp/kan Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
StrataClone SoloPack Competent Cells Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
PfuUltra II Fusion HS DNA Polymerase Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011).

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## SECTION 8: Exposure controls/personal protection

TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Mist

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### DNELs/DMELs

No DNELs/DMELs available.

### PNECs

No PNECs available

## 8.2 Exposure controls

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

### 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.

**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.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: StrataClone Blunt	Liquid.
	Vector Mix amp/kan	
	StrataClone Blunt	Liquid.
	Cloning Buffer	
	StrataClone Blunt	Liquid.
	Control Insert	
	StrataClone SoloPack	Liquid.
	Competent Cells	
	pUC 18 DNA Control	Liquid.
	Plasmid	
	PfuUltra II Fusion HS	Liquid.
	DNA Polymerase	
<b>Colour</b>	10X PfuUltra II	Liquid.
	Reaction Buffer	
	: StrataClone Blunt	Not available.
	Vector Mix amp/kan	
	StrataClone Blunt	Not available.
	Cloning Buffer	
	StrataClone Blunt	Not available.
	Control Insert	
	StrataClone SoloPack	Not available.
	Competent Cells	
	pUC 18 DNA Control	Not available.
	Plasmid	
<b>Odour</b>	PfuUltra II Fusion HS	Not available.
	DNA Polymerase	
	10X PfuUltra II	Not available.
	Reaction Buffer	
	: StrataClone Blunt	Not available.
	Vector Mix amp/kan	
	StrataClone Blunt	Not available.
	Cloning Buffer	
	StrataClone Blunt	Not available.
	Control Insert	
	StrataClone SoloPack	Not available.
	Competent Cells	
<b>Odour threshold</b>	pUC 18 DNA Control	Not available.
	Plasmid	
	PfuUltra II Fusion HS	Not available.
	DNA Polymerase	
	10X PfuUltra II	Not available.
	Reaction Buffer	
	: StrataClone Blunt	Not available.
	Vector Mix amp/kan	
	StrataClone Blunt	Not available.
	Cloning Buffer	
	StrataClone Blunt	Not available.
	Control Insert	
StrataClone SoloPack	Not available.	
Competent Cells		
pUC 18 DNA Control	Not available.	
Plasmid		
PfuUltra II Fusion HS	Not available.	
DNA Polymerase		
10X PfuUltra II	Not available.	
Reaction Buffer		

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## SECTION 9: Physical and chemical properties

<b>pH</b>	: StrataClone Blunt	Not available.
	Vector Mix amp/kan	
	StrataClone Blunt	Not available.
	Cloning Buffer	
	StrataClone Blunt	7.5
	Control Insert	
	StrataClone SoloPack	Not available.
	Competent Cells	
	pUC 18 DNA Control	7.5
	Plasmid	
	PfuUltra II Fusion HS	8
<b>Melting point/freezing point</b>	DNA Polymerase	
	10X PfuUltra II	10
	Reaction Buffer	
	: StrataClone Blunt	Not available.
	Vector Mix amp/kan	
	StrataClone Blunt	Not available.
	Cloning Buffer	
	StrataClone Blunt	0°C
	Control Insert	
	StrataClone SoloPack	Not available.
	Competent Cells	
pUC 18 DNA Control	0°C	
Plasmid		
PfuUltra II Fusion HS	Not available.	
DNA Polymerase		
10X PfuUltra II	Not available.	
Reaction Buffer		
<b>Initial boiling point and boiling range</b>	: StrataClone Blunt	Not available.
	Vector Mix amp/kan	
	StrataClone Blunt	Not available.
	Cloning Buffer	
	StrataClone Blunt	100°C
	Control Insert	
	StrataClone SoloPack	Not available.
	Competent Cells	
	pUC 18 DNA Control	100°C
	Plasmid	
	PfuUltra II Fusion HS	Not available.
DNA Polymerase		
10X PfuUltra II	Not available.	
Reaction Buffer		
<b>Flash point</b>	: StrataClone Blunt	Not available.
	Vector Mix amp/kan	
	StrataClone Blunt	Not available.
	Cloning Buffer	
	StrataClone Blunt	Not available.
	Control Insert	
	StrataClone SoloPack	Not available.
	Competent Cells	
	pUC 18 DNA Control	Not available.
	Plasmid	
	PfuUltra II Fusion HS	Not available.
DNA Polymerase		
10X PfuUltra II	Not available.	
Reaction Buffer		

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## SECTION 9: Physical and chemical properties

