

Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

pCMV-Script PCR Cloning Kit, Part Number 211199

1. Identification of the material and supplier

Names

Product name	:	pCMV-Script PCR Cloning Kit, Part Number 211199
Part No. (Chemical Kit)	:	211199
Part No.	:	Cloned Pfu DNA Polymerase 211190-59 10 mM dNTP Mix 211190-57 Polishing Buffer 211190-58 pCMV-Script mammalian expression vector 211199-51 pCMV-Script reaction buffer 211199-55 rATP 211190-56 Control PCR Insert 211192-52 Srf I 211190-53 T4 DNA Ligase 211190-54 pUC18 Control Plasmid DNA 200231-42 DNA-Binding Solution 400771-14 PCR Wash Buffer 400771-17 XL10-Gold Kan r ultracompetent cells 200317-44 XL10-Gold 2-mercaptoethanol mix 200314-43
ADG	:	Not regulated as Dangerous Goods according to the ADG Code

Supplier

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

Emergency telephone number : CHEMTREC®: +(44)-870-8200418

Uses

Area of application	:	Cloned Pfu DNA Polymerase Industrial applications, Professional applications. 10 mM dNTP Mix Industrial applications, Professional applications. Polishing Buffer Industrial applications, Professional applications. pCMV-Script mammalian expression vector Industrial applications, Professional applications. pCMV-Script reaction buffer Industrial applications, Professional applications. rATP Industrial applications, Professional applications. Control PCR Insert Industrial applications, Professional applications. Srf I Industrial applications, Professional applications. T4 DNA Ligase Industrial applications, Professional applications. pUC18 Control Plasmid DNA Industrial applications, Professional applications. DNA-Binding Solution Industrial applications, Professional applications. PCR Wash Buffer Industrial applications, Professional applications. XL10-Gold Kan r ultracompetent cells Industrial applications, Professional applications.
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1. Identification of the material and supplier

XL10-Gold 2-mercaptoethanol mix Industrial applications, Professional applications.

Material uses

: Analytical reagent.

Cloned Pfu DNA Polymerase	0.025 ml
10 mM dNTP Mix	0.025 ml
Polishing Buffer	0.25 ml
pCMV-Script mammalian expression vector	0.025 ml
pCMV-Script reaction buffer	
rATP	0.25 ml
Control PCR Insert	0.004 ml
Srf I	0.025 ml
T4 DNA Ligase	0.025 ml
pUC18 Control Plasmid DNA	0.01 ml
DNA-Binding Solution	2.5 ml
PCR Wash Buffer	5 ml
XL10-Gold Kan r ultracompetent cells	1 ml
XL10-Gold 2-mercaptoethanol mix	0.05 ml

2. Hazards identification

Classification

Cloned Pfu DNA Polymerase	Not regulated.
10 mM dNTP Mix	Not regulated.
Polishing Buffer	Not regulated.
pCMV-Script mammalian expression vector	Not regulated.
pCMV-Script reaction buffer	Not regulated.
rATP	Not regulated.
Control PCR Insert	Not regulated.
Srf I	Not regulated.
T4 DNA Ligase	Not regulated.
pUC18 Control Plasmid DNA	Not regulated.
DNA-Binding Solution	Xn; R20/21/22 R52/53
PCR Wash Buffer	Not regulated.
XL10-Gold Kan r ultracompetent cells	Not regulated.
XL10-Gold 2-mercaptoethanol mix	Xn; R21 Xi; R36 R43 R52/53

Risk phrases

Cloned Pfu DNA Polymerase	Not classified.
10 mM dNTP Mix	Not classified.
Polishing Buffer	Not classified.
pCMV-Script mammalian expression vector	Not classified.
pCMV-Script reaction buffer	Not classified.
rATP	Not classified.
Control PCR Insert	Not classified.
Srf I	Not classified.
T4 DNA Ligase	Not classified.
pUC18 Control Plasmid DNA	Not classified.
DNA-Binding Solution	R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
PCR Wash Buffer	Not classified.
XL10-Gold Kan r ultracompetent cells	Not classified.
XL10-Gold 2-mercaptoethanol	R21- Harmful in contact with skin.

3 . Composition/information on ingredients

pUC18 Control Plasmid DNA	Yes.
DNA-Binding Solution	Yes.
PCR Wash Buffer	Yes.
XL10-Gold Kan r ultracompetent cells	Yes.
XL10-Gold 2-mercaptoethanol mix	Yes.

