SAFETY DATA SHEET

Agilent Technologies

SureGuide CRISPR/Cas Complete Kit - 40 Reactions, Part Number 5190-7714

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

1.1 Product identifier

Product name : SureGuide CRISPR/Cas Complete Kit - 40 Reactions, Part Number 5190-7714

Part No. (Kit) : 5190-7714

Part No. :

DEPC Treated Water	200420-58
RNase Free Water	740000-42
T7 Promoter Forward Primer	5190-7542
Control Template	5190-7543
DTT	5190-7544
RNase Free DNase	5190-7545
T7 RNA Polymerase	200339-51
100 mM rATP	200339-52
100 mM rGTP	200339-53
100 mM rUTP	200339-54
100 mM rCTP	200339-55
5X RNAMaxx Transcription Buffer	200339-56
Yeast Pyrophosphatase	200339-57
RNase Block	200339-58
Control DNA Target	5190-7536
10X Cas9 Digestion Buffer	5190-7537
Cas9 Nuclease	5190-7538
Control gRNA	5190-7539
gRNA Binding Buffer	5190-7546
5X gRNA Wash Buffer	5190-7547
gRNA Elution Buffer	5190-7548

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

Identified uses	
Analytical reagent.	
DEPC Treated Water	1 ml
RNase Free Water	1.5 mL
T7 Promoter Forward Primer	0.025 mL
Control Template	0.05 ml
DTT	0.05 mL
RNase Free DNase	0.05 ml
T7 RNA Polymerase	0.05 mL (50 µl 200 U/µl)
100 mM rATP	0.05 ml
100 mM rGTP	0.05 ml
100 mM rUTP	0.05 ml
100 mM rCTP	0.05 ml
5X RNAMaxx Transcription Buffer	0.25 ml
Yeast Pyrophosphatase	0.025 mL (25 µl 0.75 U/µl)
RNase Block	0.05 ml
Control DNA Target	0.04 mL (2 x 20 µl 50 ng/µl)
10X Cas9 Digestion Buffer	0.04 mL (40 µl)
Cas9 Nuclease	1.5 mL (20 reactions)
Control gRNA	0.01 mL (10 µl)
gRNA Binding Buffer	5 ml
5X gRNA Wash Buffer	7 ml
gRNA Elution Buffer	2.5 ml

1.3 Details of the supplier of the safety data sheet

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

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

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition :

DEPC Treated Water	Mono-constituent substance
RNase Free Water	Mono-constituent substance
T7 Promoter Forward Primer	Mixture
Control Template	Mixture
DTT	Mixture
RNase Free DNase	Mixture
T7 RNA Polymerase	Mixture
100 mM rATP	Mixture
100 mM rGTP	Mixture
100 mM rUTP	Mixture
100 mM rCTP	Mixture
5X RNAMaxx Transcription Buffer	Mixture
Yeast Pyrophosphatase	Mixture
RNase Block	Mixture
Control DNA Target	Mixture
10X Cas9 Digestion Buffer	Mixture
Cas9 Nuclease	Mixture
Control gRNA	Mixture
gRNA Binding Buffer	Mixture
5X gRNA Wash Buffer	Mixture
gRNA Elution Buffer	Mixture

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

DTT

H315	SKIN CORROSION/IRRITATION - Category 2
H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

10X Cas9 Digestion Buffer

H315	SKIN CORROSION/IRRITATION - Category 2
H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2

gRNA Binding Buffer

H302	ACUTE TOXICITY (oral) - Category 4
H332	ACUTE TOXICITY (inhalation) - Category 4
H412	LONG-TERM AQUATIC HAZARD - Category 3

SECTION 2: Hazards identification

Ingredients of unknown toxicity	:	100 mM rGTP	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 1.3%
		100 mM rUTP	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 4.8%
		100 mM rCTP	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 4.8%
Ingredients of unknown ecotoxicity	:	100 mM rATP	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 5%
		100 mM rGTP	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.3%
		100 mM rUTP	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4.8%
		100 mM rCTP	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4.8%

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

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

2.2 Label elements

Hazard pictograms :

Signal word	:	DEPC Treated Water	No signal word.
		RNase Free Water	No signal word.
		T7 Promoter Forward Primer	No signal word.
		Control Template	No signal word.
		DTT	Warning
		RNase Free DNase	No signal word.
		T7 RNA Polymerase	No signal word.
		100 mM rATP	No signal word.
		100 mM rGTP	No signal word.
		100 mM rUTP	No signal word.
		100 mM rCTP	No signal word.
		5X RNAMaxx Transcription Buffer	No signal word.
		Yeast Pyrophosphatase	No signal word.
		RNase Block	No signal word.
		Control DNA Target	No signal word.
		10X Cas9 Digestion Buffer	Warning
		Cas9 Nuclease	No signal word.
		Control gRNA	No signal word.
		gRNA Binding Buffer	Warning
		5X gRNA Wash Buffer	No signal word.
		gRNA Elution Buffer	No signal word.
Hazard statements	:	DEPC Treated Water	No known significant effects or critical hazards.
		RNase Free Water	No known significant effects or critical hazards.
		T7 Promoter Forward Primer	No known significant effects or critical hazards.
		Control Template	No known significant effects or critical hazards.
		DTT	**GHS07** - Causes skin irritation. Causes serious eye irritation.
		RNase Free DNase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		100 mM rATP	No known significant effects or critical hazards.
		100 mM rGTP	No known significant effects or critical hazards.
		100 mM rUTP	No known significant effects or critical hazards.
		100 mM rCTP	No known significant effects or critical hazards.
		5X RNAMaxx	No known significant effects or critical hazards.

SECTION 2: Hazards identification

	Transcription Buffer	
	Yeast Pyrophosphatase	No known significant effects or critical hazards.
	RNase Block	No known significant effects or critical hazards.
	Control DNA Target	No known significant effects or critical hazards.
	10X Cas9 Digestion Buffer	**GHS07** - Causes skin irritation. Causes serious eye irritation.
	Cas9 Nuclease	No known significant effects or critical hazards.
	Control gRNA	No known significant effects or critical hazards.
	gRNA Binding Buffer	**GHS07** - Harmful if swallowed. Harmful if inhaled. Harmful to aquatic life with long lasting effects.
	5X gRNA Wash Buffer	No known significant effects or critical hazards.
	gRNA Elution Buffer	No known significant effects or critical hazards.