<b>Evaporation rate</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	PfuUltra II Fusion HS DNA Polymerase	Not available.
	10X PfuUltra II Reaction Buffer	Not available.
<b>Flammability (solid, gas)</b>	: StrataClone Blunt Vector Mix amp/kan	Not applicable.
	StrataClone Blunt Cloning Buffer	Not applicable.
	StrataClone Blunt Control Insert	Not applicable.
	StrataClone SoloPack Competent Cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.
	PfuUltra II Fusion HS DNA Polymerase	Not applicable.
	10X PfuUltra II Reaction Buffer	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	PfuUltra II Fusion HS DNA Polymerase	Not available.
	10X PfuUltra II Reaction Buffer	Not available.
<b>Vapour pressure</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	PfuUltra II Fusion HS DNA Polymerase	Not available.
	10X PfuUltra II Reaction Buffer	Not available.

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## SECTION 9: Physical and chemical properties

<b>Vapour density</b>	:	StrataClone Blunt Vector Mix amp/kan	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
		PfuUltra II Fusion HS DNA Polymerase	Not available.
		10X PfuUltra II Reaction Buffer	Not available.
<b>Relative density</b>	:	StrataClone Blunt Vector Mix amp/kan	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
		PfuUltra II Fusion HS DNA Polymerase	Not available.
		10X PfuUltra II Reaction Buffer	Not available.
<b>Solubility(ies)</b>	:	StrataClone Blunt Vector Mix amp/kan	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 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.
		PfuUltra II Fusion HS DNA Polymerase	Soluble in the following materials: cold water and hot water.
		10X PfuUltra II Reaction Buffer	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 Cloning Buffer	Not available.
		StrataClone Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
		PfuUltra II Fusion HS DNA Polymerase	Not available.
		10X PfuUltra II Reaction Buffer	Not available.

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## SECTION 9: Physical and chemical properties

<b>Auto-ignition temperature</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	PfuUltra II Fusion HS DNA Polymerase	Not available.
	10X PfuUltra II Reaction Buffer	Not available.
<b>Decomposition temperature</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	PfuUltra II Fusion HS DNA Polymerase	Not available.
	10X PfuUltra II Reaction Buffer	Not available.
<b>Viscosity</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	PfuUltra II Fusion HS DNA Polymerase	Not available.
	10X PfuUltra II Reaction Buffer	Not available.
<b>Explosive properties</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	PfuUltra II Fusion HS DNA Polymerase	Not available.
	10X PfuUltra II Reaction Buffer	Not available.



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## SECTION 9: Physical and chemical properties

<b>Oxidising properties</b>	: StrataClone Blunt Vector Mix amp/kan	Not available.
	StrataClone Blunt Cloning Buffer	Not available.
	StrataClone Blunt Control Insert	Not available.
	StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.
	PfuUltra II Fusion HS DNA Polymerase	Not available.
	10X PfuUltra II Reaction Buffer	Not available.

### 9.2 Other information

No additional information.

## 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 Cloning Buffer	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 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.
	PfuUltra II Fusion HS DNA Polymerase	No specific test data related to reactivity available for this product or its ingredients.
	10X PfuUltra II Reaction Buffer	No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: StrataClone Blunt Vector Mix amp/kan	The product is stable.
	StrataClone Blunt Cloning Buffer	The product is stable.
	StrataClone Blunt Control Insert	The product is stable.
	StrataClone SoloPack Competent Cells	The product is stable.
	pUC 18 DNA Control Plasmid	The product is stable.
	PfuUltra II Fusion HS DNA Polymerase	The product is stable.
	10X PfuUltra II Reaction Buffer	The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: StrataClone Blunt Vector Mix amp/kan	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 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.
	PfuUltra II Fusion HS	Under normal conditions of storage and use, hazardous

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**SECTION 10: Stability and reactivity**

DNA Polymerase	reactions will not occur.
10X PfuUltra II Reaction Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.

**10.4 Conditions to avoid** :

StrataClone Blunt Vector Mix amp/kan	No specific data.
StrataClone Blunt Cloning Buffer	No specific data.
StrataClone Blunt Control Insert	No specific data.
StrataClone SoloPack Competent Cells	No specific data.
pUC 18 DNA Control Plasmid	No specific data.
PfuUltra II Fusion HS DNA Polymerase	No specific data.
10X PfuUltra II Reaction Buffer	No specific data.