Ingredient name	CAS number	Concentration
Cloned Pfu DNA Polymerase Glycerol	56-81-5	30 - 60
pCMV-Script reaction buffer Manganese dichloride	7773-01-5	<10
Srf I Glycerol	56-81-5	30 - 60
T4 DNA Ligase Glycerol	56-81-5	30 - 60
DNA-Binding Solution Guanidinium thiocyanate	593-84-0	30 - 60
XL10-Gold Kan r ultracompetent cells Glycerol Sucrose	56-81-5 57-50-1	<10 <10
XL10-Gold 2-mercaptoethanol mix Sodium chloride 2-Mercaptoethanol	7647-14-5 60-24-2	10 - <30 <10

Other ingredients, determined not to be hazardous according to Safe Work Australia criteria, and not dangerous according to the ADG Code, make up the product concentration to 100%.

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.

4 . First-aid measures

Inhalation	: Cloned Pfu DNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	10 mM dNTP Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Polishing Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	pCMV-Script mammalian expression vector	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	pCMV-Script reaction buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	rATP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical

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Control PCR Insert	attention if symptoms occur. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Srf I	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
T4 DNA Ligase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
pUC18 Control Plasmid DNA	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
DNA-Binding Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If 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.
PCR Wash Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
XL10-Gold Kan r ultracompetent cells	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
XL10-Gold 2-mercaptoethanol mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ingestion	
: Cloned Pfu 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.
10 mM dNTP Mix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if

4. First-aid measures

Polishing Buffer	<p>symptoms occur.</p> <p>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.</p>
pCMV-Script mammalian expression vector	<p>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.</p>
pCMV-Script reaction buffer	<p>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.</p>
rATP	<p>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.</p>
Control PCR Insert	<p>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.</p>
Srf I	<p>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.</p>
T4 DNA Ligase	<p>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.</p>
pUC18 Control Plasmid DNA	<p>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.</p>

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	DNA-Binding Solution	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. 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.
	PCR Wash 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.
	XL10-Gold Kan r ultracompetent 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.
	XL10-Gold 2-mercaptoethanol mix	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

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rATP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Control PCR Insert	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Srf I	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
T4 DNA Ligase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
pUC18 Control Plasmid DNA	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
DNA-Binding Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
PCR Wash Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
XL10-Gold Kan r ultracompetent cells	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
XL10-Gold 2-mercaptoethanol mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Eye contact	
: Cloned Pfu 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.
10 mM dNTP Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Polishing 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.
pCMV-Script mammalian expression vector	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.
pCMV-Script reaction 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.
rATP	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.
Control PCR Insert	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get

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Srf I	medical attention if irritation occurs. 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.
T4 DNA Ligase	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.
pUC18 Control Plasmid DNA	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.
DNA-Binding Solution	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.
PCR Wash 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.
XL10-Gold Kan r ultracompetent 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.
XL10-Gold 2-mercaptoethanol mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Protection of first-aiders	
: Cloned Pfu DNA Polymerase	No action shall be taken involving any personal risk or without suitable training.
10 mM dNTP Mix	No action shall be taken involving any personal risk or without suitable training.
Polishing Buffer	No action shall be taken involving any personal risk or without suitable training.
pCMV-Script mammalian expression vector	No action shall be taken involving any personal risk or without suitable training.
pCMV-Script reaction buffer	No action shall be taken involving any personal risk or without suitable training.
rATP	No action shall be taken involving any personal risk or without suitable training.
Control PCR Insert	No action shall be taken involving any personal risk or without suitable training.
Srf I	No action shall be taken involving any personal risk or without suitable training.
T4 DNA Ligase	No action shall be taken involving any personal risk or without suitable training.
pUC18 Control Plasmid DNA	No action shall be taken involving any personal risk or without suitable training.
DNA-Binding Solution	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.
PCR Wash Buffer	No action shall be taken involving any personal risk or without suitable training.
XL10-Gold Kan r ultracompetent cells	No action shall be taken involving any personal risk or without suitable training.
XL10-Gold 2-mercaptoethanol mix	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water

