

Material Safety Data Sheet



Agilent Site-Directed Mutagenesis Combo Pack, Catalog #929901

1. Product and company identification

Product name : Agilent Site-Directed Mutagenesis Combo Pack, Catalog #929901

Material uses : Analytical reagent.

Solution 1	6 ml
Solution 2	6 ml
Solution 3	8 ml
Wash Buffer	25 ml
Nuclease Removal Buffer	25 ml
QuikChange Lightning Enzyme	0.01 ml
10x QuikChange Lightning Buffer	0.5 ml
dNTP Mix	0.01 ml
QuikSolution	0.5 ml
Dpn I restriction enzyme	0.02 ml
pWhitescript Control Plasmid	0.01 ml
Control primer 1	0.0075 ml
Control primer 2	0.0075 ml
XL10-Gold Ultracompetent cells	0.54 ml
XL10-Gold 2-mercaptoethanol mix	0.05 ml
pUC18 Control Plasmid DNA	0.01 ml
X-gal	250 mg
IPTG	1 g
AmpTabs Ampicillin Tablets	25 mg/tablet (200 tablets)

Supplier/Manufacturer : Agilent Technologies, Inc.
1834 State Highway 71 West
Cedar Creek, TX 78612

Part No. (Chemical Kit) : 929901

Part No.	:	Solution 1 (400761-13)	400761-13
		Solution 2 (400761-14)	400761-14
		Solution 3 (400761-15)	400761-15
		Wash Buffer	400761-16
		Nuclease Removal Buffer	400761-17
		QuikChange Lightning Enzyme	210518-51
		10x QuikChange Lightning Buffer	210518-53
		dNTP Mix	200517-51
		QuikSolution	200516-51
		Dpn I restriction enzyme	210518-52
		pWhitescript Control Plasmid	200518-55
		Control primer 1	200518-53
		Control primer 2	200518-54
		XL10-Gold Ultracompetent cells	200315-41
		XL10-Gold 2-mercaptoethanol mix	200314-43
		pUC18 Control Plasmid DNA	200231-42
		X-gal	300200
		IPTG	300127
		AmpTabs Ampicillin Tablets	300021

Validation date : 05/12/2011

In case of emergency : 1-800-894-1304

2. Hazards identification

10x QuikChange Lightning Buffer	1910.1200). This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
dNTP Mix	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
QuikSolution	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Dpn I restriction enzyme	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
pWhitescript Control Plasmid	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
Control primer 1	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
Control primer 2	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
XL10-Gold Ultracompetent cells	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
XL10-Gold 2-mercaptoethanol mix	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
pUC18 Control Plasmid DNA	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
X-gal	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.
IPTG	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29

2. Hazards identification

AmpTabs Ampicillin Tablets

CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview

Signal word

: Solution 1 (400761-13)	No signal word.
Solution 2 (400761-14)	DANGER!
Solution 3 (400761-15)	DANGER!
Wash Buffer	CAUTION!
Nuclease Removal Buffer	DANGER!
QuikChange Lightning Enzyme	No signal word.
10x QuikChange Lightning Buffer	DANGER!
dNTP Mix	No signal word.
QuikSolution	CAUTION!
Dpn I restriction enzyme	CAUTION!
pWhitescript Control Plasmid	No signal word.
Control primer 1	No signal word.
Control primer 2	No signal word.
XL10-Gold Ultracompetent cells	No signal word.
XL10-Gold 2-mercaptoethanol mix	DANGER!
pUC18 Control Plasmid DNA	No signal word.
X-gal	No signal word.
IPTG	No signal word.
AmpTabs Ampicillin Tablets	WARNING!

Hazard statements

: Solution 1 (400761-13)	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
Solution 2 (400761-14)	CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Solution 3 (400761-15)	CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. HARMFUL IF INHALED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Wash Buffer	MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Nuclease Removal Buffer	FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. HARMFUL IF INHALED. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED

2. Hazards identification

QuikChange Lightning Enzyme	ON ANIMAL DATA. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
10x QuikChange Lightning Buffer	CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
dNTP Mix	MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
QuikSolution	COMBUSTIBLE LIQUID AND VAPOR. MAY CAUSE EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Dpn I restriction enzyme	MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
pWhitescript Control Plasmid	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
Control primer 1	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
Control primer 2	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
XL10-Gold Ultracompetent cells	MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
XL10-Gold 2-mercaptoethanol mix	MAY BE FATAL IF ABSORBED THROUGH SKIN. HARMFUL IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
pUC18 Control Plasmid DNA	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
X-gal	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
IPTG	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
AmpTabs Ampicillin Tablets	MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION.

Precautions :

2. Hazards identification

Solution 1 (400761-13)	No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.
Solution 2 (400761-14)	Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Solution 3 (400761-15)	Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Wash Buffer	Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Nuclease Removal Buffer	Keep away from heat, sparks and flame. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
QuikChange Lightning Enzyme	Avoid breathing vapor or mist. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
10x QuikChange Lightning Buffer	Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
dNTP Mix	Avoid breathing vapor or mist. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
QuikSolution	Keep away from heat, sparks and flame. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wash thoroughly after handling.
Dpn I restriction enzyme	Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
pWhitescript Control Plasmid	No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.
Control primer 1	No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.
Control primer 2	No known significant effects or critical hazards. Avoid prolonged contact with eyes, skin and clothing.
XL10-Gold Ultracompetent cells	Avoid breathing vapor or mist. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Use only with adequate ventilation. Keep

2. Hazards identification

	<p>QuikSolution Dpn I restriction enzyme pWhitescript Control Plasmid Control primer 1 Control primer 2 XL10-Gold Ultracompetent cells XL10-Gold 2-mercaptoethanol mix pUC18 Control Plasmid DNA X-gal</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. Slightly irritating to the respiratory system. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. Slightly irritating to the respiratory system. Irritating to respiratory system. No known significant effects or critical hazards. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.</p>
	<p>IPTG AmpTabs Ampicillin Tablets</p>	<p>No known significant effects or critical hazards. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.</p>
Ingestion	<p>: Solution 1 (400761-13) Solution 2 (400761-14)</p> <p>Solution 3 (400761-15)</p> <p>Wash Buffer Nuclease Removal Buffer</p>	<p>No known significant effects or critical hazards. Harmful if swallowed. Corrosive to the digestive tract. Causes burns. Harmful if swallowed. Corrosive to the digestive tract. Causes burns. No known significant effects or critical hazards. Harmful if swallowed. Can cause central nervous system (CNS) depression. Corrosive to the digestive tract. Causes burns.</p>
	<p>QuikChange Lightning Enzyme 10x QuikChange Lightning Buffer dNTP Mix QuikSolution Dpn I restriction enzyme pWhitescript Control Plasmid Control primer 1 Control primer 2 XL10-Gold Ultracompetent cells XL10-Gold 2-mercaptoethanol mix pUC18 Control Plasmid DNA X-gal IPTG AmpTabs Ampicillin Tablets</p>	<p>No known significant effects or critical hazards. Corrosive to the digestive tract. Causes burns. 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. Toxic if swallowed. 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>
Skin	<p>: Solution 1 (400761-13) Solution 2 (400761-14)</p> <p>Solution 3 (400761-15)</p> <p>Wash Buffer Nuclease Removal Buffer</p>	<p>No known significant effects or critical hazards. Corrosive to the skin. Causes burns. Toxic in contact with skin. May cause sensitization by skin contact. Corrosive to the skin. Causes burns. Harmful in contact with skin. Slightly irritating to the skin. Corrosive to the skin. Causes burns. Harmful in contact with skin.</p>
	<p>QuikChange Lightning Enzyme 10x QuikChange Lightning Buffer dNTP Mix QuikSolution Dpn I restriction enzyme pWhitescript Control Plasmid Control primer 1 Control primer 2</p>	<p>Slightly irritating to the skin. Corrosive to the skin. Causes burns. Slightly irritating to the skin. Slightly irritating to the skin. Slightly irritating to the skin. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.</p>