Precautionary statements

Prevention	:	DEPC Treated Water	Not applicable.
		RNase Free Water	Not applicable.
		T7 Promoter Forward Primer	Not applicable.
		Control Template	Not applicable.
		DTT	P280 - Wear protective gloves. Wear eye or face protection. P264 - Wash hands thoroughly after handling.
		RNase Free DNase	Not applicable.
		T7 RNA Polymerase	Not applicable.
		100 mM rATP	Not applicable.
		100 mM rGTP	Not applicable.
		100 mM rUTP	Not applicable.
		100 mM rCTP	Not applicable.
		5X RNAMaxx Transcription Buffer	Not applicable.
		Yeast Pyrophosphatase	Not applicable.
		RNase Block	Not applicable.
		Control DNA Target	Not applicable.
		10X Cas9 Digestion Buffer	P280 - Wear protective gloves. Wear eye or face protection. P264 - Wash hands thoroughly after handling.
		Cas9 Nuclease	Not applicable.
		Control gRNA	Not applicable.
		gRNA Binding Buffer	P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P261 - Avoid breathing vapour.
		5X gRNA Wash Buffer	Not applicable.
		gRNA Elution Buffer	Not applicable.
Response	:	DEPC Treated Water	Not applicable.
		RNase Free Water	Not applicable.
		T7 Promoter Forward Primer	Not applicable.
		Control Template	Not applicable.
		DTT	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		RNase Free DNase	Not applicable.
		T7 RNA Polymerase	Not applicable.
		100 mM rATP	Not applicable.
		100 mM rGTP	Not applicable.
		100 mM rUTP	Not applicable.
		100 mM rCTP	Not applicable.
		5X RNAMaxx Transcription Buffer	Not applicable.
		Yeast Pyrophosphatase	Not applicable.
		RNase Block	Not applicable.

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		Control DNA Target	Not applicable.
		10X Cas9 Digestion Buffer	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		Cas9 Nuclease	Not applicable.
		Control gRNA	Not applicable.
		gRNA Binding Buffer	P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
		5X gRNA Wash Buffer	Not applicable.
		gRNA Elution Buffer	Not applicable.
Storage	:	DEPC Treated Water	Not applicable.
		RNase Free Water	Not applicable.
		T7 Promoter Forward Primer	Not applicable.
		Control Template	Not applicable.
		DTT	Not applicable.
		RNase Free DNase	Not applicable.
		T7 RNA Polymerase	Not applicable.
		100 mM rATP	Not applicable.
		100 mM rGTP	Not applicable.
		100 mM rUTP	Not applicable.
		100 mM rCTP	Not applicable.
		5X RNAMaxx Transcription Buffer	Not applicable.
		Yeast Pyrophosphatase	Not applicable.
		RNase Block	Not applicable.
		Control DNA Target	Not applicable.
		10X Cas9 Digestion Buffer	Not applicable.
		Cas9 Nuclease	Not applicable.
		Control gRNA	Not applicable.
		gRNA Binding Buffer	Not applicable.
		5X gRNA Wash Buffer	Not applicable.
		gRNA Elution Buffer	Not applicable.
Disposal	:	DEPC Treated Water	Not applicable.
		RNase Free Water	Not applicable.
		T7 Promoter Forward Primer	Not applicable.
		Control Template	Not applicable.
		DTT	Not applicable.
		RNase Free DNase	Not applicable.
		T7 RNA Polymerase	Not applicable.
		100 mM rATP	Not applicable.
		100 mM rGTP	Not applicable.
		100 mM rUTP	Not applicable.
		100 mM rCTP	Not applicable.
		5X RNAMaxx Transcription Buffer	Not applicable.
		Yeast Pyrophosphatase	Not applicable.
		RNase Block	Not applicable.
		Control DNA Target	Not applicable.
		10X Cas9 Digestion Buffer	Not applicable.
		Cas9 Nuclease	Not applicable.
		Control gRNA	Not applicable.
		gRNA Binding Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		5X gRNA Wash Buffer	Not applicable.
		gRNA Elution Buffer	Not applicable.

SECTION 2: Hazards identification

Hazardous ingredients	: DTT	Not applicable.
	5X RNAMaxx Transcription Buffer	Not applicable.
	10X Cas9 Digestion Buffer	Not applicable.
	gRNA Binding Buffer	- Guanidinium thiocyanate
Supplemental label elements	: DEPC Treated Water	Not applicable.
	RNase Free Water	Not applicable.
	T7 Promoter Forward Primer	Not applicable.
	Control Template	Not applicable.
	DTT	Not applicable.
	RNase Free DNase	Not applicable.
	T7 RNA Polymerase	Not applicable.
	100 mM rATP	Not applicable.
	100 mM rGTP	Not applicable.
	100 mM rUTP	Not applicable.
	100 mM rCTP	Not applicable.
	5X RNAMaxx Transcription Buffer	Safety data sheet available on request.
	Yeast Pyrophosphatase	Not applicable.
	RNase Block	Not applicable.
	Control DNA Target	Not applicable.
	10X Cas9 Digestion Buffer	Not applicable.
	Cas9 Nuclease	Contains 2-mercaptoethanol. May produce an allergic reaction. Safety data sheet available on request.
	Control gRNA	Not applicable.
	gRNA Binding Buffer	Not applicable.
	5X gRNA Wash Buffer	Not applicable.
	gRNA Elution Buffer	Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: DEPC Treated Water	Not applicable.
	RNase Free Water	Not applicable.
	T7 Promoter Forward Primer	Not applicable.
	Control Template	Not applicable.
	DTT	Not applicable.
	RNase Free DNase	Not applicable.
	T7 RNA Polymerase	Not applicable.
	100 mM rATP	Not applicable.
	100 mM rGTP	Not applicable.
	100 mM rUTP	Not applicable.
	100 mM rCTP	Not applicable.
	5X RNAMaxx Transcription Buffer	Not applicable.
	Yeast Pyrophosphatase	Not applicable.
	RNase Block	Not applicable.
	Control DNA Target	Not applicable.
	10X Cas9 Digestion Buffer	Not applicable.
	Cas9 Nuclease	Not applicable.
	Control gRNA	Not applicable.
	gRNA Binding Buffer	Not applicable.
	5X gRNA Wash Buffer	Not applicable.
	gRNA Elution Buffer	Not applicable.