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Advice to doctor	: Cloned Pfu DNA Polymerase	before removing it, or wear gloves.
	10 mM dNTP Mix	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Polishing Buffer	No specific treatment. 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.
	pCMV-Script mammalian expression vector	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	pCMV-Script reaction buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	rATP	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Control PCR Insert	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Srf I	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	T4 DNA Ligase	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	pUC18 Control Plasmid DNA	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	DNA-Binding Solution	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.
	PCR Wash Buffer	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	XL10-Gold Kan r ultracompetent cells	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	XL10-Gold 2-mercaptoethanol mix	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Extinguishing media

Suitable	: Cloned Pfu DNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
	10 mM dNTP Mix	Use an extinguishing agent suitable for the surrounding fire.
	Polishing Buffer	Use an extinguishing agent suitable for the surrounding fire.
	pCMV-Script mammalian expression vector	Use an extinguishing agent suitable for the surrounding fire.
	pCMV-Script reaction buffer	Use an extinguishing agent suitable for the surrounding fire.
	rATP	Use an extinguishing agent suitable for the surrounding fire.
	Control PCR Insert	Use an extinguishing agent suitable for the surrounding fire.
	Srf I	Use an extinguishing agent suitable for the surrounding fire.

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	T4 DNA Ligase	surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
	pUC18 Control Plasmid DNA	Use an extinguishing agent suitable for the surrounding fire.
	DNA-Binding Solution	Use an extinguishing agent suitable for the surrounding fire.
	PCR Wash Buffer	Use an extinguishing agent suitable for the surrounding fire.
	XL10-Gold Kan r ultracompetent cells	Use an extinguishing agent suitable for the surrounding fire.
	XL10-Gold 2-mercaptoethanol mix	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	: Cloned Pfu DNA Polymerase	None known.
	10 mM dNTP Mix	None known.
	Polishing Buffer	None known.
	pCMV-Script mammalian expression vector	None known.
	pCMV-Script reaction buffer	None known.
	rATP	None known.
	Control PCR Insert	None known.
	Srf I	None known.
	T4 DNA Ligase	None known.
	pUC18 Control Plasmid DNA	None known.
	DNA-Binding Solution	None known.
	PCR Wash Buffer	None known.
	XL10-Gold Kan r ultracompetent cells	None known.
	XL10-Gold 2-mercaptoethanol mix	None known.
Special exposure hazards	: Cloned Pfu 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.
	10 mM dNTP Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Polishing 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.
	pCMV-Script mammalian expression vector	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.
	pCMV-Script 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.
	rATP	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.
	Control PCR 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.
	Srf I	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.
	T4 DNA Ligase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there

5 . Fire-fighting measures

pUC18 Control Plasmid DNA	is a fire. No action shall be taken involving any personal risk or without suitable training. 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.
DNA-Binding Solution	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. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
PCR Wash 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.
XL10-Gold Kan r ultracompetent 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.
XL10-Gold 2-mercaptoethanol 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. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Cloned Pfu DNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
10 mM dNTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
Polishing Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
pCMV-Script mammalian expression vector	In a fire or if heated, a pressure increase will occur and the container may burst.
pCMV-Script reaction buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
rATP	In a fire or if heated, a pressure increase will occur and the container may burst.
Control PCR Insert	In a fire or if heated, a pressure increase will occur and the container may burst.
Srf I	In a fire or if heated, a pressure increase will occur and the container may burst.
T4 DNA Ligase	In a fire or if heated, a pressure increase will occur and the container may burst.
pUC18 Control Plasmid DNA	In a fire or if heated, a pressure increase will occur and the container may burst.
DNA-Binding Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
PCR Wash Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
XL10-Gold Kan r ultracompetent cells	In a fire or if heated, a pressure increase will occur and the container may burst.
XL10-Gold 2-mercaptoethanol mix	In a fire or if heated, a pressure increase will occur and the container may burst.