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	XL10-Gold Ultracompetent cells	Slightly irritating to the skin.
	XL10-Gold 2-mercaptoethanol mix	Very toxic in contact with skin. Irritating to skin. May cause sensitization by skin contact.
	pUC18 Control Plasmid DNA	No known significant effects or critical hazards.
	X-gal	No known significant effects or critical hazards.
	IPTG	No known significant effects or critical hazards.
	AmpTabs Ampicillin Tablets	May cause sensitization by skin contact.
Eyes	: Solution 1 (400761-13)	No known significant effects or critical hazards.
	Solution 2 (400761-14)	Corrosive to eyes. Causes burns.
	Solution 3 (400761-15)	Corrosive to eyes. Causes burns.
	Wash Buffer	Moderately irritating to eyes.
	Nuclease Removal Buffer	Corrosive to eyes. Causes burns.
	QuikChange Lightning Enzyme	Slightly irritating to the eyes.
	10x QuikChange Lightning Buffer	Corrosive to eyes. Causes burns.
	dNTP Mix	Slightly irritating to the eyes.
	QuikSolution	Slightly irritating to the eyes.
	Dpn I restriction enzyme	Moderately irritating to eyes.
	pWhitescript Control Plasmid	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.
	XL10-Gold Ultracompetent cells	Slightly irritating to the eyes.
	XL10-Gold 2-mercaptoethanol mix	Severely irritating to eyes. Risk of serious damage to eyes.
	pUC18 Control Plasmid DNA	No known significant effects or critical hazards.
	X-gal	No known significant effects or critical hazards.
	IPTG	No known significant effects or critical hazards.
	AmpTabs Ampicillin Tablets	No known significant effects or critical hazards.
<u>Potential chronic health effects</u>		
Chronic effects	: Solution 1 (400761-13)	No known significant effects or critical hazards.
	Solution 2 (400761-14)	Contains material that may cause target organ damage, based on animal data. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
	Solution 3 (400761-15)	Contains material that may cause target organ damage, based on animal data.
	Wash Buffer	Contains material that may cause target organ damage, based on animal data.
	Nuclease Removal Buffer	Contains material that may cause target organ damage, based on animal data.
	QuikChange Lightning Enzyme	Contains material that may cause target organ damage, based on animal data.
	10x QuikChange Lightning Buffer	Contains material that may cause target organ damage, based on animal data.
	dNTP Mix	No known significant effects or critical hazards.
	QuikSolution	Contains material that may cause target organ damage, based on animal data.
	Dpn I restriction enzyme	Contains material that may cause target organ damage, based on animal data.
	pWhitescript Control Plasmid	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.
	XL10-Gold Ultracompetent cells	Contains material that may cause target organ damage, based on animal data.
	XL10-Gold 2-mercaptoethanol mix	Contains material that may cause target organ damage, based on animal data. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

2. Hazards identification

	pUC18 Control Plasmid DNA	No known significant effects or critical hazards.
	X-gal	No known significant effects or critical hazards.
	IPTG	No known significant effects or critical hazards.
	AmpTabs Ampicillin Tablets	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: Solution 1 (400761-13)	No known significant effects or critical hazards.
	Solution 2 (400761-14)	No known significant effects or critical hazards.
	Solution 3 (400761-15)	No known significant effects or critical hazards.
	Wash Buffer	No known significant effects or critical hazards.
	Nuclease Removal Buffer	No known significant effects or critical hazards.
	QuikChange Lightning Enzyme	No known significant effects or critical hazards.
	10x QuikChange Lightning Buffer	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	QuikSolution	No known significant effects or critical hazards.
	Dpn I restriction enzyme	No known significant effects or critical hazards.
	pWhitescript Control Plasmid	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.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold 2-mercaptoethanol mix	No known significant effects or critical hazards.
	pUC18 Control Plasmid DNA	No known significant effects or critical hazards.
	X-gal	No known significant effects or critical hazards.
	IPTG	No known significant effects or critical hazards.
	AmpTabs Ampicillin Tablets	No known significant effects or critical hazards.
Mutagenicity	: Solution 1 (400761-13)	No known significant effects or critical hazards.
	Solution 2 (400761-14)	No known significant effects or critical hazards.
	Solution 3 (400761-15)	No known significant effects or critical hazards.
	Wash Buffer	No known significant effects or critical hazards.
	Nuclease Removal Buffer	No known significant effects or critical hazards.
	QuikChange Lightning Enzyme	No known significant effects or critical hazards.
	10x QuikChange Lightning Buffer	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	QuikSolution	No known significant effects or critical hazards.
	Dpn I restriction enzyme	No known significant effects or critical hazards.
	pWhitescript Control Plasmid	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.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold 2-mercaptoethanol mix	No known significant effects or critical hazards.
	pUC18 Control Plasmid DNA	No known significant effects or critical hazards.
	X-gal	No known significant effects or critical hazards.
	IPTG	No known significant effects or critical hazards.
	AmpTabs Ampicillin Tablets	No known significant effects or critical hazards.
Teratogenicity	: Solution 1 (400761-13)	No known significant effects or critical hazards.
	Solution 2 (400761-14)	No known significant effects or critical hazards.
	Solution 3 (400761-15)	No known significant effects or critical hazards.
	Wash Buffer	No known significant effects or critical hazards.
	Nuclease Removal Buffer	No known significant effects or critical hazards.
	QuikChange Lightning Enzyme	No known significant effects or critical hazards.
	10x QuikChange Lightning Buffer	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	QuikSolution	No known significant effects or critical hazards.
	Dpn I restriction enzyme	No known significant effects or critical hazards.
	pWhitescript Control Plasmid	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.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.

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	XL10-Gold 2-mercaptoethanol mix	No known significant effects or critical hazards.
	pUC18 Control Plasmid DNA	No known significant effects or critical hazards.
	X-gal	No known significant effects or critical hazards.
	IPTG	No known significant effects or critical hazards.
	AmpTabs Ampicillin Tablets	No known significant effects or critical hazards.
Developmental effects	: Solution 1 (400761-13)	No known significant effects or critical hazards.
	Solution 2 (400761-14)	No known significant effects or critical hazards.
	Solution 3 (400761-15)	No known significant effects or critical hazards.
	Wash Buffer	No known significant effects or critical hazards.
	Nuclease Removal Buffer	No known significant effects or critical hazards.
	QuikChange Lightning Enzyme	No known significant effects or critical hazards.
	10x QuikChange Lightning Buffer	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	QuikSolution	No known significant effects or critical hazards.
	Dpn I restriction enzyme	No known significant effects or critical hazards.
	pWhitescript Control Plasmid	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.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold 2-mercaptoethanol mix	No known significant effects or critical hazards.
	pUC18 Control Plasmid DNA	No known significant effects or critical hazards.
	X-gal	No known significant effects or critical hazards.
	IPTG	No known significant effects or critical hazards.
	AmpTabs Ampicillin Tablets	No known significant effects or critical hazards.
Fertility effects	: Solution 1 (400761-13)	No known significant effects or critical hazards.
	Solution 2 (400761-14)	No known significant effects or critical hazards.
	Solution 3 (400761-15)	No known significant effects or critical hazards.
	Wash Buffer	No known significant effects or critical hazards.
	Nuclease Removal Buffer	No known significant effects or critical hazards.
	QuikChange Lightning Enzyme	No known significant effects or critical hazards.
	10x QuikChange Lightning Buffer	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	QuikSolution	No known significant effects or critical hazards.
	Dpn I restriction enzyme	No known significant effects or critical hazards.
	pWhitescript Control Plasmid	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.
	XL10-Gold Ultracompetent cells	No known significant effects or critical hazards.
	XL10-Gold 2-mercaptoethanol mix	No known significant effects or critical hazards.
	pUC18 Control Plasmid DNA	No known significant effects or critical hazards.
	X-gal	No known significant effects or critical hazards.
	IPTG	No known significant effects or critical hazards.
	AmpTabs Ampicillin Tablets	No known significant effects or critical hazards.
Target organs	: Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Contains material which may cause damage to the following organs: upper respiratory tract, skin, eyes.
	Solution 3 (400761-15)	Contains material which may cause damage to the following organs: blood, lungs, upper respiratory tract, skin, eye, lens or cornea, teeth.
	Wash Buffer	Contains material which may cause damage to the following organs: upper respiratory tract, skin, eyes, stomach.
	Nuclease Removal Buffer	Contains material which may cause damage to the following organs: blood, kidneys, lungs, liver, spleen, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea, teeth.
	QuikChange Lightning Enzyme	Contains material which may cause damage to the

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10x QuikChange Lightning Buffer	following organs: kidneys, upper respiratory tract, skin, eye, lens or cornea. Contains material which may cause damage to the following organs: gastrointestinal tract, upper respiratory tract, skin, eye, lens or cornea.
dNTP Mix	Not available.
QuikSolution	Contains material which may cause damage to the following organs: kidneys, liver, skin, eye, lens or cornea.
Dpn I restriction enzyme	Contains material which may cause damage to the following organs: kidneys, upper respiratory tract, skin, eye, lens or cornea, stomach.
pWhitescript Control Plasmid	Not available.
Control primer 1	Not available.
Control primer 2	Not available.
XL10-Gold Ultracompetent cells	Contains material which may cause damage to 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: upper respiratory tract, skin, eyes, stomach.
pUC18 Control Plasmid DNA	Not available.
X-gal	Not available.
IPTG	Not available.
AmpTabs Ampicillin Tablets	Not available.