Special packaging requirements

Tactile warning of danger	: DEPC Treated Water	Not applicable.
	RNase Free Water	Not applicable.
	T7 Promoter Forward Primer	Not applicable.
	Control Template	Not applicable.
	DTT	Not applicable.
	RNase Free DNase	Not applicable.

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T7 RNA Polymerase	Not applicable.
100 mM rATP	Not applicable.
100 mM rGTP	Not applicable.
100 mM rUTP	Not applicable.
100 mM rCTP	Not applicable.
5X RNAMaxx Transcription Buffer	Not applicable.
Yeast Pyrophosphatase	Not applicable.
RNase Block	Not applicable.
Control DNA Target	Not applicable.
10X Cas9 Digestion Buffer	Not applicable.
Cas9 Nuclease	Not applicable.
Control gRNA	Not applicable.
gRNA Binding Buffer	Not applicable.
5X gRNA Wash Buffer	Not applicable.
gRNA Elution Buffer	Not applicable.

2.3 Other hazards

Other hazards which do not result in classification :

DEPC Treated Water	None known.
RNase Free Water	None known.
T7 Promoter Forward Primer	None known.
Control Template	None known.
DTT	None known.
RNase Free DNase	None known.
T7 RNA Polymerase	None known.
100 mM rATP	None known.
100 mM rGTP	None known.
100 mM rUTP	None known.
100 mM rCTP	None known.
5X RNAMaxx Transcription Buffer	None known.
Yeast Pyrophosphatase	None known.
RNase Block	None known.
Control DNA Target	None known.
10X Cas9 Digestion Buffer	None known.
Cas9 Nuclease	None known.
Control gRNA	None known.
gRNA Binding Buffer	None known.
5X gRNA Wash Buffer	None known.
gRNA Elution Buffer	None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures :

DEPC Treated Water	Mono-constituent substance
RNase Free Water	Mono-constituent substance
T7 Promoter Forward Primer	Mixture
Control Template	Mixture
DTT	Mixture
RNase Free DNase	Mixture
T7 RNA Polymerase	Mixture
100 mM rATP	Mixture
100 mM rGTP	Mixture
100 mM rUTP	Mixture
100 mM rCTP	Mixture
5X RNAMaxx Transcription Buffer	Mixture
Yeast Pyrophosphatase	Mixture
RNase Block	Mixture
Control DNA Target	Mixture
10X Cas9 Digestion Buffer	Mixture
Cas9 Nuclease	Mixture
Control gRNA	Mixture

SECTION 3: Composition/information on ingredients

gRNA Binding Buffer	Mixture
5X gRNA Wash Buffer	Mixture
gRNA Elution Buffer	Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
DEPC Treated Water				
Water	EC: 231-791-2 CAS: 7732-18-5	100	Not classified.	[A]
RNase Free Water				
Water	EC: 231-791-2 CAS: 7732-18-5	100	Not classified.	[A]
DTT				
(R*,R*)-1,4-Dimercaptobutane-2, 3-diol	EC: 222-468-7 CAS: 3483-12-3	≥10 - <20	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412	[1]
RNase Free DNase				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
T7 RNA Polymerase				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
Polyoxyethylene octyl phenyl ether	CAS: 9002-93-1	≤0.3	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411	[1] [5]
5X RNAMaxx Transcription Buffer				
2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	≤5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≤3	Eye Irrit. 2, H319	[1]
Yeast Pyrophosphatase				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
RNase Block				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
10X Cas9 Digestion Buffer				
2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	≥10 - <20	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≤3	Eye Irrit. 2, H319	[1]
Cas9 Nuclease				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
gRNA Binding Buffer				
Guanidinium thiocyanate	EC: 209-812-1 CAS: 593-84-0	≥25 - ≤50	Acute Tox. 4, H302 Acute Tox. 4, H312	[1]

SECTION 3: Composition/information on ingredients

	Index: 615-004-00-3		Acute Tox. 4, H332 Aquatic Chronic 3, H412 EUH032 **See Section 16 for the full text of the H statements declared above.**	

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

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern
[A] Constituent
[B] Impurity
[C] Stabilising additive

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact :

DEPC Treated Water	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
RNase Free Water	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
T7 Promoter Forward Primer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Control Template	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
DTT	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
RNase Free DNase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
T7 RNA Polymerase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
100 mM rATP	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
100 mM rGTP	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
100 mM rUTP	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
100 mM rCTP	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
5X RNAMaxx Transcription Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Yeast Pyrophosphatase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
RNase Block	Immediately flush eyes with plenty of water, occasionally

SECTION 4: First aid measures

			lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		Control DNA Target	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		10X Cas9 Digestion Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
		Cas9 Nuclease	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		Control gRNA	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		gRNA Binding Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
		5X gRNA Wash Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		gRNA Elution Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	:	DEPC Treated Water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		RNase Free Water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		T7 Promoter Forward Primer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Control Template	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		DTT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
		RNase Free DNase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		T7 RNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		100 mM rATP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		100 mM rGTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for

SECTION 4: First aid measures

	48 hours.
100 mM rUTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
100 mM rCTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
5X RNAMaxx Transcription Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Yeast Pyrophosphatase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
RNase Block	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Control DNA Target	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
10X Cas9 Digestion Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Cas9 Nuclease	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Control gRNA	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
gRNA Binding Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
5X gRNA Wash Buffer	Remove victim to fresh air and keep at rest in a position

SECTION 4: First aid measures

			comfortable for breathing. Get medical attention if symptoms occur.
		gRNA Elution Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	:	DEPC Treated Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		RNase Free Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		T7 Promoter Forward Primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Control Template	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		DTT	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		RNase Free DNase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		T7 RNA Polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		100 mM rATP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		100 mM rGTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		100 mM rUTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		100 mM rCTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		5X RNAMaxx Transcription Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Yeast Pyrophosphatase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		RNase Block	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Control DNA Target	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		10X Cas9 Digestion Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		Cas9 Nuclease	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Control gRNA	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		gRNA Binding Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes

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			thoroughly before reuse.
		5X gRNA Wash Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		gRNA Elution Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	DEPC Treated Water	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		RNase Free Water	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		T7 Promoter Forward Primer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		Control Template	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		DTT	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
		RNase Free DNase	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		T7 RNA Polymerase	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		100 mM rATP	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		100 mM rGTP	Wash out mouth with water. Remove victim to fresh air and

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	keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
100 mM rUTP	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
100 mM rCTP	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
5X RNAMaxx Transcription Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Yeast Pyrophosphatase	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
RNase Block	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Control DNA Target	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
10X Cas9 Digestion Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Cas9 Nuclease	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Control gRNA	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is

