Conforms to Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals

SAFETY DATA SHEET

Agilent Technologies

QuikChange II Site-Directed Mutagenesis Kit, Part Number 200523

Section 1. Identification

Product identifier : QuikChange II Site-Directed Mutagenesis Kit, Part Number 200523

Part No. (Chemical Kit) : 200523

Part No. :

PfuUltra High Fidelity DNA polymerase	200523-51
10X Reaction Buffer	200518-58
Dpn I restriction enzyme	200519-53
Control primer 1	200518-53
Control primer 2	200518-54
pWhitescript Control Plasmid	200518-55
dNTP Mix	200519-52
XL1-Blue supercompetent cells	200236-41
pUC18 control plasmid	200231-42

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

Analytical reagent.

PfuUltra High Fidelity DNA polymerase	0.01 ml
10X Reaction Buffer	0.5 ml
Dpn I restriction enzyme	0.01 ml
Control primer 1	0.01 ml
Control primer 2	0.01 ml
pWhitescript Control Plasmid	0.01 ml
dNTP Mix	0.01 ml
XL1-Blue supercompetent cells	0.6 ml (0.2 ml/Tube)
pUC18 control plasmid	0.01 ml

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

Emergency telephone number (with hours of operation) : CHEMTREC®: (61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

10X Reaction Buffer

H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
H402 ACUTE AQUATIC HAZARD - Category 3

PfuUltra High Fidelity DNA polymerase	Not applicable.
10X Reaction Buffer	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.2%
Dpn I restriction enzyme	Not applicable.
Control primer 1	Not applicable.
Control primer 2	Not applicable.
pWhitescript Control Plasmid	Not applicable.
dNTP Mix	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 5.7%
XL1-Blue supercompetent cells	Not applicable.
pUC18 control plasmid	Not applicable.

Section 2. Hazard(s) identification

PfuUltra High Fidelity DNA polymerase	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 50%
10X Reaction Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3.2%
Dpn I restriction enzyme	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 50%
Control primer 1	Not applicable.
Control primer 2	Not applicable.
pWhitescript Control Plasmid	Not applicable.
dNTP Mix	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 5.7%
XL1-Blue supercompetent cells	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 15%
pUC18 control plasmid	Not applicable.

GHS label elements

Hazard pictograms :

Signal word :

PfuUltra High Fidelity DNA polymerase	No signal word.
10X Reaction Buffer	WARNING
Dpn I restriction enzyme	No signal word.
Control primer 1	No signal word.
Control primer 2	No signal word.
pWhitescript Control Plasmid	No signal word.
dNTP Mix	No signal word.
XL1-Blue supercompetent cells	No signal word.
pUC18 control plasmid	No signal word.

Hazard statements :

PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
10X Reaction Buffer	H319 - Causes serious eye irritation. H402 - Harmful to aquatic life.
Dpn I restriction enzyme	No known significant effects or critical hazards.
Control primer 1	No known significant effects or critical hazards.
Control primer 2	No known significant effects or critical hazards.
pWhitescript Control Plasmid	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
XL1-Blue supercompetent cells	No known significant effects or critical hazards.
pUC18 control plasmid	No known significant effects or critical hazards.

Precautionary statements

Prevention :

PfuUltra High Fidelity DNA polymerase	Not applicable.
10X Reaction Buffer	P280 - Wear eye or face protection. P273 - Avoid release to the environment. P264 - Wash hands thoroughly after handling.
Dpn I restriction enzyme	Not applicable.
Control primer 1	Not applicable.
Control primer 2	Not applicable.
pWhitescript Control Plasmid	Not applicable.
dNTP Mix	Not applicable.
XL1-Blue supercompetent cells	Not applicable.
pUC18 control plasmid	Not applicable.