Over-exposure signs/symptoms

Inhalation

: Solution 1 (400761-13)	No specific data.
Solution 2 (400761-14)	Adverse symptoms may include the following: respiratory tract irritation coughing
Solution 3 (400761-15)	Adverse symptoms may include the following: respiratory tract irritation coughing
Wash Buffer	Adverse symptoms may include the following: respiratory tract irritation coughing
Nuclease Removal Buffer	Adverse symptoms may include the following: nausea or vomiting respiratory tract irritation coughing headache drowsiness/fatigue dizziness/vertigo unconsciousness
QuikChange Lightning Enzyme	Adverse symptoms may include the following: respiratory tract irritation coughing
10x QuikChange Lightning Buffer	Adverse symptoms may include the following: respiratory tract irritation coughing
dNTP Mix	Adverse symptoms may include the following: respiratory tract irritation coughing
QuikSolution	No specific data.
Dpn I restriction enzyme	Adverse symptoms may include the following: respiratory tract irritation coughing
pWhitescript Control Plasmid	No specific data.

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	Control primer 1	No specific data.
	Control primer 2	No specific data.
	XL10-Gold Ultracompetent cells	Adverse symptoms may include the following: respiratory tract irritation coughing
	XL10-Gold 2-mercaptoethanol mix	Adverse symptoms may include the following: respiratory tract irritation coughing
	pUC18 Control Plasmid DNA	No specific data.
	X-gal	No specific data.
	IPTG	No specific data.
	AmpTabs Ampicillin Tablets	Adverse symptoms may include the following: wheezing and breathing difficulties asthma
Ingestion	: Solution 1 (400761-13)	No specific data.
	Solution 2 (400761-14)	Adverse symptoms may include the following: stomach pains
	Solution 3 (400761-15)	Adverse symptoms may include the following: stomach pains
	Wash Buffer	No specific data.
	Nuclease Removal Buffer	Adverse symptoms may include the following: stomach pains
	QuikChange Lightning Enzyme	No specific data.
	10x QuikChange Lightning Buffer	Adverse symptoms may include the following: stomach pains
	dNTP Mix	No specific data.
	QuikSolution	No specific data.
	Dpn I restriction enzyme	No specific data.
	pWhitescript Control Plasmid	No specific data.
	Control primer 1	No specific data.
	Control primer 2	No specific data.
	XL10-Gold Ultracompetent cells	No specific data.
	XL10-Gold 2-mercaptoethanol mix	No specific data.
	pUC18 Control Plasmid DNA	No specific data.
	X-gal	No specific data.
	IPTG	No specific data.
	AmpTabs Ampicillin Tablets	No specific data.
Skin	: Solution 1 (400761-13)	No specific data.
	Solution 2 (400761-14)	Adverse symptoms may include the following: pain or irritation redness dryness cracking blistering may occur
	Solution 3 (400761-15)	Adverse symptoms may include the following: pain or irritation redness blistering may occur
	Wash Buffer	Adverse symptoms may include the following: irritation redness
	Nuclease Removal Buffer	Adverse symptoms may include the following: pain or irritation redness blistering may occur
	QuikChange Lightning Enzyme	Adverse symptoms may include the following: irritation redness
	10x QuikChange Lightning Buffer	Adverse symptoms may include the following:

2. Hazards identification

	dNTP Mix	pain or irritation redness blistering may occur Adverse symptoms may include the following: irritation redness
	QuikSolution	Adverse symptoms may include the following: irritation redness
	Dpn I restriction enzyme	Adverse symptoms may include the following: irritation redness
	pWhitescript Control Plasmid Control primer 1 Control primer 2 XL10-Gold Ultracompetent cells	No specific data. No specific data. No specific data. Adverse symptoms may include the following: irritation redness
	XL10-Gold 2-mercaptoethanol mix	Adverse symptoms may include the following: irritation redness
	pUC18 Control Plasmid DNA X-gal IPTG AmpTabs Ampicillin Tablets	No specific data. No specific data. No specific data. Adverse symptoms may include the following: irritation redness
Eyes	: Solution 1 (400761-13) Solution 2 (400761-14)	No specific data. Adverse symptoms may include the following: pain watering redness
	Solution 3 (400761-15)	Adverse symptoms may include the following: pain watering redness
	Wash Buffer	Adverse symptoms may include the following: irritation watering redness
	Nuclease Removal Buffer	Adverse symptoms may include the following: pain watering redness
	QuikChange Lightning Enzyme	Adverse symptoms may include the following: irritation watering redness
	10x QuikChange Lightning Buffer	Adverse symptoms may include the following: pain watering redness
	dNTP Mix	Adverse symptoms may include the following: irritation watering redness
	QuikSolution	Adverse symptoms may include the following: irritation watering

2. Hazards identification

	Dpn I restriction enzyme	redness Adverse symptoms may include the following: irritation watering redness
	pWhitescript Control Plasmid Control primer 1 Control primer 2 XL10-Gold Ultracompetent cells	No specific data. No specific data. No specific data. Adverse symptoms may include the following: irritation watering redness
	XL10-Gold 2-mercaptoethanol mix	Adverse symptoms may include the following: pain or irritation watering redness
	pUC18 Control Plasmid DNA X-gal IPTG AmpTabs Ampicillin Tablets	No specific data. No specific data. No specific data. No specific data.
Medical conditions aggravated by over-exposure	: Solution 1 (400761-13) Solution 2 (400761-14)	None known. Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
	Solution 3 (400761-15)	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
	Wash Buffer	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
	Nuclease Removal Buffer	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
	QuikChange Lightning Enzyme	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
	10x QuikChange Lightning Buffer	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
	dNTP Mix QuikSolution	None known. Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
	Dpn I restriction enzyme	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
	pWhitescript Control Plasmid Control primer 1 Control primer 2 XL10-Gold Ultracompetent cells	None known. None known. None known. Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
	XL10-Gold 2-mercaptoethanol mix	Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
	pUC18 Control Plasmid DNA X-gal	None known. None known.

2. Hazards identification

IPTG
AmpTabs Ampicillin Tablets

None known.
Pre-existing respiratory and skin disorders may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	%
Solution 2 (400761-14) Sodium dodecyl sulphate	151-21-3	0.1 - 1
Solution 3 (400761-15) Guanidinium thiocyanate	593-84-0	30 - 60
Acetic acid	64-19-7	7 - 13
Potassium acetate	127-08-2	5 - 10
Wash Buffer Sodium chloride	7647-14-5	0.5 - 1.5
Nuclease Removal Buffer Isopropanol	67-63-0	30 - 60
Guanidinium thiocyanate	593-84-0	10 - 30
Acetic acid	64-19-7	3 - 7
Potassium acetate	127-08-2	1 - 5
QuikChange Lightning Enzyme Glycerol	56-81-5	30 - 60
10x QuikChange Lightning Buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	1185-53-1	1 - 5
Potassium chloride	7447-40-7	1 - 5
Dodecyldimethyl(3-sulphonatopropyl)ammonium	14933-08-5	1 - 5
Ammonium sulphate	7783-20-2	0.5 - 1.5
dNTP Mix 2'-Deoxyguanosine 5'-(tetrahydrogen triphosphate)	2564-35-4	0.5 - 1.5
2'-Deoxyadenosine 5'-(tetrahydrogen triphosphate)	1927-31-7	0.5 - 1.5
QuikSolution Dimethyl sulfoxide	67-68-5	60 - 100
Dpn I restriction enzyme Glycerol	56-81-5	30 - 60
Sodium chloride	7647-14-5	1 - 5
XL10-Gold Ultracompetent cells Glycerol	56-81-5	5 - 10
Dimethyl sulfoxide	67-68-5	3 - 7
Sucrose	57-50-1	1 - 5
Potassium chloride	7447-40-7	1 - 5
XL10-Gold 2-mercaptoethanol mix Sodium chloride	7647-14-5	7 - 13
2-Mercaptoethanol	60-24-2	1 - 5
AmpTabs Ampicillin Tablets Sodium [2S-[2 α ,5 α ,6 β (S*)]]-6-(aminophenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate	69-52-3	60 - 100

3. Composition/information on ingredients

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

Eye contact	: Solution 1 (400761-13)	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
	Solution 2 (400761-14)	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	Solution 3 (400761-15)	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	Wash Buffer	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	Nuclease Removal Buffer	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	QuikChange Lightning Enzyme	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	10x QuikChange Lightning Buffer	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	dNTP Mix	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	QuikSolution	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	Dpn I restriction enzyme	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	pWhitescript Control Plasmid	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
	Control primer 1	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
	Control primer 2	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at

4. First aid measures

		least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
	XL10-Gold Ultracompetent cells	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	XL10-Gold 2-mercaptoethanol mix	Call medical doctor or poison control center immediately. Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
	pUC18 Control Plasmid DNA	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
	X-gal	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
	IPTG	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
	AmpTabs Ampicillin Tablets	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
Skin contact	: Solution 1 (400761-13)	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
	Solution 2 (400761-14)	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
	Solution 3 (400761-15)	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
	Wash Buffer	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
	Nuclease Removal Buffer	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
	QuikChange Lightning Enzyme	In case of contact, immediately flush skin with