5 . Fire-fighting measures

<p>Hazardous thermal decomposition products</p>	<p>: Cloned Pfu DNA Polymerase</p> <p>10 mM dNTP Mix Polishing Buffer</p> <p>pCMV-Script mammalian expression vector pCMV-Script reaction buffer</p> <p>rATP Control PCR Insert Srf I</p> <p>T4 DNA Ligase</p> <p>pUC18 Control Plasmid DNA DNA-Binding Solution</p> <p>PCR Wash Buffer XL10-Gold Kan r ultracompetent cells</p> <p>XL10-Gold 2-mercaptoethanol mix</p>	<p>Decomposition products may include the following materials: carbon dioxide carbon monoxide No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds No specific data.</p> <p>Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides No specific data. No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides</p>
<p>Special protective equipment for fire-fighters</p>	<p>: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p>	

6 . Accidental release measures

Personal precautions	: Cloned Pfu 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 (see Section 8).
	10 mM dNTP Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment (see Section 8).
	Polishing 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 (see Section 8).
	pCMV-Script mammalian expression vector	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 (see Section 8).
	pCMV-Script 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. Put on appropriate personal protective equipment (see Section 8).
	rATP	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 (see Section 8).
	Control PCR 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 (see Section 8).
	Srf I	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 (see Section 8).
	T4 DNA Ligase	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 (see Section 8).
	pUC18 Control Plasmid DNA	No action shall be taken involving any personal

6 . Accidental release measures

		<p>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 (see Section 8).</p>
	DNA-Binding Solution	<p>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 (see Section 8).</p>
	PCR Wash Buffer	<p>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 (see Section 8).</p>
	XL10-Gold Kan r ultracompetent cells	<p>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 (see Section 8).</p>
	XL10-Gold 2-mercaptoethanol mix	<p>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 (see Section 8).</p>
Environmental precautions	: Cloned Pfu DNA Polymerase	<p>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).</p>
	10 mM dNTP Mix	<p>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).</p>
	Polishing Buffer	<p>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).</p>
	pCMV-Script mammalian expression vector	<p>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).</p>
	pCMV-Script reaction buffer	<p>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).</p>
	rATP	<p>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.</p>

6 . Accidental release measures

Control PCR Insert	Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Srf I	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).
T4 DNA Ligase	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).
pUC18 Control Plasmid DNA	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).
DNA-Binding Solution	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).
PCR Wash 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). Water polluting material.
XL10-Gold Kan r ultracompetent 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).
XL10-Gold 2-mercaptoethanol mix	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material.
Methods for cleaning up : Cloned Pfu 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.
10 mM dNTP Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Polishing 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.
pCMV-Script mammalian expression vector	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble,

6 . Accidental release measures

pCMV-Script reaction buffer	absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
rATP	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.
Control PCR 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.
Srf I	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.
T4 DNA Ligase	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.
pUC18 Control Plasmid DNA	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.
DNA-Binding Solution	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.
PCR Wash 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.
XL10-Gold Kan r ultracompetent 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.
XL10-Gold 2-mercaptoethanol 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.

7. Handling and storage

Handling	: Cloned Pfu DNA Polymerase	Put on appropriate personal protective equipment (see Section 8). 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.
	10 mM dNTP Mix	Put on appropriate personal protective equipment (see Section 8). 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.
	Polishing Buffer	Put on appropriate personal protective equipment (see Section 8). 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.
	pCMV-Script mammalian expression vector	Put on appropriate personal protective equipment (see Section 8). 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.
	pCMV-Script reaction buffer	Put on appropriate personal protective equipment (see Section 8). 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.
	rATP	Put on appropriate personal protective equipment (see Section 8). 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.
	Control PCR Insert	Put on appropriate personal protective equipment (see Section 8). 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.
	Srf I	Put on appropriate personal protective equipment (see Section 8). 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.

7. Handling and storage

T4 DNA Ligase	Put on appropriate personal protective equipment (see Section 8). 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.
pUC18 Control Plasmid DNA	Put on appropriate personal protective equipment (see Section 8). 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.
DNA-Binding Solution	Put on appropriate personal protective equipment (see Section 8). 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.
PCR Wash Buffer	Put on appropriate personal protective equipment (see Section 8). 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.
XL10-Gold Kan ^r ultracompetent cells	Potentially biohazardous material. Put on appropriate personal protective equipment (see Section 8). 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.
XL10-Gold 2-mercaptoethanol mix	Put on appropriate personal protective equipment (see Section 8). 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. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. 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.