**10.5 Incompatible materials** :

StrataClone Blunt Vector Mix amp/kan	May react or be incompatible with oxidising materials.
StrataClone Blunt Cloning Buffer	May react or be incompatible with oxidising materials.
StrataClone Blunt Control Insert	May react or be incompatible with oxidising materials.
StrataClone SoloPack Competent Cells	May react or be incompatible with oxidising materials.
pUC 18 DNA Control Plasmid	May react or be incompatible with oxidising materials.
PfuUltra II Fusion HS DNA Polymerase	May react or be incompatible with oxidising materials.
10X PfuUltra II Reaction Buffer	May react or be incompatible with oxidising materials.

**10.6 Hazardous decomposition products** :

StrataClone Blunt Vector Mix amp/kan	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 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.
PfuUltra II Fusion HS DNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
10X PfuUltra II Reaction Buffer	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

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## SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
<b>StrataClone Blunt Cloning Buffer</b> Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>10X PfuUltra II Reaction Buffer</b> Trometamol	LD50 Dermal LD50 Oral	Rat Rat	>5000 mg/kg 5000 mg/kg	- -
Polyoxyethylene octyl phenyl ether	LD50 Oral	Rat	1800 mg/kg	-

### Acute toxicity estimates

Route	ATE value
<b>10X PfuUltra II Reaction Buffer</b> Oral	180000 mg/kg

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>StrataClone Blunt Cloning Buffer</b> 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>10X PfuUltra II Reaction Buffer</b> Trometamol	Skin - Moderate irritant	Rabbit	-	25 Percent	-
	Skin - Severe irritant	Rabbit	-	500 milligrams	-
Polyoxyethylene octyl phenyl ether	Eyes - Moderate irritant	Rabbit	-	24 hours 10 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-

### Sensitiser

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
<b>10X PfuUltra II Reaction Buffer</b> Trometamol	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on likely routes of exposure** :

- StrataClone Blunt Vector Mix amp/kan Routes of entry anticipated: Oral, Dermal, Inhalation.
- StrataClone Blunt Cloning Buffer Routes of entry anticipated: Oral, Dermal, Inhalation.
- StrataClone Blunt Control Insert Not available.
- StrataClone SoloPack Routes of entry anticipated: Oral, Dermal, Inhalation.

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## SECTION 11: Toxicological information

Competent Cells	
pUC 18 DNA Control Plasmid	Not available.
PfuUltra II Fusion HS DNA Polymerase	Routes of entry anticipated: Oral, Dermal, Inhalation.
10X PfuUltra II Reaction Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

<b>Inhalation</b>	:	StrataClone Blunt Vector Mix amp/kan	No known significant effects or critical hazards.
		StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
		StrataClone 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.
		PfuUltra II Fusion HS DNA Polymerase	No known significant effects or critical hazards.
		10X PfuUltra II Reaction Buffer	No known significant effects or critical hazards.
<b>Ingestion</b>	:	StrataClone Blunt Vector Mix amp/kan	No known significant effects or critical hazards.
		StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
		StrataClone 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.
		PfuUltra II Fusion HS DNA Polymerase	No known significant effects or critical hazards.
		10X PfuUltra II Reaction Buffer	No known significant effects or critical hazards.
<b>Skin contact</b>	:	StrataClone Blunt Vector Mix amp/kan	No known significant effects or critical hazards.
		StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
		StrataClone 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.
		PfuUltra II Fusion HS DNA Polymerase	No known significant effects or critical hazards.
		10X PfuUltra II Reaction Buffer	No known significant effects or critical hazards.
<b>Eye contact</b>	:	StrataClone Blunt Vector Mix amp/kan	No known significant effects or critical hazards.
		StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
		StrataClone 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.
		PfuUltra II Fusion HS	No known significant effects or critical hazards.

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## SECTION 11: Toxicological information

DNA Polymerase  
10X PfuUltra II Reaction Buffer Causes serious eye irritation.

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

<b>Inhalation</b>	:	StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Ingestion</b>	:	StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Skin contact</b>	:	StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Eye contact</b>	:	StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: pain or irritation

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## SECTION 11: Toxicological information

watering  
redness

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

<b>General</b>	: StrataClone Blunt Vector Mix amp/kan StrataClone Blunt Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	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. 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 Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	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. 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 Cloning Buffer StrataClone Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid PfuUltra II Fusion HS DNA Polymerase 10X PfuUltra II Reaction Buffer	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. No known significant effects or critical hazards. No known significant effects or critical hazards.