4. First aid measures

10x QuikChange Lightning Buffer	<p>plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.</p> <p>In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.</p>
dNTP Mix	<p>In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.</p>
QuikSolution	<p>In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.</p>
Dpn I restriction enzyme	<p>In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.</p>
pWhitescript Control Plasmid	<p>In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.</p>
Control primer 1	<p>In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.</p>
Control primer 2	<p>In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.</p>
XL10-Gold Ultracompetent cells	<p>In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.</p>
XL10-Gold 2-mercaptoethanol mix	<p>Call medical doctor or poison control center immediately. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.</p>
pUC18 Control Plasmid DNA	<p>In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.</p>

4. First aid measures

X-gal	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
IPTG	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.
AmpTabs Ampicillin Tablets	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
Inhalation : Solution 1 (400761-13)	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.
Solution 2 (400761-14)	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Solution 3 (400761-15)	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Wash Buffer	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Nuclease Removal Buffer	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
QuikChange Lightning Enzyme	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
10x QuikChange Lightning Buffer	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

4. First aid measures

dNTP Mix	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
QuikSolution	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Dpn I restriction enzyme	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
pWhitescript Control Plasmid	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.
Control primer 1	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.
Control primer 2	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.
XL10-Gold Ultracompetent cells	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
XL10-Gold 2-mercaptoethanol mix	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
pUC18 Control Plasmid DNA	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.
X-gal	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

4. First aid measures

	IPTG	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.
	AmpTabs Ampicillin Tablets	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Ingestion	: Solution 1 (400761-13)	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
	Solution 2 (400761-14)	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
	Solution 3 (400761-15)	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
	Wash Buffer	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
	Nuclease Removal Buffer	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
	QuikChange Lightning Enzyme	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
	10x QuikChange Lightning Buffer	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
	dNTP Mix	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
	QuikSolution	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
	Dpn I restriction enzyme	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an

4. First aid measures

pWhitescript Control Plasmid	unconscious person. Get medical attention immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Control primer 1	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Control primer 2	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
XL10-Gold Ultracompetent cells	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
XL10-Gold 2-mercaptoethanol mix	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
pUC18 Control Plasmid DNA	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
X-gal	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
IPTG	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
AmpTabs Ampicillin Tablets	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders	: Solution 1 (400761-13)	No action shall be taken involving any personal risk or without suitable training.
	Solution 2 (400761-14)	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
	Solution 3 (400761-15)	No action shall be taken involving any personal risk or without suitable training. If it is suspected that

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	fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
Wash 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.
Nuclease Removal Buffer	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
QuikChange Lightning Enzyme	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.
10x QuikChange Lightning Buffer	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
dNTP 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.
QuikSolution	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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
pWhitescript Control Plasmid	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.
XL10-Gold Ultracompetent cells	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.
XL10-Gold 2-mercaptoethanol mix	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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pUC18 Control Plasmid DNA	No action shall be taken involving any personal risk or without suitable training.
X-gal	No action shall be taken involving any personal risk or without suitable training.
IPTG	No action shall be taken involving any personal risk or without suitable training.
AmpTabs Ampicillin Tablets	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician

: Solution 1 (400761-13)	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Solution 2 (400761-14)	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Solution 3 (400761-15)	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.
Wash Buffer	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Nuclease Removal 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.
QuikChange Lightning Enzyme	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
10x QuikChange Lightning 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.
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.
QuikSolution	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Dpn I restriction enzyme	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
pWhitescript Control Plasmid	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Control primer 1	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Control primer 2	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
XL10-Gold Ultracompetent cells	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

4. First aid measures

XL10-Gold 2-mercaptoethanol mix	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.
X-gal	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.
IPTG	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
AmpTabs Ampicillin Tablets	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.

5. Fire-fighting measures

Flammability of the product

: Solution 1 (400761-13)	In a fire or if heated, a pressure increase will occur and the container may burst.
Solution 2 (400761-14)	In a fire or if heated, a pressure increase will occur and the container may burst.
Solution 3 (400761-15)	In a fire or if heated, a pressure increase will occur and the container may burst.
Wash Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
Nuclease Removal Buffer	Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
QuikChange Lightning Enzyme	In a fire or if heated, a pressure increase will occur and the container may burst.
10x QuikChange Lightning Buffer	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.
QuikSolution	Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
Dpn I restriction enzyme	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.
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.
XL10-Gold 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.
pUC18 Control Plasmid DNA	In a fire or if heated, a pressure increase will occur and the container may burst.
X-gal	No specific fire or explosion hazard.

5. Fire-fighting measures

Extinguishing media

Suitable

X-gal	No specific fire or explosion hazard.
IPTG	No specific fire or explosion hazard.
AmpTabs Ampicillin Tablets	No specific fire or explosion hazard.
: Solution 1 (400761-13)	Use an extinguishing agent suitable for the surrounding fire.
Solution 2 (400761-14)	Use an extinguishing agent suitable for the surrounding fire.
Solution 3 (400761-15)	Use an extinguishing agent suitable for the surrounding fire.
Wash Buffer	Use an extinguishing agent suitable for the surrounding fire.
Nuclease Removal Buffer	Use dry chemical, CO ₂ , water spray (fog) or foam.
QuikChange Lightning Enzyme	Use an extinguishing agent suitable for the surrounding fire.
10x QuikChange Lightning Buffer	Use an extinguishing agent suitable for the surrounding fire.
dNTP Mix	Use an extinguishing agent suitable for the surrounding fire.
QuikSolution	Use dry chemical, CO ₂ , water spray (fog) or foam.
Dpn I restriction enzyme	Use an extinguishing agent suitable for the surrounding fire.
pWhitescript Control Plasmid	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.
XL10-Gold 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.
pUC18 Control Plasmid DNA	Use an extinguishing agent suitable for the surrounding fire.
X-gal	Use an extinguishing agent suitable for the surrounding fire.
IPTG	Use an extinguishing agent suitable for the surrounding fire.
AmpTabs Ampicillin Tablets	Use an extinguishing agent suitable for the surrounding fire.

Not suitable

: Solution 1 (400761-13)	None known.
Solution 2 (400761-14)	None known.
Solution 3 (400761-15)	None known.
Wash Buffer	None known.
Nuclease Removal Buffer	Do not use water jet.
QuikChange Lightning Enzyme	None known.
10x QuikChange Lightning Buffer	None known.
dNTP Mix	None known.
QuikSolution	Do not use water jet.
Dpn I restriction enzyme	None known.
pWhitescript Control Plasmid	None known.
Control primer 1	None known.
Control primer 2	None known.
XL10-Gold Ultracompetent cells	None known.
XL10-Gold 2-mercaptoethanol mix	None known.
pUC18 Control Plasmid DNA	None known.
X-gal	None known.
IPTG	None known.
AmpTabs Ampicillin Tablets	None known.

5. Fire-fighting measures

Special exposure hazards	: Solution 1 (400761-13)	No action shall be taken involving any personal risk or without suitable training.
	Solution 2 (400761-14)	No action shall be taken involving any personal risk or without suitable training.
	Solution 3 (400761-15)	No action shall be taken involving any personal risk or without suitable training.
	Wash Buffer	No action shall be taken involving any personal risk or without suitable training.
	Nuclease Removal 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
	QuikChange Lightning Enzyme	No action shall be taken involving any personal risk or without suitable training.
	10x QuikChange Lightning Buffer	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.
	QuikSolution	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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
	Dpn I restriction enzyme	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.
	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.
	XL10-Gold 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.
	pUC18 Control Plasmid DNA	No action shall be taken involving any personal risk or without suitable training.
	X-gal	No action shall be taken involving any personal risk or without suitable training.
	IPTG	No action shall be taken involving any personal risk or without suitable training.
	AmpTabs Ampicillin Tablets	No action shall be taken involving any personal risk or without suitable training.
Hazardous thermal decomposition products	: Solution 1 (400761-13)	No specific data.
	Solution 2 (400761-14)	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides metal oxide/oxides
	Solution 3 (400761-15)	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides

5. Fire-fighting measures

Wash Buffer	metal oxide/oxides Decomposition products may include the following materials: halogenated compounds metal oxide/oxides
Nuclease Removal Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
QuikChange Lightning Enzyme	Decomposition products may include the following materials: carbon dioxide carbon monoxide
10x QuikChange Lightning Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides
dNTP Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
QuikSolution	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
Dpn I restriction enzyme	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
pWhitescript Control Plasmid	No specific data.
Control primer 1	No specific data.
Control primer 2	No specific data.
XL10-Gold Ultracompetent cells	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides
XL10-Gold 2-mercaptoethanol mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides halogenated compounds metal oxide/oxides
pUC18 Control Plasmid DNA	No specific data.
X-gal	Decomposition products may include the following

5. Fire-fighting measures

IPTG	materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
AmpTabs Ampicillin Tablets	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions	: Solution 1 (400761-13)	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).
	Solution 2 (400761-14)	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
	Solution 3 (400761-15)	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
	Wash Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
	Nuclease Removal Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition

6. Accidental release measures

QuikChange Lightning Enzyme

sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

10x QuikChange Lightning Buffer

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

QuikSolution

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

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 spilled material. Put on appropriate personal protective equipment (see Section 8).