Section 2. Hazard(s) identification

Response	:	PfuUltra High Fidelity DNA polymerase	Not applicable.
		10X Reaction Buffer	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
		Dpn I restriction enzyme	Not applicable.
		Control primer 1	Not applicable.
		Control primer 2	Not applicable.
		pWhitescript Control Plasmid	Not applicable.
		dNTP Mix	Not applicable.
		XL1-Blue supercompetent cells	Not applicable.
		pUC18 control plasmid	Not applicable.
Storage	:	PfuUltra High Fidelity DNA polymerase	Not applicable.
		10X Reaction Buffer	Not applicable.
		Dpn I restriction enzyme	Not applicable.
		Control primer 1	Not applicable.
		Control primer 2	Not applicable.
		pWhitescript Control Plasmid	Not applicable.
		dNTP Mix	Not applicable.
		XL1-Blue supercompetent cells	Not applicable.
		pUC18 control plasmid	Not applicable.
Disposal	:	PfuUltra High Fidelity DNA polymerase	Not applicable.
		10X Reaction Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		Dpn I restriction enzyme	Not applicable.
		Control primer 1	Not applicable.
		Control primer 2	Not applicable.
		pWhitescript Control Plasmid	Not applicable.
		dNTP Mix	Not applicable.
		XL1-Blue supercompetent cells	Not applicable.
		pUC18 control plasmid	Not applicable.
Supplemental label elements	:	PfuUltra High Fidelity DNA polymerase	Not applicable.
		10X Reaction Buffer	Not applicable.
		Dpn I restriction enzyme	Not applicable.
		Control primer 1	Not applicable.
		Control primer 2	Not applicable.
		pWhitescript Control Plasmid	Not applicable.
		dNTP Mix	Not applicable.
		XL1-Blue supercompetent cells	Not applicable.
		pUC18 control plasmid	Not applicable.
Other hazards which do not result in classification	:	PfuUltra High Fidelity DNA polymerase	None known.
		10X Reaction Buffer	None known.
		Dpn I restriction enzyme	None known.
		Control primer 1	None known.
		Control primer 2	None known.
		pWhitescript Control Plasmid	None known.
		dNTP Mix	None known.
		XL1-Blue supercompetent cells	None known.
		pUC18 control plasmid	None known.

Section 3. Composition and ingredient information

Substance/mixture : PfuUltra High Fidelity DNA polymerase — Mixture
10X Reaction Buffer — Mixture
Dpn I restriction enzyme — Mixture
Control primer 1 — Mixture
Control primer 2 — Mixture
pWhitescript Control Plasmid — Mixture
dNTP Mix — Mixture
XL1-Blue supercompetent cells — Mixture
pUC18 control plasmid — Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
PfuUltra High Fidelity DNA polymerase		
Glycerol	≥30 - <60	56-81-5
10X Reaction Buffer		
Polyoxyethylene octyl phenyl ether	≥1 - <1.08	9002-93-1
Dpn I restriction enzyme		
Glycerol	≥30 - <60	56-81-5
XL1-Blue supercompetent cells		
Glycerol	≥10 - <30	56-81-5
Sucrose	≥5 - <10	57-50-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact :
PfuUltra High Fidelity DNA polymerase — Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
10X Reaction Buffer — Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Dpn I restriction enzyme — 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 primer 1 — 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 primer 2 — 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.
pWhitescript Control Plasmid — Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
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.
XL1-Blue supercompetent — Immediately flush eyes with plenty of water,

Section 4. First-aid measures

		cells	occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		pUC18 control plasmid	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	:	PfuUltra High Fidelity DNA polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		10X Reaction Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		Dpn I restriction enzyme	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Control primer 1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Control primer 2	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		pWhitescript Control Plasmid	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		dNTP Mix	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.
		XL1-Blue supercompetent cells	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		pUC18 control plasmid	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	:	PfuUltra High Fidelity DNA polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		10X Reaction Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		Dpn I restriction enzyme	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Control primer 1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Control primer 2	Flush contaminated skin with plenty of water.

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			Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		pWhitescript Control Plasmid	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		dNTP Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		XL1-Blue supercompetent cells	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		pUC18 control plasmid	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	PfuUltra High Fidelity DNA polymerase	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		10X Reaction Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
		Dpn I restriction enzyme	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.
		Control primer 1	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.
		Control primer 2	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.
		pWhitescript Control Plasmid	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless

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		directed to do so by medical personnel. Get medical attention if symptoms occur.
	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 symptoms occur.
	XL1-Blue supercompetent 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.
	pUC18 control plasmid	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
		10X Reaction Buffer	Causes serious eye irritation.
		Dpn I restriction enzyme	No known significant effects or critical hazards.
		Control primer 1	No known significant effects or critical hazards.
		Control primer 2	No known significant effects or critical hazards.
		pWhitescript Control Plasmid	No known significant effects or critical hazards.
		dNTP Mix	No known significant effects or critical hazards.
		XL1-Blue supercompetent cells	No known significant effects or critical hazards.
		pUC18 control plasmid	No known significant effects or critical hazards.
Inhalation	:	PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
		10X Reaction Buffer	No known significant effects or critical hazards.
		Dpn I restriction enzyme	No known significant effects or critical hazards.
		Control primer 1	No known significant effects or critical hazards.
		Control primer 2	No known significant effects or critical hazards.
		pWhitescript Control Plasmid	No known significant effects or critical hazards.
		dNTP Mix	No known significant effects or critical hazards.
		XL1-Blue supercompetent cells	No known significant effects or critical hazards.
		pUC18 control plasmid	No known significant effects or critical hazards.
Skin contact	:	PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
		10X Reaction Buffer	No known significant effects or critical hazards.
		Dpn I restriction enzyme	No known significant effects or critical hazards.
		Control primer 1	No known significant effects or critical hazards.
		Control primer 2	No known significant effects or critical hazards.
		pWhitescript Control Plasmid	No known significant effects or critical hazards.
		dNTP Mix	No known significant effects or critical hazards.
		XL1-Blue supercompetent cells	No known significant effects or critical hazards.
		pUC18 control plasmid	No known significant effects or critical hazards.