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		conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	gRNA Binding Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	5X gRNA Wash Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	gRNA Elution Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Protection of first-aiders :	DEPC Treated Water	No action shall be taken involving any personal risk or without suitable training.
	RNase Free Water	No action shall be taken involving any personal risk or without suitable training.
	T7 Promoter Forward Primer	No action shall be taken involving any personal risk or without suitable training.
	Control Template	No action shall be taken involving any personal risk or without suitable training.
	DTT	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.
	RNase Free DNase	No action shall be taken involving any personal risk or without suitable training.
	T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training.
	100 mM rATP	No action shall be taken involving any personal risk or without suitable training.
	100 mM rGTP	No action shall be taken involving any personal risk or without suitable training.
	100 mM rUTP	No action shall be taken involving any personal risk or without suitable training.
	100 mM rCTP	No action shall be taken involving any personal risk or without suitable training.
	5X RNAMaxx Transcription Buffer	No action shall be taken involving any personal risk or without suitable training.
	Yeast Pyrophosphatase	No action shall be taken involving any personal risk or without suitable training.
	RNase Block	No action shall be taken involving any personal risk or without suitable training.
	Control DNA Target	No action shall be taken involving any personal risk or without suitable training.
	10X Cas9 Digestion 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.
	Cas9 Nuclease	No action shall be taken involving any personal risk or

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	without suitable training.
Control gRNA	No action shall be taken involving any personal risk or without suitable training.
gRNA Binding 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.
5X gRNA Wash Buffer	No action shall be taken involving any personal risk or without suitable training.
gRNA Elution Buffer	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	:	DEPC Treated Water	No known significant effects or critical hazards.
		RNase Free Water	No known significant effects or critical hazards.
		T7 Promoter Forward Primer	No known significant effects or critical hazards.
		Control Template	No known significant effects or critical hazards.
		DTT	Causes serious eye irritation.
		RNase Free DNase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		100 mM rATP	No known significant effects or critical hazards.
		100 mM rGTP	No known significant effects or critical hazards.
		100 mM rUTP	No known significant effects or critical hazards.
		100 mM rCTP	No known significant effects or critical hazards.
		5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
		Yeast Pyrophosphatase	No known significant effects or critical hazards.
		RNase Block	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	Causes serious eye irritation.
		Cas9 Nuclease	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
		gRNA Binding Buffer	No known significant effects or critical hazards.
		5X gRNA Wash Buffer	No known significant effects or critical hazards.
		gRNA Elution Buffer	No known significant effects or critical hazards.
Inhalation	:	DEPC Treated Water	No known significant effects or critical hazards.
		RNase Free Water	No known significant effects or critical hazards.
		T7 Promoter Forward Primer	No known significant effects or critical hazards.
		Control Template	No known significant effects or critical hazards.
		DTT	No known significant effects or critical hazards.
		RNase Free DNase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		100 mM rATP	No known significant effects or critical hazards.
		100 mM rGTP	No known significant effects or critical hazards.
		100 mM rUTP	No known significant effects or critical hazards.
		100 mM rCTP	No known significant effects or critical hazards.
		5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
		Yeast Pyrophosphatase	No known significant effects or critical hazards.
		RNase Block	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
		Cas9 Nuclease	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
		gRNA Binding Buffer	Harmful if inhaled.

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	5X gRNA Wash Buffer	No known significant effects or critical hazards.
	gRNA Elution Buffer	No known significant effects or critical hazards.
Skin contact :	DEPC Treated Water	No known significant effects or critical hazards.
	RNase Free Water	No known significant effects or critical hazards.
	T7 Promoter Forward Primer	No known significant effects or critical hazards.
	Control Template	No known significant effects or critical hazards.
	DTT	Causes skin irritation.
	RNase Free DNase	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	100 mM rATP	No known significant effects or critical hazards.
	100 mM rGTP	No known significant effects or critical hazards.
	100 mM rUTP	No known significant effects or critical hazards.
	100 mM rCTP	No known significant effects or critical hazards.
	5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
	Yeast Pyrophosphatase	No known significant effects or critical hazards.
	RNase Block	No known significant effects or critical hazards.
	Control DNA Target	No known significant effects or critical hazards.
	10X Cas9 Digestion Buffer	Causes skin irritation.
	Cas9 Nuclease	No known significant effects or critical hazards.
	Control gRNA	No known significant effects or critical hazards.
	gRNA Binding Buffer	No known significant effects or critical hazards.
	5X gRNA Wash Buffer	No known significant effects or critical hazards.
	gRNA Elution Buffer	No known significant effects or critical hazards.
Ingestion :	DEPC Treated Water	No known significant effects or critical hazards.
	RNase Free Water	No known significant effects or critical hazards.
	T7 Promoter Forward Primer	No known significant effects or critical hazards.
	Control Template	No known significant effects or critical hazards.
	DTT	No known significant effects or critical hazards.
	RNase Free DNase	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	100 mM rATP	No known significant effects or critical hazards.
	100 mM rGTP	No known significant effects or critical hazards.
	100 mM rUTP	No known significant effects or critical hazards.
	100 mM rCTP	No known significant effects or critical hazards.
	5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
	Yeast Pyrophosphatase	No known significant effects or critical hazards.
	RNase Block	No known significant effects or critical hazards.
	Control DNA Target	No known significant effects or critical hazards.
	10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
	Cas9 Nuclease	No known significant effects or critical hazards.
	Control gRNA	No known significant effects or critical hazards.
	gRNA Binding Buffer	Harmful if swallowed.
	5X gRNA Wash Buffer	No known significant effects or critical hazards.
	gRNA Elution Buffer	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact :	DEPC Treated Water	No specific data.
	RNase Free Water	No specific data.
	T7 Promoter Forward Primer	No specific data.
	Control Template	No specific data.
	DTT	Adverse symptoms may include the following: pain or irritation watering redness
	RNase Free DNase	No specific data.
	T7 RNA Polymerase	No specific data.
	100 mM rATP	No specific data.