Control primer 1

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected

6. Accidental release measures

Control primer 2	personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8). No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).
XL10-Gold Ultracompetent cells	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
XL10-Gold 2-mercaptoethanol 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 spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
pUC18 Control Plasmid DNA	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).
X-gal	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).
IPTG	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).
AmpTabs Ampicillin Tablets	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

6. Accidental release measures

Environmental precautions :	Solution 1 (400761-13)	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Solution 2 (400761-14)	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Solution 3 (400761-15)	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Wash Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Nuclease Removal Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	QuikChange Lightning Enzyme	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	10x QuikChange Lightning Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	dNTP Mix	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	QuikSolution	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Dpn I restriction enzyme	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	pWhitescript Control Plasmid	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Control primer 1	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6. Accidental release measures

Control primer 2	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
XL10-Gold Ultracompetent cells	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
XL10-Gold 2-mercaptoethanol mix	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
pUC18 Control Plasmid DNA	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
X-gal	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
IPTG	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
AmpTabs Ampicillin Tablets	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up	: Solution 1 (400761-13)	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.
	Solution 2 (400761-14)	Stop leak if without risk. Move containers from spill area. Use personal protective equipment as required. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13).
	Solution 3 (400761-15)	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.
	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.

6. Accidental release measures

Nuclease Removal 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. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
QuikChange Lightning 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.
10x QuikChange Lightning 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.
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.
QuikSolution	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. Use spark-proof tools and explosion-proof equipment. 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.
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.
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.
XL10-Gold 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

6. Accidental release measures

XL10-Gold 2-mercaptoethanol mix	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.
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.
X-gal	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
IPTG	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
AmpTabs Ampicillin Tablets	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling	: Solution 1 (400761-13)	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.
	Solution 2 (400761-14)	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 breathe vapor or mist. Do not ingest. 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. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.
	Solution 3 (400761-15)	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

7. Handling and storage

Wash Buffer

wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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.

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 vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Nuclease Removal 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

QuikChange Lightning Enzyme

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

7. Handling and storage

	<p>protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.</p>
<p>10x QuikChange Lightning Buffer</p>	<p>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 get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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.</p>
<p>dNTP Mix</p>	<p>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 vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.</p>
<p>QuikSolution</p>	<p>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 vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material</p>

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	handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. 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). 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 vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
pWhitescript Control Plasmid	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 primer 1	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 primer 2	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 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain

7. Handling and storage

XL10-Gold 2-mercaptoethanol mix	<p>product residue and can be hazardous. Do not reuse container.</p> <p>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 breathe vapor or mist. Do not ingest. 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.</p>
pUC18 Control Plasmid DNA	<p>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.</p>
X-gal	<p>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.</p>
IPTG	<p>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.</p>
AmpTabs Ampicillin Tablets	<p>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 or asthma, allergies or chronic or recurrent respiratory disease 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. 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.</p>

7. Handling and storage

Storage	: Solution 1 (400761-13)	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
	Solution 2 (400761-14)	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. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
	Solution 3 (400761-15)	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
	Wash 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
	Nuclease Removal Buffer	Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
	QuikChange Lightning 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

7. Handling and storage

	upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
10x QuikChange Lightning 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 unlabeled 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
QuikSolution	Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
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 unlabeled containers. Use appropriate containment to avoid 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 unlabeled 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

7. Handling and storage

Control primer 2	and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
XL10-Gold Ultracompetent cells	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
XL10-Gold 2-mercaptoethanol 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
pUC18 Control Plasmid DNA	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
X-gal	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
IPTG	Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-

7. Handling and storage

AmpTabs Ampicillin Tablets

ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Ingredient	Exposure limits
<p>Solution 3 (400761-15) Acetic acid</p>	<p>ACGIH TLV (United States, 2/2010). STEL: 37 mg/m³ 15 minute(s). STEL: 15 ppm 15 minute(s). TWA: 25 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s). NIOSH REL (United States, 6/2009). STEL: 37 mg/m³ 15 minute(s). STEL: 15 ppm 15 minute(s). TWA: 25 mg/m³ 10 hour(s). TWA: 10 ppm 10 hour(s). OSHA PEL (United States, 6/2010). TWA: 25 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s). OSHA PEL 1989 (United States, 3/1989). TWA: 25 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).</p>
<p>Nuclease Removal Buffer Isopropanol</p>	<p>ACGIH TLV (United States, 2/2010). STEL: 400 ppm 15 minute(s). TWA: 200 ppm 8 hour(s). NIOSH REL (United States, 6/2009). STEL: 1225 mg/m³ 15 minute(s). STEL: 500 ppm 15 minute(s). TWA: 980 mg/m³ 10 hour(s). TWA: 400 ppm 10 hour(s). OSHA PEL (United States, 6/2010). TWA: 980 mg/m³ 8 hour(s). TWA: 400 ppm 8 hour(s). OSHA PEL 1989 (United States, 3/1989). STEL: 1225 mg/m³ 15 minute(s). STEL: 500 ppm 15 minute(s). TWA: 980 mg/m³ 8 hour(s). TWA: 400 ppm 8 hour(s).</p>

8. Exposure controls/personal protection

<p>Acetic acid</p>	<p>ACGIH TLV (United States, 2/2010). STEL: 37 mg/m³ 15 minute(s). STEL: 15 ppm 15 minute(s). TWA: 25 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). STEL: 37 mg/m³ 15 minute(s). STEL: 15 ppm 15 minute(s). TWA: 25 mg/m³ 10 hour(s). TWA: 10 ppm 10 hour(s).</p> <p>OSHA PEL (United States, 6/2010). TWA: 25 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 25 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).</p>
<p>QuikChange Lightning Enzyme Glycerol</p>	<p>ACGIH TLV (United States, 2/2010). TWA: 10 mg/m³ 8 hour(s). Form: Inhalable fraction</p> <p>OSHA PEL (United States, 6/2010). TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m³ 8 hour(s). Form: Total dust</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 10 mg/m³ 8 hour(s). Form: Total dust</p>
<p>QuikSolution Dimethyl sulfoxide</p>	<p>AIHA WEEL (United States, 5/2010). TWA: 250 ppm 8 hour(s).</p>
<p>Dpn I restriction enzyme Glycerol</p>	<p>ACGIH TLV (United States, 2/2010). TWA: 10 mg/m³ 8 hour(s). Form: Inhalable fraction</p> <p>OSHA PEL (United States, 6/2010). TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m³ 8 hour(s). Form: Total dust</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 10 mg/m³ 8 hour(s). Form: Total dust</p>
<p>XL10-Gold Ultracompetent cells Glycerol</p>	<p>ACGIH TLV (United States, 2/2010). TWA: 10 mg/m³ 8 hour(s). Form: Inhalable fraction</p> <p>OSHA PEL (United States, 6/2010). TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m³ 8 hour(s). Form: Total dust</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 10 mg/m³ 8 hour(s). Form: Total dust</p>
<p>Dimethyl sulfoxide</p>	<p>AIHA WEEL (United States, 5/2010). TWA: 250 ppm 8 hour(s).</p>
<p>Sucrose</p>	<p>ACGIH TLV (United States, 2/2010). TWA: 10 mg/m³ 8 hour(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m³ 8 hour(s). Form: Total dust</p> <p>NIOSH REL (United States, 6/2009). TWA: 5 mg/m³ 10 hour(s). Form: Respirable fraction</p>

9. Physical and chemical properties

XL10-Gold 2-mercaptoethanol mix	Liquid.
pUC18 Control Plasmid DNA	Liquid.
X-gal	Solid.
IPTG	Solid.
AmpTabs Ampicillin Tablets	Solid.

Flash point	:	Solution 1 (400761-13)	Not available.
		Solution 2 (400761-14)	Not available.
		Solution 3 (400761-15)	Not available.
		Wash Buffer	Not available.
		Nuclease Removal Buffer	Closed cup: 12 to 23°C (53.6 to 73.4°F)
		QuikChange Lightning Enzyme	Not available.
		10x QuikChange Lightning Buffer	Not available.
		dNTP Mix	Not available.
		QuikSolution	Closed cup: 85°C (185°F) [Setaflash.]
		Dpn I restriction enzyme	Not available.
		pWhitescript Control Plasmid	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		XL10-Gold Ultracompetent cells	[Product does not sustain combustion.]
		XL10-Gold 2-mercaptoethanol mix	[Product does not sustain combustion.]
		pUC18 Control Plasmid DNA	Not available.
		X-gal	Not available.
	IPTG	Not available.	
	AmpTabs Ampicillin Tablets	Not available.	

