

SAFETY DATA SHEET



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

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

1.1 Product identifier

Product name	: StrataClone Mammalian Expression N-Terminal FLAG Vector System, Part Number 240229
Part No. (Kit)	: 240229
Part No.	: StrataClone N-Terminal FLAG Vector Mix 240229-51 StrataClone Blunt Cloning Buffer 240207-54 StrataClone CAM Blunt Control Insert 240224-59 StrataClone SoloPack Competent Cells 200185-41 pUC 18 DNA Control Plasmid 200231-42

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

Identified uses	
Analytical reagent.	
StrataClone N-Terminal FLAG Vector Mix	0.021 ml (Use 1 µl)
StrataClone Blunt Cloning Buffer	0.063 ml
StrataClone CAM Blunt Control Insert	0.01 ml (50 ng 5 ng/µl)
StrataClone SoloPack Competent Cells	1.05 ml (21 x 50 µl)
pUC 18 DNA Control Plasmid	0.01 ml (0.1 ng/µl)

1.3 Details of the supplier of the safety data sheet

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

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

Date of issue/Date of revision : 29/03/2017

SECTION 2: Hazards identification

Not classified.

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

Signal word	: StrataClone N-Terminal FLAG Vector Mix	No signal word.
	StrataClone Blunt Cloning Buffer	No signal word.
	StrataClone CAM Blunt Control Insert	No signal word.
	StrataClone SoloPack Competent Cells	No signal word.
	pUC 18 DNA Control Plasmid	No signal word.
Hazard statements	: StrataClone N-Terminal FLAG Vector Mix	No known significant effects or critical hazards.
	StrataClone Blunt Cloning Buffer	No known significant effects or critical hazards.
	StrataClone CAM Blunt Control Insert	No known significant effects or critical hazards.
	StrataClone SoloPack Competent Cells	No known significant effects or critical hazards.
	pUC 18 DNA Control Plasmid	No known significant effects or critical hazards.
Precautionary statements		
Prevention	: StrataClone N-Terminal FLAG Vector Mix	Not applicable.
	StrataClone Blunt Cloning Buffer	Not applicable.
	StrataClone CAM Blunt Control Insert	Not applicable.
	StrataClone SoloPack Competent Cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.
Response	: StrataClone N-Terminal FLAG Vector Mix	Not applicable.
	StrataClone Blunt Cloning Buffer	Not applicable.
	StrataClone CAM Blunt Control Insert	Not applicable.
	StrataClone SoloPack Competent Cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.
Storage	: StrataClone N-Terminal FLAG Vector Mix	Not applicable.
	StrataClone Blunt Cloning Buffer	Not applicable.
	StrataClone CAM Blunt Control Insert	Not applicable.
	StrataClone SoloPack Competent Cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.

SECTION 2: Hazards identification

Disposal	:	StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Hazardous ingredients	:	StrataClone Blunt Cloning Buffer StrataClone SoloPack Competent Cells	Not applicable. Not applicable.
Supplemental label elements	:	StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	Not applicable. Safety data sheet available on request. Not applicable. Safety data sheet available on request. Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	:	StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<u>Special packaging requirements</u>			
Tactile warning of danger	:	StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
2.3 Other hazards			
Other hazards which do not result in classification	:	StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	None known. None known. None known. None known. None known.

SECTION 3: Composition/information on ingredients

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

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
StrataClone N-Terminal FLAG Vector Mix Glycerol	EC: 200-289-5 CAS: 56-81-5	≥25 - ≤50	Not classified.	[2]
StrataClone Blunt Cloning Buffer Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	<10	Eye Irrit. 2, H319	[1]
StrataClone SoloPack Competent Cells Glycerol	EC: 200-289-5 CAS: 56-81-5	≥10 - ≤25	Not classified.	[2]
Calcium chloride (CaCl ₂), dihydrate	EC: 233-140-8 CAS: 10035-04-8 Index: 017-013-00-2	≤3	Eye Irrit. 2, H319	[1]
			See Section 16 for the full text of the H statements declared above.	

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

: StrataClone N-Terminal FLAG Vector Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. 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 CAM Blunt Control Insert	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
StrataClone SoloPack Competent Cells	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. 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.