7. Handling and storage

Storage	: Cloned Pfu DNA Polymerase	<p>Empty containers retain product residue and can be hazardous. Do not reuse container.</p> <p>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.</p>
	10 mM dNTP Mix	<p>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.</p>
	Polishing Buffer	<p>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.</p>
	pCMV-Script mammalian expression vector	<p>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.</p>
	pCMV-Script reaction buffer	<p>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.</p>
	rATP	<p>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</p>

7. Handling and storage

Control PCR Insert	<p>carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.</p> <p>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.</p> <p>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.</p>
Srf I	<p>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.</p> <p>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.</p>
T4 DNA Ligase	<p>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.</p> <p>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.</p>
pUC18 Control Plasmid DNA	<p>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.</p> <p>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.</p>
DNA-Binding Solution	<p>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.</p> <p>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.</p>
PCR Wash Buffer	<p>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.</p>

7. Handling and storage

XL10-Gold Kan^r ultracompetent cells

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.

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.

XL10-Gold 2-mercaptoethanol mix

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.

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.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Exposure limits
Cloned Pfu DNA Polymerase Glycerol	Safe Work Australia (Australia, 4/2013). TWA: 10 mg/m ³ 8 hours.
pCMV-Script reaction buffer Manganese dichloride	Safe Work Australia (Australia, 4/2013). TWA: 1 mg/m ³ , (as Mn) 8 hours. Form: Dust
Srf I Glycerol	Safe Work Australia (Australia, 4/2013). TWA: 10 mg/m ³ 8 hours.
T4 DNA Ligase Glycerol	Safe Work Australia (Australia, 4/2013). TWA: 10 mg/m ³ 8 hours.
XL10-Gold Kan^r ultracompetent cells Glycerol	Safe Work Australia (Australia, 4/2013). TWA: 10 mg/m ³ 8 hours.
Sucrose	Safe Work Australia (Australia, 4/2013). TWA: 10 mg/m ³ 8 hours.

No additional exposure standard allocated for other ingredients/components covered by the MSDS other than those listed in the table above.

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 appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Exposure controls

8 . Exposure controls/personal protection

- Engineering measures** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- 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.
- Eyes** : 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 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.
- Hands** : 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.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Skin** : 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.
- 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.

9 . Physical and chemical properties

- Physical state** :
- | | |
|---|---------|
| Cloned Pfu DNA Polymerase | Liquid. |
| 10 mM dNTP Mix | Liquid. |
| Polishing Buffer | Liquid. |
| pCMV-Script mammalian expression vector | Liquid. |
| pCMV-Script reaction buffer | Liquid. |
| rATP | Liquid. |
| Control PCR Insert | Liquid. |
| Srf I | Liquid. |
| T4 DNA Ligase | Liquid. |
| pUC18 Control Plasmid DNA | Liquid. |
| DNA-Binding Solution | Liquid. |
| PCR Wash Buffer | Liquid. |
| XL10-Gold Kan r ultracompetent cells | Liquid. |
| XL10-Gold 2-mercaptoethanol mix | Liquid. |
- Colour** :
- | | |
|---|----------------|
| Cloned Pfu DNA Polymerase | Not available. |
| 10 mM dNTP Mix | Not available. |
| Polishing Buffer | Not available. |
| pCMV-Script mammalian expression vector | Not available. |
| pCMV-Script reaction buffer | Not available. |
| rATP | Not available. |
| Control PCR Insert | Not available. |
| Srf I | Not available. |
| T4 DNA Ligase | Not available. |
| pUC18 Control Plasmid DNA | Not available. |
| DNA-Binding Solution | Not available. |
| PCR Wash Buffer | Not available. |
| XL10-Gold Kan r ultracompetent cells | Not available. |
| XL10-Gold 2-mercaptoethanol mix | Not available. |

9 . Physical and chemical properties

Odour	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Odour threshold	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Boiling point	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix	Not available. 100°C (212°F) Not available. 100°C (212°F) Not available. 100°C (212°F) 100°C (212°F) Not available. Not available. 100°C (212°F) Not available. 100°C (212°F) Not available. Not available.
Melting point	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer	Not available. 0°C (32°F) Not available. 0°C (32°F) Not available. 0°C (32°F) 0°C (32°F) Not available. Not available. 0°C (32°F) Not available. Not available. 0°C (32°F)