Auto-ignition temperature	:	Solution 1 (400761-13)	Not available.
		Solution 2 (400761-14)	Not available.
		Solution 3 (400761-15)	Not available.
		Wash Buffer	Not available.
		Nuclease Removal Buffer	Not available.
		QuikChange Lightning Enzyme	Not available.
		10x QuikChange Lightning Buffer	Not available.
		dNTP Mix	Not available.
		QuikSolution	Not available.
		Dpn I restriction enzyme	Not available.
		pWhitescript Control Plasmid	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.
		XL10-Gold Ultracompetent cells	Not available.
		XL10-Gold 2-mercaptoethanol mix	Not available.
		pUC18 Control Plasmid DNA	Not available.
		X-gal	Not available.
	IPTG	Not available.	
	AmpTabs Ampicillin Tablets	Not available.	

Flammable limits	:	Solution 1 (400761-13)	Not available.
		Solution 2 (400761-14)	Not available.
		Solution 3 (400761-15)	Not available.
		Wash Buffer	Not available.
		Nuclease Removal Buffer	Not available.
		QuikChange Lightning Enzyme	Not available.
		10x QuikChange Lightning Buffer	Not available.
		dNTP Mix	Not available.
		QuikSolution	Lower: 2.6%
			Upper: 42%
		Dpn I restriction enzyme	Not available.
		pWhitescript Control Plasmid	Not available.
		Control primer 1	Not available.
		Control primer 2	Not available.

9. Physical and chemical properties

	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.
	X-gal	Not available.
	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
Color	: Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Not available.
	Solution 3 (400761-15)	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	Colorless.
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.
	X-gal	White.
	IPTG	Off-white.
	AmpTabs Ampicillin Tablets	White to yellowish.
Odor	: Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Not available.
	Solution 3 (400761-15)	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	Slight
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.
	X-gal	Odorless.
	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
pH	: Solution 1 (400761-13)	7.5
	Solution 2 (400761-14)	>12
	Solution 3 (400761-15)	4.4
	Wash Buffer	7.5
	Nuclease Removal Buffer	4.4
	QuikChange Lightning Enzyme	8.2
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	Not available.
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.

9. Physical and chemical properties

	XL10-Gold Ultracompetent cells	6.4
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	7.5
	X-gal	Not available.
	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
Boiling/condensation point	: Solution 1 (400761-13)	100°C (212°F)
	Solution 2 (400761-14)	100°C (212°F)
	Solution 3 (400761-15)	Not available.
	Wash Buffer	100°C (212°F)
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	188.8°C (371.8°F)
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	100°C (212°F)
	Control primer 1	100°C (212°F)
	Control primer 2	100°C (212°F)
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	100°C (212°F)
	X-gal	Not available.
	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
Melting/freezing point	: Solution 1 (400761-13)	0°C (32°F)
	Solution 2 (400761-14)	0°C (32°F)
	Solution 3 (400761-15)	Not available.
	Wash Buffer	0°C (32°F)
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	18.4°C (65.1°F)
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	0°C (32°F)
	Control primer 1	0°C (32°F)
	Control primer 2	0°C (32°F)
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	0°C (32°F)
	X-gal	230°C (446°F)
	IPTG	>109°C (>228.2°F)
	AmpTabs Ampicillin Tablets	Not available.
Specific gravity	: Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Not available.
	Solution 3 (400761-15)	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	1.1
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.
	XL10-Gold Ultracompetent cells	Not available.

9. Physical and chemical properties

	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.
	X-gal	Not available.
	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
Vapor pressure	: Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Not available.
	Solution 3 (400761-15)	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	0.056 kPa (0.42 mm Hg) [20°C]
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.
	X-gal	Not available.
	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
Vapor density	: Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Not available.
	Solution 3 (400761-15)	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	2.71 [Air = 1]
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.
	X-gal	Not available.
	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
Volatility	: Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Not available.
	Solution 3 (400761-15)	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	100% (v/v)
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.

9. Physical and chemical properties

	X-gal	Not available.
	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
Odor threshold	: Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Not available.
	Solution 3 (400761-15)	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	Not available.
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.
	X-gal	Not available.
	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
Evaporation rate	: Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Not available.
	Solution 3 (400761-15)	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	0.026 (butyl acetate = 1)
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.
	X-gal	Not available.
	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
Viscosity	: Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Not available.
	Solution 3 (400761-15)	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	Not available.
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.
	X-gal	Not available.

9. Physical and chemical properties

	IPTG	Not available.
	AmpTabs Ampicillin Tablets	Not available.
Solubility	: Solution 1 (400761-13)	Easily soluble in the following materials: cold water and hot water.
	Solution 2 (400761-14)	Easily soluble in the following materials: cold water and hot water.
	Solution 3 (400761-15)	Soluble in the following materials: cold water and hot water.
	Wash Buffer	Easily soluble in the following materials: cold water and hot water.
	Nuclease Removal Buffer	Easily soluble in the following materials: cold water and hot water.
	QuikChange Lightning Enzyme	Soluble in the following materials: cold water and hot water.
	10x QuikChange Lightning Buffer	Easily soluble in the following materials: cold water and hot water.
	dNTP Mix	Easily soluble in the following materials: cold water and hot water.
	QuikSolution	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.
	pWhitescript Control Plasmid	Easily 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.
	XL10-Gold Ultracompetent cells	Soluble in the following materials: cold water and hot water.
	XL10-Gold 2-mercaptoethanol mix	Easily soluble in the following materials: cold water and hot water.
	pUC18 Control Plasmid DNA	Easily soluble in the following materials: cold water and hot water.
	X-gal	Partially soluble in the following materials: cold water and hot water.
	IPTG	Easily soluble in the following materials: cold water and hot water.
	AmpTabs Ampicillin Tablets	Easily soluble in the following materials: cold water and hot water.

10. Stability and reactivity

Chemical stability	: Solution 1 (400761-13)	The product is stable.
	Solution 2 (400761-14)	The product is stable.
	Solution 3 (400761-15)	The product is stable.
	Wash Buffer	The product is stable.
	Nuclease Removal Buffer	The product is stable.
	QuikChange Lightning Enzyme	The product is stable.
	10x QuikChange Lightning Buffer	The product is stable.
	dNTP Mix	The product is stable.
	QuikSolution	The product is stable.
	Dpn I restriction enzyme	The product is stable.
	pWhitescript Control Plasmid	The product is stable.
	Control primer 1	The product is stable.
	Control primer 2	The product is stable.
	XL10-Gold Ultracompetent cells	The product is stable.
	XL10-Gold 2-mercaptoethanol mix	The product is stable.

10. Stability and reactivity

	pUC18 Control Plasmid DNA	The product is stable.
	X-gal	The product is stable.
	IPTG	The product is stable.
	AmpTabs Ampicillin Tablets	The product is stable.
Conditions to avoid	: Solution 1 (400761-13)	No specific data.
	Solution 2 (400761-14)	No specific data.
	Solution 3 (400761-15)	No specific data.
	Wash Buffer	No specific data.
	Nuclease Removal Buffer	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
	QuikChange Lightning Enzyme	No specific data.
	10x QuikChange Lightning Buffer	No specific data.
	dNTP Mix	No specific data.
	QuikSolution	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
	Dpn I restriction enzyme	No specific data.
pWhitescript Control Plasmid	No specific data.	
Control primer 1	No specific data.	
Control primer 2	No specific data.	
XL10-Gold Ultracompetent cells	No specific data.	
XL10-Gold 2-mercaptoethanol mix	No specific data.	
pUC18 Control Plasmid DNA	No specific data.	
X-gal	No specific data.	
IPTG	No specific data.	
AmpTabs Ampicillin Tablets	No specific data.	
Materials to avoid	: Solution 1 (400761-13)	No specific data.
	Solution 2 (400761-14)	Reactive or incompatible with the following materials: acids
	Solution 3 (400761-15)	No specific data.
	Wash Buffer	No specific data.
	Nuclease Removal Buffer	Reactive or incompatible with the following materials: oxidizing materials
	QuikChange Lightning Enzyme	No specific data.
	10x QuikChange Lightning Buffer	No specific data.
	dNTP Mix	No specific data.
	QuikSolution	Reactive or incompatible with the following materials: oxidizing materials
	Dpn I restriction enzyme	No specific data.
pWhitescript Control Plasmid	No specific data.	
Control primer 1	No specific data.	
Control primer 2	No specific data.	
XL10-Gold Ultracompetent cells	No specific data.	
XL10-Gold 2-mercaptoethanol mix	No specific data.	
pUC18 Control Plasmid DNA	No specific data.	
X-gal	No specific data.	
IPTG	No specific data.	
AmpTabs Ampicillin Tablets	No specific data.	