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Ingestion	:	PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
		10X Reaction Buffer	No known significant effects or critical hazards.
		Dpn I restriction enzyme	No known significant effects or critical hazards.
		Control primer 1	No known significant effects or critical hazards.
		Control primer 2	No known significant effects or critical hazards.
		pWhitescript Control Plasmid	No known significant effects or critical hazards.
		dNTP Mix	No known significant effects or critical hazards.
		XL1-Blue supercompetent cells	No known significant effects or critical hazards.
		pUC18 control plasmid	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	PfuUltra High Fidelity DNA polymerase	No specific data.
		10X Reaction Buffer	Adverse symptoms may include the following: pain or irritation watering redness
		Dpn I restriction enzyme	No specific data.
		Control primer 1	No specific data.
		Control primer 2	No specific data.
		pWhitescript Control Plasmid	No specific data.
		dNTP Mix	No specific data.
		XL1-Blue supercompetent cells	No specific data.
		pUC18 control plasmid	No specific data.
Inhalation	:	PfuUltra High Fidelity DNA polymerase	No specific data.
		10X Reaction Buffer	No specific data.
		Dpn I restriction enzyme	No specific data.
		Control primer 1	No specific data.
		Control primer 2	No specific data.
		pWhitescript Control Plasmid	No specific data.
		dNTP Mix	No specific data.
		XL1-Blue supercompetent cells	No specific data.
		pUC18 control plasmid	No specific data.
Skin contact	:	PfuUltra High Fidelity DNA polymerase	No specific data.
		10X Reaction Buffer	No specific data.
		Dpn I restriction enzyme	No specific data.
		Control primer 1	No specific data.
		Control primer 2	No specific data.
		pWhitescript Control Plasmid	No specific data.
		dNTP Mix	No specific data.
		XL1-Blue supercompetent cells	No specific data.
		pUC18 control plasmid	No specific data.
Ingestion	:	PfuUltra High Fidelity DNA polymerase	No specific data.
		10X Reaction Buffer	No specific data.
		Dpn I restriction enzyme	No specific data.
		Control primer 1	No specific data.
		Control primer 2	No specific data.
		pWhitescript Control Plasmid	No specific data.
		dNTP Mix	No specific data.
		XL1-Blue supercompetent cells	No specific data.
		pUC18 control plasmid	No specific data.