SECTION 4: First aid measures

Inhalation	: StrataClone N-Terminal FLAG Vector Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 CAM Blunt Control Insert	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	StrataClone SoloPack Competent Cells	Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 symptoms occur.
Skin contact	: StrataClone N-Terminal FLAG Vector Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	StrataClone Blunt Cloning Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	StrataClone CAM Blunt Control Insert	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	StrataClone SoloPack Competent Cells	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	pUC 18 DNA Control Plasmid	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: StrataClone N-Terminal FLAG Vector Mix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	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 CAM Blunt Control Insert	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	StrataClone SoloPack Competent Cells	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	pUC 18 DNA Control Plasmid	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

SECTION 4: First aid measures

Protection of first-aiders	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	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.
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4.2 Most important symptoms and effects, both acute and delayed**Potential acute health effects**

Eye contact	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert 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.
Inhalation	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert 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.
Skin contact	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert 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.
Ingestion	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert 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

Eye contact	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells	No specific data. No specific data. No specific data. No specific data.
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SECTION 4: First aid measures

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

4.3 Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert 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.
Unsuitable extinguishing media	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert 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

Hazards from the substance or mixture	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	Decomposition products may include the following materials: carbon dioxide carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data.

5.3 Advice for firefighters

SECTION 5: Firefighting measures

Special precautions for fire-fighters	:	StrataClone N-Terminal FLAG Vector Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		StrataClone Blunt Cloning Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		StrataClone CAM Blunt Control Insert	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		StrataClone SoloPack Competent Cells	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		pUC 18 DNA Control Plasmid	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	StrataClone N-Terminal FLAG Vector Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. 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 CAM Blunt Control Insert	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. 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.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel	:	StrataClone N-Terminal FLAG Vector Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through 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 CAM Blunt Control Insert	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

SECTION 6: Accidental release measures

	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. Put on appropriate personal protective equipment.
	pUC 18 DNA Control Plasmid	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	: StrataClone N-Terminal FLAG Vector Mix	If 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 CAM 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".
6.2 Environmental precautions	: StrataClone N-Terminal FLAG Vector Mix	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	StrataClone Blunt Cloning Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	StrataClone CAM Blunt Control Insert	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	StrataClone SoloPack Competent Cells	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	pUC 18 DNA Control Plasmid	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
6.3 Methods and material for containment and cleaning up		
Methods for cleaning up	: StrataClone N-Terminal FLAG Vector Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	StrataClone Blunt Cloning Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

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

6.4 Reference to other sections : 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.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Protective measures	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells pUC 18 DNA Control Plasmid	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).
Advice on general occupational hygiene	: StrataClone N-Terminal FLAG Vector Mix StrataClone Blunt Cloning Buffer StrataClone CAM Blunt Control Insert StrataClone SoloPack Competent Cells 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. 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.

SECTION 7: Handling and storage**7.2 Conditions for safe storage, including any incompatibilities**

Storage	: StrataClone N-Terminal FLAG Vector Mix	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
	StrataClone Blunt Cloning Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
	StrataClone CAM Blunt Control Insert	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
	StrataClone SoloPack Competent Cells	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
	pUC 18 DNA Control Plasmid	Store in accordance with local regulations. Store in original container protected from direct sunlight in a 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.

7.3 Specific end use(s)

Recommendations	: StrataClone N-Terminal FLAG Vector Mix	Industrial applications, Professional applications.
	StrataClone Blunt Cloning Buffer	Industrial applications, Professional applications.
	StrataClone CAM Blunt Control Insert	Industrial applications, Professional applications.
	StrataClone SoloPack Competent Cells	Industrial applications, Professional applications.
	pUC 18 DNA Control Plasmid	Industrial applications, Professional applications.

SECTION 7: Handling and storage

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
StrataClone N-Terminal FLAG Vector Mix Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m ³ 8 hours. Form: Mist
StrataClone SoloPack Competent Cells Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m ³ 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: safety glasses with side-shields.