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	100 mM rGTP	No specific data.
	100 mM rUTP	No specific data.
	100 mM rCTP	No specific data.
	5X RNAMaxx Transcription Buffer	No specific data.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	Adverse symptoms may include the following: pain or irritation watering redness
	Cas9 Nuclease	No specific data.
	Control gRNA	No specific data.
	gRNA Binding Buffer	No specific data.
	5X gRNA Wash Buffer	No specific data.
	gRNA Elution Buffer	No specific data.
Inhalation :	DEPC Treated Water	No specific data.
	RNase Free Water	No specific data.
	T7 Promoter Forward Primer	No specific data.
	Control Template	No specific data.
	DTT	No specific data.
	RNase Free DNase	No specific data.
	T7 RNA Polymerase	No specific data.
	100 mM rATP	No specific data.
	100 mM rGTP	No specific data.
	100 mM rUTP	No specific data.
	100 mM rCTP	No specific data.
	5X RNAMaxx Transcription Buffer	No specific data.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	No specific data.
	Cas9 Nuclease	No specific data.
	Control gRNA	No specific data.
	gRNA Binding Buffer	No specific data.
	5X gRNA Wash Buffer	No specific data.
	gRNA Elution Buffer	No specific data.
Skin contact :	DEPC Treated Water	No specific data.
	RNase Free Water	No specific data.
	T7 Promoter Forward Primer	No specific data.
	Control Template	No specific data.
	DTT	Adverse symptoms may include the following: irritation redness
	RNase Free DNase	No specific data.
	T7 RNA Polymerase	No specific data.
	100 mM rATP	No specific data.
	100 mM rGTP	No specific data.
	100 mM rUTP	No specific data.
	100 mM rCTP	No specific data.
	5X RNAMaxx Transcription Buffer	No specific data.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	Adverse symptoms may include the following:

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			irritation redness
		Cas9 Nuclease	No specific data.
		Control gRNA	No specific data.
		gRNA Binding Buffer	No specific data.
		5X gRNA Wash Buffer	No specific data.
		gRNA Elution Buffer	No specific data.
Ingestion	:	DEPC Treated Water	No specific data.
		RNase Free Water	No specific data.
		T7 Promoter Forward Primer	No specific data.
		Control Template	No specific data.
		DTT	No specific data.
		RNase Free DNase	No specific data.
		T7 RNA Polymerase	No specific data.
		100 mM rATP	No specific data.
		100 mM rGTP	No specific data.
		100 mM rUTP	No specific data.
		100 mM rCTP	No specific data.
		5X RNAMaxx Transcription Buffer	No specific data.
		Yeast Pyrophosphatase	No specific data.
		RNase Block	No specific data.
		Control DNA Target	No specific data.
		10X Cas9 Digestion Buffer	No specific data.
		Cas9 Nuclease	No specific data.
		Control gRNA	No specific data.
		gRNA Binding Buffer	No specific data.
		5X gRNA Wash Buffer	No specific data.
		gRNA Elution Buffer	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	DEPC Treated Water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		RNase Free Water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		T7 Promoter Forward Primer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Control Template	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		DTT	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		RNase Free DNase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		T7 RNA Polymerase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		100 mM rATP	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.
		100 mM rGTP	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.
		100 mM rUTP	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.
		100 mM rCTP	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.
		5X RNAMaxx Transcription 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.
		Yeast Pyrophosphatase	Treat symptomatically. Contact poison treatment specialist

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		immediately if large quantities have been ingested or inhaled.
	RNase Block	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Control DNA Target	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	10X Cas9 Digestion 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.
	Cas9 Nuclease	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Control gRNA	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	gRNA Binding 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.
	5X gRNA Wash Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	gRNA Elution Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments :	DEPC Treated Water	No specific treatment.
	RNase Free Water	No specific treatment.
	T7 Promoter Forward Primer	No specific treatment.
	Control Template	No specific treatment.
	DTT	No specific treatment.
	RNase Free DNase	No specific treatment.
	T7 RNA Polymerase	No specific treatment.
	100 mM rATP	No specific treatment.
	100 mM rGTP	No specific treatment.
	100 mM rUTP	No specific treatment.
	100 mM rCTP	No specific treatment.
	5X RNAMaxx Transcription Buffer	No specific treatment.
	Yeast Pyrophosphatase	No specific treatment.
	RNase Block	No specific treatment.
	Control DNA Target	No specific treatment.
	10X Cas9 Digestion Buffer	No specific treatment.
	Cas9 Nuclease	No specific treatment.
	Control gRNA	No specific treatment.
	gRNA Binding Buffer	No specific treatment.
	5X gRNA Wash Buffer	No specific treatment.
	gRNA Elution Buffer	No specific treatment.

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5.1 Extinguishing media

Suitable extinguishing media :	DEPC Treated Water	Use an extinguishing agent suitable for the surrounding fire.
	RNase Free Water	Use an extinguishing agent suitable for the surrounding fire.
	T7 Promoter Forward Primer	Use an extinguishing agent suitable for the surrounding fire.
	Control Template	Use an extinguishing agent suitable for the surrounding fire.
	DTT	Use an extinguishing agent suitable for the surrounding fire.
	RNase Free DNase	Use an extinguishing agent suitable for the surrounding fire.
	T7 RNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rATP	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rGTP	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rUTP	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rCTP	Use an extinguishing agent suitable for the surrounding fire.
	5X RNAMaxx Transcription Buffer	Use an extinguishing agent suitable for the surrounding fire.
	Yeast Pyrophosphatase	Use an extinguishing agent suitable for the surrounding fire.
	RNase Block	Use an extinguishing agent suitable for the surrounding fire.
	Control DNA Target	Use an extinguishing agent suitable for the surrounding fire.