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

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Notes to physician	:	PfuUltra High Fidelity DNA polymerase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		10X 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.
		Dpn I restriction enzyme	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Control primer 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Control primer 2	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		pWhitescript Control Plasmid	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		dNTP Mix	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.
		XL1-Blue supercompetent cells	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		pUC18 control plasmid	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	PfuUltra High Fidelity DNA polymerase	No specific treatment.
		10X Reaction Buffer	No specific treatment.
		Dpn I restriction enzyme	No specific treatment.
		Control primer 1	No specific treatment.
		Control primer 2	No specific treatment.
		pWhitescript Control Plasmid	No specific treatment.
		dNTP Mix	No specific treatment.
		XL1-Blue supercompetent cells	No specific treatment.
		pUC18 control plasmid	No specific treatment.
Protection of first-aiders	:	PfuUltra High Fidelity DNA polymerase	No action shall be taken involving any personal risk or without suitable training.
		10X Reaction Buffer	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
		Dpn I restriction enzyme	No action shall be taken involving any personal risk or without suitable training.
		Control primer 1	No action shall be taken involving any personal risk or without suitable training.
		Control primer 2	No action shall be taken involving any personal risk or without suitable training.
		pWhitescript Control Plasmid	No action shall be taken involving any personal risk or without suitable training.
		dNTP Mix	No action shall be taken involving any personal risk or without suitable training.
		XL1-Blue supercompetent cells	No action shall be taken involving any personal risk or without suitable training.
		pUC18 control plasmid	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	:	PfuUltra High Fidelity DNA polymerase	Use an extinguishing agent suitable for the surrounding fire.
		10X Reaction Buffer	Use an extinguishing agent suitable for the surrounding fire.
		Dpn I restriction enzyme	Use an extinguishing agent suitable for the surrounding fire.
		Control primer 1	Use an extinguishing agent suitable for the surrounding fire.
		Control primer 2	Use an extinguishing agent suitable for the surrounding fire.
		pWhitescript Control Plasmid	Use an extinguishing agent suitable for the surrounding fire.
		dNTP Mix	Use an extinguishing agent suitable for the surrounding fire.
		XL1-Blue supercompetent cells	Use an extinguishing agent suitable for the surrounding fire.
		pUC18 control plasmid	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	PfuUltra High Fidelity DNA polymerase	None known.
		10X Reaction Buffer	None known.
		Dpn I restriction enzyme	None known.
		Control primer 1	None known.
		Control primer 2	None known.
		pWhitescript Control Plasmid	None known.
		dNTP Mix	None known.
		XL1-Blue supercompetent cells	None known.
		pUC18 control plasmid	None known.
Specific hazards arising from the chemical	:	PfuUltra High Fidelity DNA polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
		10X Reaction Buffer	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
		Dpn I restriction enzyme	In a fire or if heated, a pressure increase will occur and the container may burst.
		Control primer 1	In a fire or if heated, a pressure increase will occur and the container may burst.
		Control primer 2	In a fire or if heated, a pressure increase will occur and the container may burst.
		pWhitescript Control Plasmid	In a fire or if heated, a pressure increase will occur and the container may burst.
		dNTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
		XL1-Blue supercompetent cells	In a fire or if heated, a pressure increase will occur and the container may burst.
		pUC18 control plasmid	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	:	PfuUltra High Fidelity DNA polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
		10X Reaction Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides

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		halogenated compounds
	Dpn I restriction enzyme	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	Control primer 1	No specific data.
	Control primer 2	No specific data.
	pWhitescript Control Plasmid	No specific data.
	dNTP Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	XL1-Blue supercompetent cells	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides
	pUC18 control plasmid	No specific data.
Special protective actions for fire-fighters :	PfuUltra High Fidelity DNA polymerase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	10X 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.
	Dpn I restriction enzyme	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 primer 1	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 primer 2	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.
	pWhitescript Control Plasmid	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	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.
	XL1-Blue supercompetent 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.
	pUC18 control plasmid	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters	:	PfuUltra High Fidelity DNA polymerase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		10X Reaction Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		Dpn I restriction enzyme	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		Control primer 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		Control primer 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		pWhitescript Control Plasmid	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		dNTP Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		XL1-Blue supercompetent cells	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		pUC18 control plasmid	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	PfuUltra High Fidelity DNA polymerase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
		10X Reaction Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
		Dpn I restriction enzyme	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.
		Control primer 1	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected

Section 6. Accidental release measures

		personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Control primer 2	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.
	pWhitescript Control Plasmid	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	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.
	XL1-Blue supercompetent cells	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	pUC18 control plasmid	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders :	PfuUltra High Fidelity DNA polymerase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	10X Reaction Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Dpn I restriction enzyme	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Control primer 1	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Control primer 2	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	pWhitescript Control Plasmid	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	dNTP Mix	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	XL1-Blue supercompetent cells	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on

Section 6. Accidental release measures

		suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	pUC18 control plasmid	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions :	PfuUltra High Fidelity DNA polymerase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	10X Reaction Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
	Dpn I restriction enzyme	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).
	Control primer 1	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).
	Control primer 2	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).
	pWhitescript Control Plasmid	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	dNTP 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).
	XL1-Blue supercompetent 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).
	pUC18 control plasmid	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up :	PfuUltra High Fidelity DNA polymerase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	10X Reaction Buffer	Stop leak if without risk. Move containers from spill

Section 6. Accidental release measures

	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.
Dpn I restriction enzyme	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 primer 1	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 primer 2	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.
pWhitescript Control Plasmid	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
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.
XL1-Blue supercompetent 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.
pUC18 control plasmid	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	:	PfuUltra High Fidelity DNA polymerase	Put on appropriate personal protective equipment (see Section 8).
		10X Reaction Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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.
		Dpn I restriction enzyme	Put on appropriate personal protective equipment (see Section 8).