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.
- 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.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**Appearance

- Physical state** : StrataClone N-Terminal FLAG Vector Mix Liquid.
StrataClone Blunt FLAG Vector Mix Liquid.
Cloning Buffer
StrataClone CAM Blunt Control Insert Liquid.
StrataClone SoloPack Competent Cells Liquid.
pUC 18 DNA Control Plasmid Liquid.
- Colour** : StrataClone N-Terminal FLAG Vector Mix Not available.
StrataClone Blunt FLAG Vector Mix Not available.
Cloning Buffer
StrataClone CAM Blunt Control Insert Not available.
StrataClone SoloPack Competent Cells Not available.
pUC 18 DNA Control Plasmid Not available.
- Odour** : StrataClone N-Terminal FLAG Vector Mix Not available.
StrataClone Blunt FLAG Vector Mix Not available.
Cloning Buffer
StrataClone CAM Blunt Control Insert Not available.
StrataClone SoloPack Competent Cells Not available.
pUC 18 DNA Control Plasmid Not available.
- Odour threshold** : StrataClone N-Terminal FLAG Vector Mix Not available.
StrataClone Blunt FLAG Vector Mix Not available.
Cloning Buffer
StrataClone CAM Blunt Control Insert Not available.
StrataClone SoloPack Competent Cells Not available.
pUC 18 DNA Control Plasmid Not available.

SECTION 9: Physical and chemical properties

pH	: StrataClone N-Terminal FLAG Vector Mix	Not available.	
	StrataClone Blunt Cloning Buffer	Not available.	
	StrataClone CAM Blunt Control Insert	7.5	
	StrataClone SoloPack Competent Cells	Not available.	
	pUC 18 DNA Control Plasmid	7.5	
	Melting point/freezing point	: StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	0°C
		StrataClone SoloPack Competent Cells	Not available.
pUC 18 DNA Control Plasmid		0°C	
Initial boiling point and boiling range		: StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	100°C
		StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	100°C	
	Flash point	: StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
pUC 18 DNA Control Plasmid		Not available.	
Evaporation rate		: StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
	pUC 18 DNA Control Plasmid	Not available.	
	Flammability (solid, gas)	: StrataClone N-Terminal FLAG Vector Mix	Not applicable.
		StrataClone Blunt Cloning Buffer	Not applicable.
		StrataClone CAM Blunt Control Insert	Not applicable.
		StrataClone SoloPack Competent Cells	Not applicable.
pUC 18 DNA Control Plasmid		Not applicable.	

SECTION 9: Physical and chemical properties

Upper/lower flammability or explosive limits	:	StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
Vapour pressure	:	StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
Vapour density	:	StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
Relative density	:	StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
Solubility(ies)	:	StrataClone N-Terminal FLAG Vector Mix	Soluble in the following materials: cold water and hot water.
		StrataClone Blunt Cloning Buffer	Soluble in the following materials: cold water and hot water.
		StrataClone CAM Blunt Control Insert	Easily soluble in the following materials: cold water and hot water.
		StrataClone SoloPack Competent Cells	Soluble in the following materials: cold water and hot water.
		pUC 18 DNA Control Plasmid	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.

SECTION 9: Physical and chemical properties

Auto-ignition temperature	:	StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
Decomposition temperature	:	StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
Viscosity	:	StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
Explosive properties	:	StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.
Oxidising properties	:	StrataClone N-Terminal FLAG Vector Mix	Not available.
		StrataClone Blunt Cloning Buffer	Not available.
		StrataClone CAM Blunt Control Insert	Not available.
		StrataClone SoloPack Competent Cells	Not available.
		pUC 18 DNA Control Plasmid	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	StrataClone N-Terminal FLAG Vector Mix	No specific test data related to reactivity available for this product or its ingredients.
		StrataClone Blunt Cloning Buffer	No specific test data related to reactivity available for this product or its ingredients.
		StrataClone CAM Blunt Control Insert	No specific test data related to reactivity available for this product or its ingredients.
		StrataClone SoloPack	No specific test data related to reactivity available for this

SECTION 10: Stability and reactivity

Competent Cells product or its ingredients.
 pUC 18 DNA Control No specific test data related to reactivity available for this
 Plasmid product or its ingredients.