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	10X Cas9 Digestion Buffer	Use an extinguishing agent suitable for the surrounding fire.
	Cas9 Nuclease	Use an extinguishing agent suitable for the surrounding fire.
	Control gRNA	Use an extinguishing agent suitable for the surrounding fire.
	gRNA Binding Buffer	Use an extinguishing agent suitable for the surrounding fire.
	5X gRNA Wash Buffer	Use an extinguishing agent suitable for the surrounding fire.
	gRNA Elution Buffer	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media :	DEPC Treated Water	None known.
	RNase Free Water	None known.
	T7 Promoter Forward Primer	None known.
	Control Template	None known.
	DTT	None known.
	RNase Free DNase	None known.
	T7 RNA Polymerase	None known.
	100 mM rATP	None known.
	100 mM rGTP	None known.
	100 mM rUTP	None known.
	100 mM rCTP	None known.
	5X RNAMaxx Transcription Buffer	None known.
	Yeast Pyrophosphatase	None known.
	RNase Block	None known.
	Control DNA Target	None known.
	10X Cas9 Digestion Buffer	None known.
	Cas9 Nuclease	None known.
	Control gRNA	None known.
	gRNA Binding Buffer	None known.
	5X gRNA Wash Buffer	None known.
	gRNA Elution Buffer	None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture :	DEPC Treated Water	In a fire or if heated, a pressure increase will occur and the container may burst.
	RNase Free Water	In a fire or if heated, a pressure increase will occur and the container may burst.
	T7 Promoter Forward Primer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Control Template	In a fire or if heated, a pressure increase will occur and the container may burst.
	DTT	In a fire or if heated, a pressure increase will occur and the container may burst.
	RNase Free DNase	In a fire or if heated, a pressure increase will occur and the container may burst.
	T7 RNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
	100 mM rATP	In a fire or if heated, a pressure increase will occur and the container may burst.
	100 mM rGTP	In a fire or if heated, a pressure increase will occur and the container may burst.
	100 mM rUTP	In a fire or if heated, a pressure increase will occur and the container may burst.
	100 mM rCTP	In a fire or if heated, a pressure increase will occur and the container may burst.
	5X RNAMaxx Transcription Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Yeast Pyrophosphatase	In a fire or if heated, a pressure increase will occur and the container may burst.
	RNase Block	In a fire or if heated, a pressure increase will occur and the container may burst.
	Control DNA Target	In a fire or if heated, a pressure increase will occur and the container may burst.

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	10X Cas9 Digestion Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Cas9 Nuclease	In a fire or if heated, a pressure increase will occur and the container may burst.
	Control gRNA	In a fire or if heated, a pressure increase will occur and the container may burst.
	gRNA Binding Buffer	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	5X gRNA Wash Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	gRNA Elution Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products :	DEPC Treated Water	No specific data.
	RNase Free Water	No specific data.
	T7 Promoter Forward Primer	No specific data.
	Control Template	No specific data.
	DTT	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	RNase Free DNase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	T7 RNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	100 mM rATP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides
	100 mM rGTP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides
	100 mM rUTP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides
	100 mM rCTP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides
	5X RNAMaxx Transcription Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	Yeast Pyrophosphatase	Decomposition products may include the following materials: carbon dioxide carbon monoxide

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RNase Block	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Control DNA Target	No specific data.
10X Cas9 Digestion Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
Cas9 Nuclease	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
Control gRNA	No specific data.
gRNA Binding Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
5X gRNA Wash Buffer	No specific data.
gRNA Elution Buffer	No specific data.

5.3 Advice for firefighters

Special precautions for fire-fighters :

DEPC Treated Water	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.
RNase Free Water	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.
T7 Promoter Forward Primer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Control Template	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.
DTT	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.
RNase Free DNase	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.
T7 RNA Polymerase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
100 mM rATP	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
100 mM rGTP	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.
100 mM rUTP	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.
100 mM rCTP	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.
5X RNAMaxx Transcription 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.
Yeast Pyrophosphatase	Promptly isolate the scene by removing all persons from the

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		vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	RNase Block	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Control DNA Target	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	10X Cas9 Digestion 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.
	Cas9 Nuclease	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Control gRNA	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.
	gRNA Binding 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.
	5X gRNA Wash Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	gRNA Elution 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.
Special protective equipment for fire-fighters :	DEPC Treated Water	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	RNase Free Water	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	T7 Promoter Forward Primer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	Control Template	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	DTT	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	RNase Free DNase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	T7 RNA Polymerase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full

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	face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
100 mM rATP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
100 mM rGTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
100 mM rUTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
100 mM rCTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
5X RNAMaxx Transcription Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Yeast Pyrophosphatase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
RNase Block	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Control DNA Target	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
10X Cas9 Digestion Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Cas9 Nuclease	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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Control gRNA	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
gRNA Binding Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
5X gRNA Wash Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
gRNA Elution Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel :

DEPC Treated Water	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
RNase Free Water	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
T7 Promoter Forward Primer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Control Template	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
DTT	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
RNase Free DNase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on

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	appropriate personal protective equipment.
100 mM rATP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
100 mM rGTP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
100 mM rUTP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
100 mM rCTP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
5X RNAMaxx Transcription Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Yeast Pyrophosphatase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
RNase Block	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Control DNA Target	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
10X Cas9 Digestion Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Cas9 Nuclease	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Control gRNA	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
gRNA Binding Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put

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			on appropriate personal protective equipment.
		5X gRNA 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 spilt material. Put on appropriate personal protective equipment.
		gRNA Elution Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders	:	DEPC Treated Water	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		RNase Free Water	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		T7 Promoter Forward Primer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		Control Template	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		DTT	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		RNase Free DNase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		T7 RNA Polymerase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		100 mM rATP	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		100 mM rGTP	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		100 mM rUTP	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		100 mM rCTP	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		5X RNAMaxx Transcription Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		Yeast Pyrophosphatase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
		RNase Block	If specialised clothing is required to deal with the spillage,

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		take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Control DNA Target	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	10X Cas9 Digestion Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Cas9 Nuclease	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Control gRNA	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	gRNA Binding Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	5X gRNA Wash Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	gRNA Elution Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2 Environmental precautions :	DEPC Treated Water	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	RNase Free Water	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	T7 Promoter Forward Primer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Control Template	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	DTT	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	RNase Free DNase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	T7 RNA Polymerase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	100 mM rATP	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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100 mM rGTP	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
100 mM rUTP	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
100 mM rCTP	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
5X RNAMaxx Transcription Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Yeast Pyrophosphatase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
RNase Block	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Control DNA Target	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
10X Cas9 Digestion Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Cas9 Nuclease	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Control gRNA	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
gRNA Binding Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
5X gRNA Wash Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
gRNA Elution Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	DEPC Treated Water	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.
		RNase Free Water	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively,

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	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.
T7 Promoter Forward Primer	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 Template	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.
DTT	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.
RNase Free DNase	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.
T7 RNA Polymerase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
100 mM rATP	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
100 mM rGTP	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.
100 mM rUTP	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.
100 mM rCTP	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.
5X RNAMaxx Transcription 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.
Yeast Pyrophosphatase	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.
RNase Block	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 DNA Target	Stop leak if without risk. Move containers from spill area.