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	Control primer 1	Put on appropriate personal protective equipment (see Section 8).
	Control primer 2	Put on appropriate personal protective equipment (see Section 8).
	pWhitescript Control Plasmid	Put on appropriate personal protective equipment (see Section 8).
	dNTP Mix	Put on appropriate personal protective equipment (see Section 8).
	XL1-Blue supercompetent cells	Put on appropriate personal protective equipment (see Section 8).
	pUC18 control plasmid	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene :	PfuUltra High Fidelity DNA polymerase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	10X Reaction Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Dpn I restriction enzyme	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Control primer 1	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Control primer 2	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	pWhitescript Control Plasmid	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	dNTP Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	XL1-Blue supercompetent cells	Potentially biohazardous material. Eating, drinking and smoking should be prohibited in areas where this

Section 7. Handling and storage

material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

pUC18 control plasmid

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities :

PfuUltra High Fidelity DNA polymerase

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

10X Reaction Buffer

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

Dpn I restriction enzyme

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.

Control primer 1

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.

Control primer 2

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

Section 7. Handling and storage

	environmental contamination.
pWhitescript Control Plasmid	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
dNTP Mix	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
XL1-Blue supercompetent cells	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
pUC18 control plasmid	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
PfuUltra High Fidelity DNA polymerase	
Glycerol	**Safe Work Australia (Australia, 1/2014).** TWA: 10 mg/m³ 8 hours.
Dpn I restriction enzyme	
Glycerol	**Safe Work Australia (Australia, 1/2014).** TWA: 10 mg/m³ 8 hours.
XL1-Blue supercompetent cells	
Glycerol	**Safe Work Australia (Australia, 1/2014).** TWA: 10 mg/m³ 8 hours.
Sucrose	**Safe Work Australia (Australia, 1/2014).** TWA: 10 mg/m³ 8 hours.

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

Section 8. Exposure controls and personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Handle as biohazard material (Biosafety level 1).
Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : 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.

Section 9. Physical and chemical properties

Appearance

Physical state :

PfuUltra High Fidelity DNA polymerase	Liquid.
10X Reaction Buffer	Liquid.
Dpn I restriction enzyme	Liquid.
Control primer 1	Liquid.
Control primer 2	Liquid.
pWhitescript Control Plasmid	Liquid.
dNTP Mix	Liquid.
XL1-Blue supercompetent cells	Liquid.
pUC18 control plasmid	Liquid.

Colour :

PfuUltra High Fidelity DNA polymerase	Not available.
10X Reaction Buffer	Not available.
Dpn I restriction enzyme	Not available.
Control primer 1	Not available.
Control primer 2	Not available.
pWhitescript Control Plasmid	Not available.
dNTP Mix	Not available.
XL1-Blue supercompetent cells	Not available.

Section 9. Physical and chemical properties

		pUC18 control plasmid	Not available.
Odour	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
Odour threshold	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
pH	:	PfuUltra High Fidelity DNA polymerase	8.2
		10X Reaction Buffer	8.8
		Dpn I restriction enzyme	Not available.
		Control primer 1	7.5
		Control primer 2	7.5
		pWhitescript Control Plasmid	7.5
		dNTP Mix	7.5
		XL1-Blue supercompetent cells	6.4
		pUC18 control plasmid	7.5
Melting point	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	0°C (32°F)
		Control primer 2	0°C (32°F)
		pWhitescript Control Plasmid	0°C (32°F)
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	0°C (32°F)
Boiling point	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	100°C (212°F)
		Control primer 2	100°C (212°F)
		pWhitescript Control Plasmid	100°C (212°F)
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	100°C (212°F)

Section 9. Physical and chemical properties

Flash point	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
Evaporation rate	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
Flammability (solid, gas)	:	PfuUltra High Fidelity DNA polymerase	Not applicable.
		10X Reaction Buffer	Not applicable.
		Dpn I restriction enzyme	Not applicable.
		Control primer 1	Not applicable.
		Control primer 2	Not applicable.
		pWhitescript Control Plasmid	Not applicable.
		dNTP Mix	Not applicable.
		XL1-Blue supercompetent cells	Not applicable.
		pUC18 control plasmid	Not applicable.
Lower and upper explosive (flammable) limits	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
Vapour pressure	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
Vapour density	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.

Section 9. Physical and chemical properties

		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
Relative density	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
Solubility	:	PfuUltra High Fidelity DNA polymerase	Soluble in the following materials: cold water and hot water.
		10X Reaction Buffer	Easily soluble in the following materials: cold water and hot water.
		Dpn I restriction enzyme	Soluble in the following materials: cold water and hot water.
		Control primer 1	Easily soluble in the following materials: cold water and hot water.
		Control primer 2	Easily soluble in the following materials: cold water and hot water.
		pWhitescript Control Plasmid	Easily soluble in the following materials: cold water and hot water.
		dNTP Mix	Easily soluble in the following materials: cold water and hot water.
		XL1-Blue supercompetent cells	Soluble in the following materials: cold water and hot water.
		pUC18 control plasmid	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
Auto-ignition temperature	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
Decomposition temperature	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.