10. Stability and reactivity

Hazardous decomposition products	Solution 1 (400761-13)	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Solution 2 (400761-14)	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Solution 3 (400761-15)	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Wash Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Nuclease Removal Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	QuikChange Lightning Enzyme	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	10x QuikChange Lightning Buffer	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.
	QuikSolution	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.
	pWhitescript Control Plasmid	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.
	XL10-Gold 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.
	pUC18 Control Plasmid DNA	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	X-gal	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	IPTG	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	AmpTabs Ampicillin Tablets	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

10. Stability and reactivity

Possibility of hazardous reactions	: Solution 1 (400761-13)	Under normal conditions of storage and use, hazardous reactions will not occur.
	Solution 2 (400761-14)	Under normal conditions of storage and use, hazardous reactions will not occur.
	Solution 3 (400761-15)	Under normal conditions of storage and use, hazardous reactions will not occur.
	Wash Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	Nuclease Removal Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	QuikChange Lightning Enzyme	Under normal conditions of storage and use, hazardous reactions will not occur.
	10x QuikChange Lightning Buffer	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.
	QuikSolution	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.
	pWhitescript Control Plasmid	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.
	XL10-Gold Ultracompetent cells	Under normal conditions of storage and use, hazardous reactions will not occur.
	XL10-Gold 2-mercaptoethanol mix	Under normal conditions of storage and use, hazardous reactions will not occur.
	pUC18 Control Plasmid DNA	Under normal conditions of storage and use, hazardous reactions will not occur.
	X-gal	Under normal conditions of storage and use, hazardous reactions will not occur.
	IPTG	Under normal conditions of storage and use, hazardous reactions will not occur.
	AmpTabs Ampicillin Tablets	Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Solution 2 (400761-14) Sodium dodecyl sulphate	LD50 Dermal	Rabbit	580 mg/kg	-
	LD50 Oral	Rat	1288 mg/kg	-
Solution 3 (400761-15) Acetic acid	LC50 Inhalation Vapor	Rat	11000 mg/m3	4 hours
	LD50 Dermal	Rabbit	1060 mg/kg	-
	LD50 Oral	Rat	3310 mg/kg	-
	LD50 Oral	Rat	3250 mg/kg	-
Wash Buffer Sodium chloride	LC50 Inhalation Dusts and mists	Rat	>42 g/m ³	1 hours
	LD50 Oral	Rat	3000 mg/kg	-

11. Toxicological information

Nuclease Removal Buffer					
Isopropanol	LD50 Dermal	Rabbit	12800 mg/kg	-	
	LD50 Oral	Rat	5000 mg/kg	-	
Acetic acid	LC50 Inhalation Vapor	Rat	11000 mg/m ³	4 hours	
	LD50 Dermal	Rabbit	1060 mg/kg	-	
	LD50 Oral	Rat	3310 mg/kg	-	
Potassium acetate	LD50 Oral	Rat	3250 mg/kg	-	
QuikChange Lightning Enzyme					
Glycerol	LD50 Oral	Rat	12600 mg/kg	-	
10x QuikChange Lightning Buffer					
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-	
Ammonium sulphate	LD50 Oral	Rat	2840 mg/kg	-	
QuikSolution					
Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-	
	LD50 Oral	Rat	14500 mg/kg	-	
Dpn I restriction enzyme					
Glycerol	LD50 Oral	Rat	12600 mg/kg	-	
Sodium chloride	LC50 Inhalation Dusts and mists	Rat	>42 g/m ³	1 hours	
	LD50 Oral	Rat	3000 mg/kg	-	
XL10-Gold Ultracompetent cells					
Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-	
	LD50 Oral	Rat	14500 mg/kg	-	
Sucrose	LD50 Oral	Rat	29700 mg/kg	-	
Glycerol	LD50 Oral	Rat	12600 mg/kg	-	
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-	
XL10-Gold 2-mercaptoethanol mix					
Sodium chloride	LC50 Inhalation Dusts and mists	Rat	>42 g/m ³	1 hours	
	LD50 Oral	Rat	3000 mg/kg	-	
2-Mercaptoethanol	LD50 Dermal	Rabbit	200 mg/kg	-	
	LD50 Oral	Rat	244 mg/kg	-	
AmpTabs Ampicillin Tablets					
Sodium [2S-[2α,5α,6β(S*)]]-6-(aminophenylacetamido)-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate	LD50 Oral	Rat	>5314 mg/kg	-	

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Solution 2 (400761-14)					
Sodium dodecyl sulphate	Eyes - Mild irritant	Rabbit	-	250 Micrograms	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Guinea pig	-	24 hours 25 milligrams	-
	Skin - Moderate irritant	Mouse	-	24 hours 25	-

11. Toxicological information

Solution 3 (400761-15) Acetic acid	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 50	-
	Skin - Moderate irritant	Rabbit	-	milligrams 24 hours 25	-
	Skin - Mild irritant	Human	-	milligrams 2 hours 2	-
	Eyes - Mild irritant	Rabbit	-	Percent 0.5 minutes 5	-
	Skin - Mild irritant	Human	-	milligrams 24 hours 50	-
	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 50	-
Wash Buffer Sodium chloride	Skin - Severe irritant	Rabbit	-	525 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100	-
	Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit	- -	milligrams 10 milligrams 24 hours 500	- -
Nuclease Removal Buffer Isopropanol	Skin - Mild irritant	Rabbit	-	24 hours 100	-
	Eyes - Moderate irritant	Rabbit	-	milligrams 10 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100	-
	Skin - Mild irritant	Rabbit	-	milligrams 500	-
Acetic acid	Eyes - Mild irritant	Rabbit	-	milligrams 0.5 minutes 5	-
	Skin - Mild irritant	Human	-	24 hours 50	-
	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 50	-
	Skin - Severe irritant	Rabbit	-	milligrams 525	-
QuikChange Lightning Enzyme Glycerol	Skin - Severe irritant	Rabbit	-	milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500	-
10x QuikChange Lightning Buffer Potassium chloride	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 500	-
	Eyes - Mild irritant	Rabbit	-	milligrams 24 hours 500	-
QuikSolution Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500	-
	Eyes - Mild irritant	Rabbit	-	milligrams 100	-
	Skin - Mild irritant	Rabbit	-	milligrams 24 hours 500	-

11. Toxicological information

Dpn I restriction enzyme	Skin - Mild irritant	Rabbit	-	milligrams 100	-
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Sodium chloride	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
XL10-Gold Ultracompetent cells					
Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	100 milligrams	-
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Potassium chloride	Eyes - 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	-

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Nuclease Removal Buffer Isopropanol	A4	3	-	-	-	-
XL10-Gold Ultracompetent cells Sucrose	A4	-	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

11. Toxicological information

Reproductive toxicity

Conclusion/Summary : Not available.

Other adverse symptoms :

Solution 1 (400761-13)	Not available.
Solution 2 (400761-14)	Not available.
Solution 3 (400761-15)	Not available.
Wash Buffer	Not available.
Nuclease Removal Buffer	Not available.
QuikChange Lightning Enzyme	Not available.
10x QuikChange Lightning Buffer	Not available.
dNTP Mix	Not available.
QuikSolution	Not available.
Dpn I restriction enzyme	Not available.
pWhitescript Control Plasmid	Not available.
Control primer 1	Not available.
Control primer 2	Not available.
XL10-Gold Ultracompetent cells	Not available.
XL10-Gold 2-mercaptoethanol mix	Not available.
pUC18 Control Plasmid DNA	Not available.
X-gal	Not available.
IPTG	Not available.
AmpTabs Ampicillin Tablets	Not available.

12. Ecological information

Ecotoxicity : May cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Solution 2 (400761-14) Sodium dodecyl sulphate	Acute EC50 15 mg/L Marine water	Algae - <i>Dunaliella tertiolecta</i> - Exponential growth phase	72 hours
	Acute EC50 8800 ug/L Fresh water	Algae - <i>Pseudokirchneriella subcapitata</i>	96 hours
	Acute EC50 5 to 10 ppm Marine water	Aquatic plants - <i>Macrocystis pyrifera</i> - Young	4 days
	Acute LC50 1500 ug/L Marine water	Crustaceans - <i>Artemia</i> sp.	48 hours
	Acute LC50 1.26 mg/L Fresh water	Daphnia - <i>Ceriodaphnia dubia</i> - Neonate	48 hours
	Acute LC50 590 ug/L Fresh water	Fish - <i>Cirrhinus mrigala</i> - Larvae - 2 days - 4.5 mm - 51 mg	96 hours
	Chronic NOEC 7.9 mg/L Fresh water Chronic NOEC 0.15 mg/L Fresh water	Daphnia Fish - <i>Oncorhynchus mykiss</i> - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 4 days
Solution 3 (400761-15) Acetic acid	Acute EC50 65000 ug/L Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate - <24 hours	48 hours
	Acute LC50 50.1 ul/L Marine water	Crustaceans - <i>Artemia</i> sp.	48 hours
	Acute LC50 75000 ug/L Fresh water	Fish - <i>Lepomis macrochirus</i> - 5.3 to 7.2 cm - 3.5 to 3.9 g	96 hours
Wash Buffer Sodium chloride	Acute EC50 402600 to 469200 ug/L Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 >5600 ppm Fresh water	Crustaceans - <i>Asellus communis</i>	48 hours
	Acute LC50 1000000 ug/L Fresh water	Fish - <i>Morone saxatilis</i> - Larvae	96 hours