9 . Physical and chemical properties

	XL10-Gold Kan r ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
Vapour pressure	: Cloned Pfu DNA Polymerase	Not available.
	10 mM dNTP Mix	Not available.
	Polishing Buffer	Not available.
	pCMV-Script mammalian expression vector	Not available.
	pCMV-Script reaction buffer	Not available.
	rATP	Not available.
	Control PCR Insert	Not available.
	Srf I	Not available.
	T4 DNA Ligase	Not available.
	pUC18 Control Plasmid DNA	Not available.
	DNA-Binding Solution	Not available.
	PCR Wash Buffer	Not available.
	XL10-Gold Kan r ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
Relative density	: Cloned Pfu DNA Polymerase	Not available.
	10 mM dNTP Mix	Not available.
	Polishing Buffer	Not available.
	pCMV-Script mammalian expression vector	Not available.
	pCMV-Script reaction buffer	Not available.
	rATP	Not available.
	Control PCR Insert	Not available.
	Srf I	Not available.
	T4 DNA Ligase	Not available.
	pUC18 Control Plasmid DNA	Not available.
	DNA-Binding Solution	Not available.
	PCR Wash Buffer	Not available.
	XL10-Gold Kan r ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
Flash point	: Cloned Pfu DNA Polymerase	Not available.
	10 mM dNTP Mix	Not available.
	Polishing Buffer	Not available.
	pCMV-Script mammalian expression vector	Not available.
	pCMV-Script reaction buffer	Not available.
	rATP	Not available.
	Control PCR Insert	Not available.
	Srf I	Not available.
	T4 DNA Ligase	Not available.
	pUC18 Control Plasmid DNA	Not available.
	DNA-Binding Solution	Not available.
	PCR Wash Buffer	Not available.
	XL10-Gold Kan r ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
Flammable limits	: Cloned Pfu DNA Polymerase	Not available.
	10 mM dNTP Mix	Not available.
	Polishing Buffer	Not available.
	pCMV-Script mammalian expression vector	Not available.
	pCMV-Script reaction buffer	Not available.
	rATP	Not available.
	Control PCR Insert	Not available.
	Srf I	Not available.

9 . Physical and chemical properties

	T4 DNA Ligase	Not available.
	pUC18 Control Plasmid DNA	Not available.
	DNA-Binding Solution	Not available.
	PCR Wash Buffer	Not available.
	XL10-Gold Kan r ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
Vapour density	: Cloned Pfu DNA Polymerase	Not available.
	10 mM dNTP Mix	Not available.
	Polishing Buffer	Not available.
	pCMV-Script mammalian expression vector	Not available.
	pCMV-Script reaction buffer	Not available.
	rATP	Not available.
	Control PCR Insert	Not available.
	Srf I	Not available.
	T4 DNA Ligase	Not available.
	pUC18 Control Plasmid DNA	Not available.
	DNA-Binding Solution	Not available.
	PCR Wash Buffer	Not available.
	XL10-Gold Kan r ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
pH	: Cloned Pfu DNA Polymerase	8.2
	10 mM dNTP Mix	Not available.
	Polishing Buffer	8.8
	pCMV-Script mammalian expression vector	7.5
	pCMV-Script reaction buffer	7.5
	rATP	7
	Control PCR Insert	7 to 9
	Srf I	7.5
	T4 DNA Ligase	7.5
	pUC18 Control Plasmid DNA	7.5
	DNA-Binding Solution	6.4
	PCR Wash Buffer	6.4
	XL10-Gold Kan r ultracompetent cells	6.4
	XL10-Gold 2-mercaptoethanol mix	Not available.
Viscosity	: Cloned Pfu DNA Polymerase	Not available.
	10 mM dNTP Mix	Not available.
	Polishing Buffer	Not available.
	pCMV-Script mammalian expression vector	Not available.
	pCMV-Script reaction buffer	Not available.
	rATP	Not available.
	Control PCR Insert	Not available.
	Srf I	Not available.
	T4 DNA Ligase	Not available.
	pUC18 Control Plasmid DNA	Not available.
	DNA-Binding Solution	Not available.
	PCR Wash Buffer	Not available.
	XL10-Gold Kan r ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.