Section 9. Physical and chemical properties

		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.
Viscosity	:	PfuUltra High Fidelity DNA polymerase	Not available.
		10X Reaction Buffer	Not available.
		Dpn I restriction enzyme	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		pWhitescript Control Plasmid	Not available.
		dNTP Mix	Not available.
		XL1-Blue supercompetent cells	Not available.
		pUC18 control plasmid	Not available.

Section 10. Stability and reactivity

Reactivity	:	PfuUltra High Fidelity DNA polymerase	No specific test data related to reactivity available for this product or its ingredients.
		10X Reaction Buffer	No specific test data related to reactivity available for this product or its ingredients.
		Dpn I restriction enzyme	No specific test data related to reactivity available for this product or its ingredients.
		Control primer 1	No specific test data related to reactivity available for this product or its ingredients.
		Control primer 2	No specific test data related to reactivity available for this product or its ingredients.
		pWhitescript Control Plasmid	No specific test data related to reactivity available for this product or its ingredients.
		dNTP Mix	No specific test data related to reactivity available for this product or its ingredients.
		XL1-Blue supercompetent cells	No specific test data related to reactivity available for this product or its ingredients.
		pUC18 control plasmid	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	PfuUltra High Fidelity DNA polymerase	The product is stable.
		10X Reaction Buffer	The product is stable.
		Dpn I restriction enzyme	The product is stable.
		Control primer 1	The product is stable.
		Control primer 2	The product is stable.
		pWhitescript Control Plasmid	The product is stable.
		dNTP Mix	The product is stable.
		XL1-Blue supercompetent cells	The product is stable.
		pUC18 control plasmid	The product is stable.
Possibility of hazardous reactions	:	PfuUltra High Fidelity DNA polymerase	Under normal conditions of storage and use, hazardous reactions will not occur.
		10X Reaction Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		Dpn I restriction enzyme	Under normal conditions of storage and use, hazardous reactions will not occur.
		Control primer 1	Under normal conditions of storage and use, hazardous reactions will not occur.
		Control primer 2	Under normal conditions of storage and use, hazardous reactions will not occur.
		pWhitescript Control Plasmid	Under normal conditions of storage and use, hazardous reactions will not occur.
		dNTP Mix	Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

	XL1-Blue supercompetent cells	Under normal conditions of storage and use, hazardous reactions will not occur.
	pUC18 control plasmid	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid :	PfuUltra High Fidelity DNA polymerase	No specific data.
	10X Reaction Buffer	No specific data.
	Dpn I restriction enzyme	No specific data.
	Control primer 1	No specific data.
	Control primer 2	No specific data.
	pWhitescript Control Plasmid	No specific data.
	dNTP Mix	No specific data.
	XL1-Blue supercompetent cells	No specific data.
	pUC18 control plasmid	No specific data.
Incompatible materials :	PfuUltra High Fidelity DNA polymerase	May react or be incompatible with oxidising materials.
	10X Reaction Buffer	May react or be incompatible with oxidising materials.
	Dpn I restriction enzyme	May react or be incompatible with oxidising materials.
	Control primer 1	May react or be incompatible with oxidising materials.
	Control primer 2	May react or be incompatible with oxidising materials.
	pWhitescript Control Plasmid	May react or be incompatible with oxidising materials.
	dNTP Mix	May react or be incompatible with oxidising materials.
	XL1-Blue supercompetent cells	May react or be incompatible with oxidising materials.
	pUC18 control plasmid	May react or be incompatible with oxidising materials.
Hazardous decomposition products :	PfuUltra High Fidelity DNA polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	10X Reaction Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Dpn I restriction enzyme	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Control primer 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Control primer 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pWhitescript Control Plasmid	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	dNTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	XL1-Blue supercompetent cells	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	pUC18 control plasmid	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
PfuUltra High Fidelity DNA polymerase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Dpn I restriction enzyme				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
XL1-Blue supercompetent cells				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Sucrose	LD50 Oral	Rat	29700 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
PfuUltra High Fidelity DNA polymerase					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
10X Reaction Buffer					
Polyoxyethylene octyl phenyl ether	Eyes - Moderate irritant	Rabbit	-	24 hours 10 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
Dpn I restriction enzyme					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
XL1-Blue supercompetent cells					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Section 11. Toxicological information

Not available.