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## SECTION 11: Toxicological information

<b>Teratogenicity</b>	:	StrataClone Blunt Vector Mix amp/kan	No known significant effects or critical hazards.
		StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
		StrataClone 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.
		PfuUltra II Fusion HS DNA Polymerase	No known significant effects or critical hazards.
		10X PfuUltra II Reaction Buffer	No known significant effects or critical hazards.
<b>Developmental effects</b>	:	StrataClone Blunt Vector Mix amp/kan	No known significant effects or critical hazards.
		StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
		StrataClone 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.
		PfuUltra II Fusion HS DNA Polymerase	No known significant effects or critical hazards.
		10X PfuUltra II Reaction Buffer	No known significant effects or critical hazards.
<b>Fertility effects</b>	:	StrataClone Blunt Vector Mix amp/kan	No known significant effects or critical hazards.
		StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
		StrataClone 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.
		PfuUltra II Fusion HS DNA Polymerase	No known significant effects or critical hazards.
		10X PfuUltra II Reaction Buffer	No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>StrataClone Blunt Cloning Buffer</b> Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1.56 g/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days

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**SECTION 12: Ecological information**

<b>StrataClone SoloPack Competent Cells</b> Calcium chloride (CaCl <sub>2</sub> ), dihydrate  <b>10X PfuUltra II Reaction Buffer</b> Trometamol  Polyoxyethylene octyl phenyl ether	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
	Acute EC50 2900 mg/l Fresh water	Algae	72 hours
	Acute NOEC 2000 mg/l Fresh water	Daphnia	48 hours
	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 520 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 5.85 mg/l Fresh water	Crustaceans - Ceriodaphnia rigaudi - Neonate	48 hours
Acute LC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours	
Acute LC50 4500 µg/l Fresh water	Fish - Pimephales promelas	96 hours	

**12.2 Persistence and degradability**

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<b>10X PfuUltra II Reaction Buffer</b> Polyoxyethylene octyl phenyl ether	-	-	Readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>10X PfuUltra II Reaction Buffer</b> Trometamol Polyoxyethylene octyl phenyl ether	-1.56 4.86	- -	low high

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

**PBT** : Not applicable.

**vPvB** : Not applicable.

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



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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

**ADR/RID / IMDG / IATA** : Not regulated.

**14.6 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.

**14.7 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

#### EU Regulation (EC) No. 1907/2006 (REACH)

##### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
<b>10X PfuUltra II Reaction Buffer</b> Polyoxyethylene octyl phenyl ether	Substance of equivalent concern for environment	Recommended	ED/169/2012	2/10/2014

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** :

StrataClone Blunt Vector Mix	Not applicable.
amp/kan	
StrataClone Blunt Cloning Buffer	Not applicable.
StrataClone Blunt Control Insert	Not applicable.
StrataClone SoloPack	Not applicable.
Competent Cells	
pUC 18 DNA Control Plasmid	Not applicable.
PfuUltra II Fusion HS DNA Polymerase	Not applicable.
10X PfuUltra II Reaction	Not applicable.

**Date of issue/Date of revision** : 21/06/2017

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## SECTION 15: Regulatory information

Buffer

### Other EU regulations

#### Ozone depleting substances (1005/2009/EU)

Not listed.

#### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

#### Seveso Directive

This product is not controlled under the Seveso Directive.

### 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

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: Not determined.
<b>Europe</b>	: All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (ENCS)</b> : Not determined. <b>Japan inventory (ISHL)</b> : Not determined.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: All components are listed or exempted.
<b>Viet Nam</b>	: Not determined.

### **15.2 Chemical safety assessment**

: This product contains substances for which Chemical Safety Assessments might still be required.

## SECTION 16: Other information

📄 Indicates information that has changed from previously issued version.

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## SECTION 16: Other information

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
<b>10X PfuUltra II Reaction Buffer</b> Eye Irrit. 2, H319	Calculation method

### Full text of abbreviated H statements

<b>StrataClone Blunt Cloning Buffer</b> H319	Causes serious eye irritation.
<b>StrataClone SoloPack Competent Cells</b> H319	Causes serious eye irritation.
<b>10X PfuUltra II Reaction Buffer</b> H302 H315 H318 H319 H335 H411	Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Causes serious eye irritation. May cause respiratory irritation. Toxic to aquatic life with long lasting effects.

### Full text of classifications [CLP/GHS]

<b>StrataClone Blunt Cloning Buffer</b> Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
<b>StrataClone SoloPack Competent Cells</b> Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
<b>10X PfuUltra II Reaction Buffer</b> Acute Tox. 4, H302 Aquatic Chronic 2, H411 Eye Dam. 1, H318 Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT SE 3, H335	ACUTE TOXICITY (oral) - Category 4 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

**Date of issue/ Date of revision** : 21/06/2017

**Date of previous issue** : No previous validation.

**Version** : 1

#### Notice to reader

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