10 . Stability and reactivity

Chemical stability	<ul style="list-style-type: none"> : Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix 	<p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p>
Possibility of hazardous reactions	<ul style="list-style-type: none"> : Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix 	<p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p>
Conditions to avoid	<ul style="list-style-type: none"> : Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix 	<p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p>

10 . Stability and reactivity

Materials to avoid	: Cloned Pfu DNA Polymerase	No specific data.
	10 mM dNTP Mix	No specific data.
	Polishing Buffer	No specific data.
	pCMV-Script mammalian expression vector	No specific data.
	pCMV-Script reaction buffer	No specific data.
	rATP	No specific data.
	Control PCR Insert	No specific data.
	Srf I	No specific data.
	T4 DNA Ligase	No specific data.
	pUC18 Control Plasmid DNA	No specific data.
	DNA-Binding Solution	No specific data.
	PCR Wash Buffer	No specific data.
	XL10-Gold Kan r ultracompetent cells	No specific data.
	XL10-Gold 2-mercaptoethanol mix	No specific data.
Hazardous decomposition products	: Cloned Pfu DNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	10 mM dNTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Polishing Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pCMV-Script mammalian expression vector	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pCMV-Script reaction buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	rATP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Control PCR Insert	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Srf I	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	T4 DNA Ligase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pUC18 Control Plasmid DNA	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DNA-Binding Solution	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	PCR Wash Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	XL10-Gold Kan r ultracompetent cells	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	XL10-Gold 2-mercaptoethanol mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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Potential acute health effects

Inhalation	<p>: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer</p> <p>pCMV-Script mammalian expression vector pCMV-Script reaction buffer</p> <p>rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution</p> <p>PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix</p>	<p>No known significant effects or critical hazards. No known significant effects or critical hazards. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards.</p> <p>Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. 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. Harmful by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards. No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>
Ingestion	<p>: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix</p>	<p>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.</p> <p>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. Harmful if swallowed. No known significant effects or critical hazards. No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>
Skin contact	<p>: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix</p>	<p>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.</p> <p>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. Harmful in contact with skin. No known significant effects or critical hazards. No known significant effects or critical hazards.</p> <p>Harmful in contact with skin. May cause sensitisation by skin contact.</p>

11 . Toxicological information

Eye contact	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix	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. 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. Irritating to eyes.
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Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Cloned Pfu DNA Polymerase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
pCMV-Script reaction buffer Manganese dichloride	LD50 Oral	Rat	250 mg/kg	-
Srf I Glycerol	LD50 Oral	Rat	12600 mg/kg	-
T4 DNA Ligase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
XL10-Gold Kan r ultracompetent cells Glycerol Sucrose	LD50 Oral	Rat	12600 mg/kg	-
	LD50 Oral	Rat	29700 mg/kg	-
XL10-Gold 2-mercaptoethanol mix Sodium chloride 2-Mercaptoethanol	LC50 Inhalation Dusts and mists	Rat	>42 g/m ³	1 hours
	LD50 Oral	Rat	3000 mg/kg	-
	LD50 Dermal	Rabbit	200 mg/kg	-
	LD50 Oral	Rat	244 mg/kg	-

Conclusion/Summary : Not available.

Potential chronic health effects

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Cloned Pfu DNA Polymerase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Srf I Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
T4 DNA Ligase					

11 . Toxicological information

Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
XL10-Gold Kan r ultracompetent cells					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
XL10-Gold 2-mercaptoethanol mix					
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
2-Mercaptoethanol	Eyes - Severe irritant	Rabbit	-	2 milligrams	-

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

Chronic effects	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix	No known significant effects or critical hazards. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix	No known significant effects or critical hazards. No known significant effects or critical hazards.

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Mutagenicity	<ul style="list-style-type: none"> : Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix 	<ul style="list-style-type: none"> 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. 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.
Teratogenicity	<ul style="list-style-type: none"> : Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix 	<ul style="list-style-type: none"> 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. 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.
Developmental effects	<ul style="list-style-type: none"> : Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix 	<ul style="list-style-type: none"> 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. 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.
Fertility effects	<ul style="list-style-type: none"> : Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer 	<ul style="list-style-type: none"> 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. 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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XL10-Gold Kan r ultracompetent cells	No known significant effects or critical hazards.
XL10-Gold 2-mercaptoethanol mix	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation

: Cloned Pfu DNA Polymerase	No specific data.
10 mM dNTP Mix	No specific data.
Polishing Buffer	No specific data.
pCMV-Script mammalian expression vector	No specific data.
pCMV-Script reaction buffer	No specific data.
rATP	No specific data.
Control PCR Insert	No specific data.
Srf I	No specific data.
T4 DNA Ligase	No specific data.
pUC18 Control Plasmid DNA	No specific data.
DNA-Binding Solution	No specific data.
PCR Wash Buffer	No specific data.
XL10-Gold Kan r ultracompetent cells	No specific data.
XL10-Gold 2-mercaptoethanol mix	No specific data.