Information on the likely routes of exposure

PfuUltra High Fidelity DNA polymerase	Not available.
10X Reaction Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
Dpn I restriction enzyme	Not available.
Control primer 1	Routes of entry anticipated: Oral, Dermal, Inhalation.
Control primer 2	Routes of entry anticipated: Oral, Dermal, Inhalation.
pWhitescript Control Plasmid	Routes of entry anticipated: Oral, Dermal, Inhalation.
dNTP Mix	Not available.
XL1-Blue supercompetent cells	Not available.
pUC18 control plasmid	Not available.

Potential acute health effects

Eye contact

PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
10X Reaction Buffer	Causes serious eye irritation.
Dpn I restriction enzyme	No known significant effects or critical hazards.
Control primer 1	No known significant effects or critical hazards.
Control primer 2	No known significant effects or critical hazards.
pWhitescript Control Plasmid	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
XL1-Blue supercompetent cells	No known significant effects or critical hazards.
pUC18 control plasmid	No known significant effects or critical hazards.

Inhalation

PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
10X Reaction Buffer	No known significant effects or critical hazards.
Dpn I restriction enzyme	No known significant effects or critical hazards.
Control primer 1	No known significant effects or critical hazards.
Control primer 2	No known significant effects or critical hazards.
pWhitescript Control Plasmid	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
XL1-Blue supercompetent cells	No known significant effects or critical hazards.
pUC18 control plasmid	No known significant effects or critical hazards.

Skin contact

PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
10X Reaction Buffer	No known significant effects or critical hazards.
Dpn I restriction enzyme	No known significant effects or critical hazards.
Control primer 1	No known significant effects or critical hazards.
Control primer 2	No known significant effects or critical hazards.
pWhitescript Control Plasmid	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
XL1-Blue supercompetent cells	No known significant effects or critical hazards.
pUC18 control plasmid	No known significant effects or critical hazards.

Ingestion

PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
10X Reaction Buffer	No known significant effects or critical hazards.
Dpn I restriction enzyme	No known significant effects or critical hazards.
Control primer 1	No known significant effects or critical hazards.
Control primer 2	No known significant effects or critical hazards.
pWhitescript Control Plasmid	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
XL1-Blue supercompetent cells	No known significant effects or critical hazards.
pUC18 control plasmid	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

Eye contact	:	PfuUltra High Fidelity DNA polymerase	No specific data.
		10X Reaction Buffer	Adverse symptoms may include the following: pain or irritation watering redness
		Dpn I restriction enzyme	No specific data.
		Control primer 1	No specific data.
		Control primer 2	No specific data.
		pWhitescript Control Plasmid	No specific data.
		dNTP Mix	No specific data.
		XL1-Blue supercompetent cells	No specific data.
		pUC18 control plasmid	No specific data.
Inhalation	:	PfuUltra High Fidelity DNA polymerase	No specific data.
		10X Reaction Buffer	No specific data.
		Dpn I restriction enzyme	No specific data.
		Control primer 1	No specific data.
		Control primer 2	No specific data.
		pWhitescript Control Plasmid	No specific data.
		dNTP Mix	No specific data.
		XL1-Blue supercompetent cells	No specific data.
		pUC18 control plasmid	No specific data.
Skin contact	:	PfuUltra High Fidelity DNA polymerase	No specific data.
		10X Reaction Buffer	No specific data.
		Dpn I restriction enzyme	No specific data.
		Control primer 1	No specific data.
		Control primer 2	No specific data.
		pWhitescript Control Plasmid	No specific data.
		dNTP Mix	No specific data.
		XL1-Blue supercompetent cells	No specific data.
		pUC18 control plasmid	No specific data.
Ingestion	:	PfuUltra High Fidelity DNA polymerase	No specific data.
		10X Reaction Buffer	No specific data.
		Dpn I restriction enzyme	No specific data.
		Control primer 1	No specific data.
		Control primer 2	No specific data.
		pWhitescript Control Plasmid	No specific data.
		dNTP Mix	No specific data.
		XL1-Blue supercompetent cells	No specific data.
		pUC18 control plasmid	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Section 11. Toxicological information