10.2 Chemical stability : StrataClone N-Terminal The product is stable.
 FLAG Vector Mix
 StrataClone Blunt The product is stable.
 Cloning Buffer
 StrataClone CAM Blunt The product is stable.
 Control Insert
 StrataClone SoloPack The product is stable.
 Competent Cells
 pUC 18 DNA Control The product is stable.
 Plasmid

10.3 Possibility of hazardous reactions : StrataClone N-Terminal Under normal conditions of storage and use, hazardous
 FLAG Vector Mix reactions will not occur.
 StrataClone Blunt Under normal conditions of storage and use, hazardous
 Cloning Buffer reactions will not occur.
 StrataClone CAM Blunt Under normal conditions of storage and use, hazardous
 Control Insert reactions will not occur.
 StrataClone SoloPack Under normal conditions of storage and use, hazardous
 Competent Cells reactions will not occur.
 pUC 18 DNA Control Under normal conditions of storage and use, hazardous
 Plasmid reactions will not occur.

10.4 Conditions to avoid : StrataClone N-Terminal No specific data.
 FLAG Vector Mix
 StrataClone Blunt No specific data.
 Cloning Buffer
 StrataClone CAM Blunt No specific data.
 Control Insert
 StrataClone SoloPack No specific data.
 Competent Cells
 pUC 18 DNA Control No specific data.
 Plasmid

10.5 Incompatible materials : StrataClone N-Terminal May react or be incompatible with oxidising materials.
 FLAG Vector Mix
 StrataClone Blunt May react or be incompatible with oxidising materials.
 Cloning Buffer
 StrataClone CAM Blunt May react or be incompatible with oxidising materials.
 Control Insert
 StrataClone SoloPack May react or be incompatible with oxidising materials.
 Competent Cells
 pUC 18 DNA Control May react or be incompatible with oxidising materials.
 Plasmid

10.6 Hazardous decomposition products : StrataClone N-Terminal Under normal conditions of storage and use, hazardous
 FLAG Vector Mix decomposition products should not be produced.
 StrataClone Blunt Under normal conditions of storage and use, hazardous
 Cloning Buffer decomposition products should not be produced.
 StrataClone CAM Blunt Under normal conditions of storage and use, hazardous
 Control Insert decomposition products should not be produced.
 StrataClone SoloPack Under normal conditions of storage and use, hazardous
 Competent Cells decomposition products should not be produced.
 pUC 18 DNA Control Under normal conditions of storage and use, hazardous
 Plasmid decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
StrataClone Blunt Cloning Buffer Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
StrataClone Blunt Cloning Buffer Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitiser

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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

Potential acute health effects

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

SECTION 11: Toxicological information

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

Symptoms related to the physical, chemical and toxicological characteristics

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

SECTION 11: Toxicological informationDelayed and immediate effects as well as chronic effects from short and long-term exposureShort 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

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

SECTION 11: Toxicological information

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

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
StrataClone Blunt Cloning Buffer			
Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 28.85 mg/dm ³ Fresh water	Algae - Pseudokirchneriella subcapitata	72 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
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
StrataClone SoloPack Competent Cells			
Calcium chloride (CaCl ₂), dihydrate	Acute EC50 2900 mg/l Fresh water	Algae	72 hours
	Acute NOEC 2000 mg/l Fresh water	Daphnia	48 hours

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : 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.

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 : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

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. 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

Regulatory 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

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	StrataClone N-Terminal FLAG Vector Mix	Not applicable.
	StrataClone Blunt Cloning Buffer	Not applicable.
	StrataClone CAM Blunt Control Insert	Not applicable.
	StrataClone SoloPack Competent Cells	Not applicable.
	pUC 18 DNA Control Plasmid	Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Seveso Directive

SECTION 15: Regulatory information

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.

[International lists](#)

[National inventory](#)

Australia	: All components are listed or exempted.
Canada	: All components are listed or exempted.
China	: 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.
Turkey	: Not determined.
United States	: All components are listed or exempted.

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.

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

Classification	Justification
Not classified.	

[Full text of abbreviated H statements](#)

StrataClone Blunt Cloning Buffer H319	Causes serious eye irritation.
StrataClone SoloPack Competent Cells H319	Causes serious eye irritation.

[Full text of classifications \[CLP/GHS\]](#)

Date of issue/Date of revision : 29/03/2017

24/25

SECTION 16: Other information

StrataClone Blunt Cloning Buffer

Eye Irrit. 2, H319

SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

StrataClone SoloPack Competent Cells

Eye Irrit. 2, H319

SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

Date of issue/ Date of revision : 29/03/2017

Date of previous issue : No previous validation.

Version : 1

Notice to reader

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