12. Ecological information

Isopropanol	Acute LC50 1400000 to 1950000 ug/L Marine water Acute LC50 >1400000 ug/L	Crustaceans - Crangon crangon Fish - Gambusia affinis - 20 to 30 mm	48 hours 96 hours
Acetic acid	Acute EC50 65000 ug/L Fresh water Acute LC50 50.1 ul/L Marine water Acute LC50 75000 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <24 hours Crustaceans - Artemia sp. Fish - Lepomis macrochirus - 5.3 to 7.2 cm - 3.5 to 3.9 g	48 hours 48 hours 96 hours
QuikChange Lightning Enzyme			
Glycerol	Acute LC50 54 to 57 ml/L Fresh water	Fish - Oncorhynchus mykiss - 0.9 g	96 hours
10x QuikChange Lightning Buffer			
Potassium chloride	Acute LC50 290 mg/L Marine water Acute LC50 30.1 mg/L Fresh water Acute LC50 435000 ug/L Fresh water Chronic NOEC 240.45 mg/L Marine water	Crustaceans - Americamysis bahia - 4 to 5 days Daphnia - Moinodaphnia macleayi - Neonate - 24 hours Fish - Gambusia affinis - Adult Crustaceans - Americamysis bahia - 4 to 5 days	48 hours 48 hours 96 hours 48 hours
Ammonium sulphate	Acute LC50 14000 to 15000 ug/L Fresh water Acute LC50 68 ug/L Fresh water	Daphnia - Daphnia magna - Young - <=24 hours Fish - Oncorhynchus gorbuscha - Alevin	48 hours 96 hours
QuikSolution			
Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water Acute LC50 34000000 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <24 hours Fish - Pimephales promelas - 31 days - 15.8 mm - 0.062 g	48 hours 96 hours
Dpn I restriction enzyme			
Glycerol	Acute LC50 54 to 57 ml/L Fresh water	Fish - Oncorhynchus mykiss - 0.9 g	96 hours
Sodium chloride	Acute EC50 402600 to 469200 ug/L Fresh water Acute LC50 >5600 ppm Fresh water Acute LC50 1000000 ug/L Fresh water	Daphnia - Daphnia magna Crustaceans - Asellus communis Fish - Morone saxatilis - Larvae	48 hours 48 hours 96 hours
XL10-Gold Ultracompetent cells			
Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water Acute LC50 34000000 ug/L Fresh water	Daphnia - Daphnia magna - Neonate - <24 hours Fish - Pimephales promelas - 31 days - 15.8 mm - 0.062 g	48 hours 96 hours
Glycerol	Acute LC50 54 to 57 ml/L Fresh water	Fish - Oncorhynchus mykiss - 0.9 g	96 hours
Potassium chloride	Acute LC50 290 mg/L Marine water Acute LC50 30.1 mg/L Fresh water Acute LC50 435000 ug/L Fresh water Chronic NOEC 240.45 mg/L Marine water	Crustaceans - Americamysis bahia - 4 to 5 days Daphnia - Moinodaphnia macleayi - Neonate - 24 hours Fish - Gambusia affinis - Adult Crustaceans - Americamysis bahia - 4 to 5 days	48 hours 48 hours 96 hours 48 hours
XL10-Gold 2-			

12. Ecological information

mercaptoethanol mix Sodium chloride	Acute EC50 402600 to 469200 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 >5600 ppm Fresh water	Crustaceans - Asellus communis	48 hours
	Acute LC50 1000000 ug/L Fresh water	Fish - Morone saxatilis - Larvae	96 hours

Partition coefficient: n-octanol/water	Solution 1 (400761-13)	Not available.
	Solution 2 (400761-14)	Not available.
	Solution 3 (400761-15)	Not available.
	Wash Buffer	Not available.
	Nuclease Removal Buffer	Not available.
	QuikChange Lightning Enzyme	Not available.
	10x QuikChange Lightning Buffer	Not available.
	dNTP Mix	Not available.
	QuikSolution	-2.029
	Dpn I restriction enzyme	Not available.
	pWhitescript Control Plasmid	Not available.
	Control primer 1	Not available.
	Control primer 2	Not available.
	XL10-Gold Ultracompetent cells	Not available.
	XL10-Gold 2-mercaptoethanol mix	Not available.
	pUC18 Control Plasmid DNA	Not available.
X-gal	Not available.	
IPTG	Not available.	
AmpTabs Ampicillin Tablets	Not available.	

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

13. Disposal considerations




Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT	UN3316	Chemical kits	9	II		<p>Limited quantity Yes.</p> <p>Packaging instruction Passenger aircraft Quantity limitation: 10 kg</p> <p>Cargo aircraft Quantity limitation: 10 kg</p> <p>Special provisions 15</p>
IMDG	UN3316	CHEMICAL KIT	9	II		<p>Emergency schedules (EmS) F-A, _S-P_</p>
IATA	UN3316	Chemical kit	9	II		<p>Passenger and Cargo Aircraft Quantity limitation: 10 kg Packaging instructions: 960</p> <p>Cargo Aircraft Only Quantity limitation: 10 kg Packaging instructions: 960</p> <p>Limited Quantities - Passenger Aircraft Quantity limitation: 1 kg Packaging instructions: Y960</p>

PG* : Packing group

15. Regulatory information

HCS Classification	: Solution 1 (400761-13) Solution 2 (400761-14)	Not regulated. Toxic material Corrosive material Sensitizing material Target organ effects
	Solution 3 (400761-15)	Toxic material Corrosive material Target organ effects
	Wash Buffer	Irritating material Target organ effects
	Nuclease Removal Buffer	Flammable liquid Toxic material Corrosive material Target organ effects
	QuikChange Lightning Enzyme	Target organ effects

15. Regulatory information

10x QuikChange Lightning Buffer	Corrosive material Target organ effects
dNTP Mix	Not regulated.
QuikSolution	Combustible liquid Target organ effects
Dpn I restriction enzyme	Irritating material Target organ effects
pWhitescript Control Plasmid	Not regulated.
Control primer 1	Not regulated.
Control primer 2	Not regulated.
XL10-Gold Ultracompetent cells	Target organ effects
XL10-Gold 2-mercaptoethanol mix	Highly toxic material Irritating material Sensitizing material Target organ effects
pUC18 Control Plasmid DNA	Not regulated.
X-gal	Not regulated.
IPTG	Not regulated.
AmpTabs Ampicillin Tablets	Sensitizing material

U.S. Federal regulations : **TSCA 8(a) IUR**: Partial exemption

United States inventory (TSCA 8b): At least one component is not listed.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Isopropanol

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Isopropanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 311: Acetic acid; Hydrochloric acid; Edetic acid; Sodium hydroxide

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Nuclease Removal Buffer Isopropanol	67-63-0	30 - 60
	10x QuikChange Lightning Buffer Ammonium sulphate	7783-20-2	0.5 - 1.5
Supplier notification	Nuclease Removal Buffer Isopropanol	67-63-0	30 - 60
	10x QuikChange Lightning Buffer Ammonium sulphate	7783-20-2	0.5 - 1.5

15. Regulatory information

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

- Massachusetts** : The following components are listed: ISOPROPYL ALCOHOL
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: ISOPROPYL ALCOHOL; 2-PROPANOL
- Pennsylvania** : The following components are listed: 2-PROPANOL
- California Prop. 65**

No products were found.

16. Other information

Label requirements	:	Solution 1 (400761-13)	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
		Solution 2 (400761-14)	CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
		Solution 3 (400761-15)	CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. HARMFUL IF INHALED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
		Wash Buffer	MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
		Nuclease Removal Buffer	FLAMMABLE LIQUID AND VAPOR. CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. HARMFUL IF INHALED. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
		QuikChange Lightning Enzyme	MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
		10x QuikChange Lightning Buffer	CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
		dNTP Mix	MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
		QuikSolution	COMBUSTIBLE LIQUID AND VAPOR. MAY CAUSE EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

16. Other information

Dpn I restriction enzyme	MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
pWhitescript Control Plasmid	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
Control primer 1	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
Control primer 2	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
XL10-Gold Ultracompetent cells	MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
XL10-Gold 2-mercaptoethanol mix	MAY BE FATAL IF ABSORBED THROUGH SKIN. HARMFUL IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
pUC18 Control Plasmid DNA	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
X-gal	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
IPTG	NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
AmpTabs Ampicillin Tablets	MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION.

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✔ Indicates information that has changed from previously issued version.

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