General	:	PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
		10X Reaction Buffer	No known significant effects or critical hazards.
		Dpn I restriction enzyme	No known significant effects or critical hazards.
		Control primer 1	No known significant effects or critical hazards.
		Control primer 2	No known significant effects or critical hazards.
		pWhitescript Control Plasmid	No known significant effects or critical hazards.
		dNTP Mix	No known significant effects or critical hazards.
		XL1-Blue supercompetent cells	No known significant effects or critical hazards.
		pUC18 control plasmid	No known significant effects or critical hazards.
Carcinogenicity	:	PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
		10X Reaction Buffer	No known significant effects or critical hazards.
		Dpn I restriction enzyme	No known significant effects or critical hazards.
		Control primer 1	No known significant effects or critical hazards.
		Control primer 2	No known significant effects or critical hazards.
		pWhitescript Control Plasmid	No known significant effects or critical hazards.
		dNTP Mix	No known significant effects or critical hazards.
		XL1-Blue supercompetent cells	No known significant effects or critical hazards.
		pUC18 control plasmid	No known significant effects or critical hazards.
Mutagenicity	:	PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
		10X Reaction Buffer	No known significant effects or critical hazards.
		Dpn I restriction enzyme	No known significant effects or critical hazards.
		Control primer 1	No known significant effects or critical hazards.
		Control primer 2	No known significant effects or critical hazards.
		pWhitescript Control Plasmid	No known significant effects or critical hazards.
		dNTP Mix	No known significant effects or critical hazards.
		XL1-Blue supercompetent cells	No known significant effects or critical hazards.
		pUC18 control plasmid	No known significant effects or critical hazards.
Teratogenicity	:	PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
		10X Reaction Buffer	No known significant effects or critical hazards.
		Dpn I restriction enzyme	No known significant effects or critical hazards.
		Control primer 1	No known significant effects or critical hazards.
		Control primer 2	No known significant effects or critical hazards.
		pWhitescript Control Plasmid	No known significant effects or critical hazards.
		dNTP Mix	No known significant effects or critical hazards.
		XL1-Blue supercompetent cells	No known significant effects or critical hazards.
		pUC18 control plasmid	No known significant effects or critical hazards.
Developmental effects	:	PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
		10X Reaction Buffer	No known significant effects or critical hazards.
		Dpn I restriction enzyme	No known significant effects or critical hazards.
		Control primer 1	No known significant effects or critical hazards.
		Control primer 2	No known significant effects or critical hazards.
		pWhitescript Control Plasmid	No known significant effects or critical hazards.
		dNTP Mix	No known significant effects or critical hazards.
		XL1-Blue supercompetent cells	No known significant effects or critical hazards.
		pUC18 control plasmid	No known significant effects or critical hazards.
Fertility effects	:	PfuUltra High Fidelity DNA polymerase	No known significant effects or critical hazards.
		10X Reaction Buffer	No known significant effects or critical hazards.
		Dpn I restriction enzyme	No known significant effects or critical hazards.
		Control primer 1	No known significant effects or critical hazards.
		Control primer 2	No known significant effects or critical hazards.
		pWhitescript Control Plasmid	No known significant effects or critical hazards.

Section 11. Toxicological information

dNTP Mix	No known significant effects or critical hazards.
XL1-Blue supercompetent cells	No known significant effects or critical hazards.
pUC18 control plasmid	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
10X Reaction Buffer	
Oral	50000 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
10X Reaction Buffer			
Polyoxyethylene octyl phenyl ether	Acute LC50 5.85 mg/l Fresh water	Crustaceans - Ceriodaphnia rigaudi - Neonate	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4500 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
10X Reaction Buffer			
Polyoxyethylene octyl phenyl ether	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
PfuUltra High Fidelity DNA polymerase			
Glycerol	-1.76	-	low
10X Reaction Buffer			
Polyoxyethylene octyl phenyl ether	4.86	-	high
Dpn I restriction enzyme			
Glycerol	-1.76	-	low
XL1-Blue supercompetent cells			
Glycerol	-1.76	-	low
Sucrose	-3.7	-	low

Mobility in soil

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

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

Section 13. Disposal considerations

Disposal methods : 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulatory information

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

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

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Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AICS) : Not determined.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Canada : All components are listed or exempted.

China : Not determined.

Europe : All components are listed or exempted.

Japan : Not determined.

Malaysia : Not determined.

New Zealand : Not determined.

Section 15. Regulatory information

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : All components are listed or exempted.

United States : All components are listed or exempted.

Section 16. Any other relevant information

History

Date of issue/Date of revision : 27/10/2015

Date of previous issue : 24/10/2013.

Version : 3.01

Key to abbreviations : ADG = Australian Dangerous Goods
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NOHSC = National Occupational Health and Safety Commission
SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

Procedure used to derive the classification

Classification	Justification
10X Reaction Buffer	
Eye Irrit. 2A, H319	Calculation method
Aquatic Acute 3, H402	Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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