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	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 Cas9 Digestion 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.
Cas9 Nuclease	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 gRNA	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.
gRNA Binding 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.
5X gRNA 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.
gRNA Elution 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.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures :	DEPC Treated Water	Put on appropriate personal protective equipment (see Section 8).
	RNase Free Water	Put on appropriate personal protective equipment (see Section 8).
	T7 Promoter Forward Primer	Put on appropriate personal protective equipment (see Section 8).
	Control Template	Put on appropriate personal protective equipment (see Section 8).
	DTT	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	RNase Free DNase	Put on appropriate personal protective equipment (see Section 8).
	T7 RNA Polymerase	Put on appropriate personal protective equipment (see Section 8).
	100 mM rATP	Put on appropriate personal protective equipment (see Section 8).
	100 mM rGTP	Put on appropriate personal protective equipment (see

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		Section 8).
	100 mM rUTP	Put on appropriate personal protective equipment (see Section 8).
	100 mM rCTP	Put on appropriate personal protective equipment (see Section 8).
	5X RNAMaxx Transcription Buffer	Put on appropriate personal protective equipment (see Section 8).
	Yeast Pyrophosphatase	Put on appropriate personal protective equipment (see Section 8).
	RNase Block	Put on appropriate personal protective equipment (see Section 8).
	Control DNA Target	Put on appropriate personal protective equipment (see Section 8).
	10X Cas9 Digestion Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. 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.
	Cas9 Nuclease	Put on appropriate personal protective equipment (see Section 8).
	Control gRNA	Put on appropriate personal protective equipment (see Section 8).
	gRNA Binding Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. 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.
	5X gRNA Wash Buffer	Put on appropriate personal protective equipment (see Section 8).
	gRNA Elution Buffer	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene :	DEPC Treated Water	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	RNase Free Water	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	T7 Promoter Forward Primer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	Control Template	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	DTT	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,

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	drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
RNase Free DNase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
T7 RNA Polymerase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
100 mM rATP	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
100 mM rGTP	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
100 mM rUTP	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
100 mM rCTP	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
5X RNAMaxx Transcription Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Yeast Pyrophosphatase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
RNase Block	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Control DNA Target	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
10X Cas9 Digestion	Eating, drinking and smoking should be prohibited in areas

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Buffer	where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Cas9 Nuclease	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Control gRNA	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
gRNA Binding Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
5X gRNA Wash Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
gRNA Elution Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage	:	DEPC Treated Water	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
		RNase Free Water	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
		T7 Promoter Forward Primer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

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Control Template	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
DTT	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
RNase Free DNase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
T7 RNA Polymerase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
100 mM rATP	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
100 mM rGTP	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
100 mM rUTP	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
100 mM rCTP	Store in accordance with local regulations. Store in original

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	container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
5X RNAMaxx Transcription Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Yeast Pyrophosphatase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
RNase Block	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Control DNA Target	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
10X Cas9 Digestion Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Cas9 Nuclease	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Control gRNA	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and

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	well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
gRNA Binding Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
5X gRNA 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.
gRNA Elution Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations	: DEPC Treated Water	Industrial applications, Professional applications.
	RNase Free Water	Industrial applications, Professional applications.
	T7 Promoter Forward Primer	Industrial applications, Professional applications.
	Control Template	Industrial applications, Professional applications.
	DTT	Industrial applications, Professional applications.
	RNase Free DNase	Industrial applications, Professional applications.
	T7 RNA Polymerase	Industrial applications, Professional applications.
	100 mM rATP	Industrial applications, Professional applications.
	100 mM rGTP	Industrial applications, Professional applications.
	100 mM rUTP	Industrial applications, Professional applications.
	100 mM rCTP	Industrial applications, Professional applications.
	5X RNAMaxx Transcription Buffer	Industrial applications, Professional applications.
	Yeast Pyrophosphatase	Industrial applications, Professional applications.
	RNase Block	Industrial applications, Professional applications.
	Control DNA Target	Industrial applications, Professional applications.
	10X Cas9 Digestion Buffer	Industrial applications, Professional applications.
	Cas9 Nuclease	Industrial applications, Professional applications.
	Control gRNA	Industrial applications, Professional applications.
	gRNA Binding Buffer	Industrial applications, Professional applications.
	5X gRNA Wash Buffer	Industrial applications, Professional applications.
	gRNA Elution Buffer	Industrial applications, Professional applications.

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Industrial sector specific solutions :

DEPC Treated Water	Not applicable.
RNase Free Water	Not applicable.
T7 Promoter Forward Primer	Not applicable.
Control Template	Not applicable.
DTT	Not applicable.
RNase Free DNase	Not applicable.
T7 RNA Polymerase	Not applicable.
100 mM rATP	Not applicable.
100 mM rGTP	Not applicable.
100 mM rUTP	Not applicable.
100 mM rCTP	Not applicable.
5X RNAMaxx Transcription Buffer	Not applicable.
Yeast Pyrophosphatase	Not applicable.
RNase Block	Not applicable.
Control DNA Target	Not applicable.
10X Cas9 Digestion Buffer	Not applicable.
Cas9 Nuclease	Not applicable.
Control gRNA	Not applicable.
gRNA Binding Buffer	Not applicable.
5X gRNA Wash Buffer	Not applicable.
gRNA Elution Buffer	Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
RNase Free DNase Glycerol	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** TWA: 10 mg/m³ 8 hours. Form: Mist
T7 RNA Polymerase Glycerol	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** TWA: 10 mg/m³ 8 hours. Form: Mist
Yeast Pyrophosphatase Glycerol	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** TWA: 10 mg/m³ 8 hours. Form: Mist
RNase Block Glycerol	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** TWA: 10 mg/m³ 8 hours. Form: Mist
Cas9 Nuclease Glycerol	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** TWA: 10 mg/m³ 8 hours. Form: Mist

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

DNELs/DMELs

SECTION 8: Exposure controls/personal protection

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

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

Individual protection measures

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

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

Skin protection

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

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

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

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state :

DEPC Treated Water	Liquid.
RNase Free Water	Liquid.
T7 Promoter Forward Primer	Liquid.
Control Template	Liquid.
DTT	Liquid.
RNase Free DNase	Liquid.
T7 RNA Polymerase	Liquid.
100 mM rATP	Liquid.
100 mM rGTP	Liquid.
100 mM rUTP	Liquid.
100 mM rCTP	Liquid.
5X RNAMaxx Transcription Buffer	Liquid.
Yeast Pyrophosphatase	Liquid.