Ingestion

: Cloned Pfu DNA Polymerase	No specific data.
10 mM dNTP Mix	No specific data.
Polishing Buffer	No specific data.
pCMV-Script mammalian expression vector	No specific data.
pCMV-Script reaction buffer	No specific data.
rATP	No specific data.
Control PCR Insert	No specific data.
Srf I	No specific data.
T4 DNA Ligase	No specific data.
pUC18 Control Plasmid DNA	No specific data.
DNA-Binding Solution	No specific data.
PCR Wash Buffer	No specific data.
XL10-Gold Kan r ultracompetent cells	No specific data.
XL10-Gold 2-mercaptoethanol mix	No specific data.

Skin

: Cloned Pfu DNA Polymerase	No specific data.
10 mM dNTP Mix	No specific data.
Polishing Buffer	No specific data.
pCMV-Script mammalian expression vector	No specific data.
pCMV-Script reaction buffer	No specific data.
rATP	No specific data.
Control PCR Insert	No specific data.
Srf I	No specific data.
T4 DNA Ligase	No specific data.
pUC18 Control Plasmid DNA	No specific data.
DNA-Binding Solution	No specific data.
PCR Wash Buffer	No specific data.
XL10-Gold Kan r ultracompetent cells	No specific data.
XL10-Gold 2-mercaptoethanol mix	Adverse symptoms may include the following: irritation redness

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Eyes	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. 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: irritation watering redness
Other adverse symptoms	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent cells XL10-Gold 2-mercaptoethanol mix	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Target organs	: Cloned Pfu DNA Polymerase 10 mM dNTP Mix Polishing Buffer pCMV-Script mammalian expression vector pCMV-Script reaction buffer rATP Control PCR Insert Srf I T4 DNA Ligase pUC18 Control Plasmid DNA DNA-Binding Solution PCR Wash Buffer XL10-Gold Kan r ultracompetent	Contains material which may cause damage to the following organs: kidneys, upper respiratory tract, skin, eye, lens or cornea. Not available. Contains material which may cause damage to the following organs: upper respiratory tract, skin, eyes. Not available. Contains material which may cause damage to the following organs: blood, kidneys, upper respiratory tract, skin, eyes, central nervous system (CNS). Not available. Not available. Contains material which may cause damage to the following organs: kidneys, gastrointestinal tract, upper respiratory tract, skin, eye, lens or cornea. Contains material which may cause damage to the following organs: kidneys, upper respiratory tract, skin, eye, lens or cornea. Not available. Contains material which may cause damage to the following organs: upper respiratory tract, skin, eyes. Not available. Contains material which may cause damage to

11 . Toxicological information

cells

the following organs: kidneys, liver, gastrointestinal tract, upper respiratory tract, skin, eye, lens or cornea, teeth.

XL10-Gold 2-mercaptoethanol mix

Contains material which may cause damage to the following organs: liver, upper respiratory tract, skin, eyes, central nervous system (CNS), stomach.

12 . Ecological information

Ecotoxicity : This material is harmful to aquatic life. May cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
pCMV-Script reaction buffer Manganese dichloride	Acute EC50 4700 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 51800 µg/l Marine water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute LC50 220 ppm Marine water	Fish - Lates calcarifer - Fry	96 hours
	Chronic NOEC 510 µg/l Fresh water	Fish - Salmo trutta - Eyed stage, eyed embryo	62 days
XL10-Gold 2-mercaptoethanol mix Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	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 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	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

Other ecological information

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Cloned Pfu DNA Polymerase Glycerol	-1.76	-	low
Srf I Glycerol	-1.76	-	low
T4 DNA Ligase Glycerol	-1.76	-	low
XL10-Gold Kan r ultracompetent cells Glycerol Sucrose	-1.76	-	low
	-3.7	-	low
XL10-Gold 2-mercaptoethanol mix 2-Mercaptoethanol	-0.056	-	low

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

13 . Disposal considerations

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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14 . Transport information

Regulatory information

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

15 . Regulatory information

Standard Uniform Schedule of Medicine and Poisons

6, 5

Control of Scheduled Carcinogenic Substances

<u>Ingredient name</u>	<u>Schedule</u>
No listed substance	

Australia inventory (AICS) : At least one component is not listed.

16 . Other information

Remarks :
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Indicates information that has changed from previously issued version.

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