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		RNase Block	Liquid.
		Control DNA Target	Liquid.
		10X Cas9 Digestion Buffer	Liquid.
		Cas9 Nuclease	Liquid.
		Control gRNA	Liquid.
		gRNA Binding Buffer	Liquid.
		5X gRNA Wash Buffer	Liquid.
		gRNA Elution Buffer	Liquid.
Colour	:	DEPC Treated Water	Not available.
		RNase Free Water	Colourless.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Odour	:	DEPC Treated Water	Not available.
		RNase Free Water	Odourless.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.

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Odour threshold	:	DEPC Treated Water	Not available.
		RNase Free Water	Not available.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
pH	:	DEPC Treated Water	Not available.
		RNase Free Water	7
		T7 Promoter Forward Primer	7
		Control Template	7
		DTT	10
		RNase Free DNase	7.5
		T7 RNA Polymerase	7.7
		100 mM rATP	8
		100 mM rGTP	8
		100 mM rUTP	8
		100 mM rCTP	8
		5X RNAMaxx Transcription Buffer	10
		Yeast Pyrophosphatase	7.5
		RNase Block	7.6
		Control DNA Target	8
		10X Cas9 Digestion Buffer	7
		Cas9 Nuclease	7
		Control gRNA	7
		gRNA Binding Buffer	7
		5X gRNA Wash Buffer	6.5
		gRNA Elution Buffer	7.5
Melting point/freezing point	:	DEPC Treated Water	0°C
		RNase Free Water	0°C
		T7 Promoter Forward Primer	0°C
		Control Template	0°C
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	0°C
		100 mM rGTP	0°C
		100 mM rUTP	0°C
		100 mM rCTP	0°C
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.

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		Control DNA Target	0°C
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	0°C
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	0°C
		gRNA Elution Buffer	0°C
Initial boiling point and boiling range	:	DEPC Treated Water	100°C
		RNase Free Water	100°C
		T7 Promoter Forward Primer	100°C
		Control Template	100°C
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	100°C
		100 mM rGTP	100°C
		100 mM rUTP	100°C
		100 mM rCTP	100°C
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	100°C
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	100°C
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	100°C
		gRNA Elution Buffer	100°C
Flash point	:	DEPC Treated Water	Not available.
		RNase Free Water	Not applicable.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Evaporation rate	:	DEPC Treated Water	Not available.
		RNase Free Water	Not available.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.

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		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Flammability (solid, gas)	:	DEPC Treated Water	Not applicable.
		RNase Free Water	Not applicable.
		T7 Promoter Forward Primer	Not applicable.
		Control Template	Not applicable.
		DTT	Not applicable.
		RNase Free DNase	Not applicable.
		T7 RNA Polymerase	Not applicable.
		100 mM rATP	Not applicable.
		100 mM rGTP	Not applicable.
		100 mM rUTP	Not applicable.
		100 mM rCTP	Not applicable.
		5X RNAMaxx Transcription Buffer	Not applicable.
		Yeast Pyrophosphatase	Not applicable.
		RNase Block	Not applicable.
		Control DNA Target	Not applicable.
		10X Cas9 Digestion Buffer	Not applicable.
		Cas9 Nuclease	Not applicable.
		Control gRNA	Not applicable.
		gRNA Binding Buffer	Not applicable.
		5X gRNA Wash Buffer	Not applicable.
		gRNA Elution Buffer	Not applicable.
Upper/lower flammability or explosive limits	:	DEPC Treated Water	Not available.
		RNase Free Water	Not available.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.

SECTION 9: Physical and chemical properties

		gRNA Elution Buffer	Not available.
Vapour pressure	:	DEPC Treated Water	Not available.
		RNase Free Water	3.2 kPa [room temperature]
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Vapour density	:	DEPC Treated Water	Not available.
		RNase Free Water	0.62 [Air = 1]
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Relative density	:	DEPC Treated Water	Not available.
		RNase Free Water	1
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.

SECTION 9: Physical and chemical properties

		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Solubility(ies)	:	DEPC Treated Water	Easily soluble in the following materials: cold water and hot water.
		RNase Free Water	Easily soluble in the following materials: cold water and hot water.
		T7 Promoter Forward Primer	Easily soluble in the following materials: cold water and hot water.
		Control Template	Easily soluble in the following materials: cold water and hot water.
		DTT	Easily soluble in the following materials: cold water and hot water.
		RNase Free DNase	Soluble in the following materials: cold water and hot water.
		T7 RNA Polymerase	Soluble in the following materials: cold water and hot water.
		100 mM rATP	Easily soluble in the following materials: cold water and hot water.
		100 mM rGTP	Easily soluble in the following materials: cold water and hot water.
		100 mM rUTP	Easily soluble in the following materials: cold water and hot water.
		100 mM rCTP	Easily soluble in the following materials: cold water and hot water.
		5X RNAMaxx Transcription Buffer	Easily soluble in the following materials: cold water and hot water.
		Yeast Pyrophosphatase	Soluble in the following materials: cold water and hot water.
		RNase Block	Soluble in the following materials: cold water and hot water.
		Control DNA Target	Easily soluble in the following materials: cold water and hot water.
		10X Cas9 Digestion Buffer	Soluble in the following materials: cold water and hot water.
		Cas9 Nuclease	Soluble in the following materials: cold water and hot water.
		Control gRNA	Easily soluble in the following materials: cold water and hot water.
		gRNA Binding Buffer	Soluble in the following materials: cold water and hot water.
		5X gRNA Wash Buffer	Easily soluble in the following materials: cold water and hot water.
		gRNA Elution Buffer	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	DEPC Treated Water	Not available.
		RNase Free Water	-1.38
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx	Not available.

SECTION 9: Physical and chemical properties

		Transcription Buffer	
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Auto-ignition temperature	:	DEPC Treated Water	Not available.
		RNase Free Water	Not applicable.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Decomposition temperature	:	DEPC Treated Water	Not available.
		RNase Free Water	>1200°C
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.

SECTION 9: Physical and chemical properties

Viscosity	:	DEPC Treated Water	Not available.
		RNase Free Water	Not available.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Explosive properties	:	DEPC Treated Water	Not available.
		RNase Free Water	Not applicable.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		Control DNA Target	Not available.
		10X Cas9 Digestion Buffer	Not available.
		Cas9 Nuclease	Not available.
		Control gRNA	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Oxidising properties	:	DEPC Treated Water	Not available.
		RNase Free Water	Not applicable.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.
		100 mM rATP	Not available.
		100 mM rGTP	Not available.
		100 mM rUTP	Not available.
		100 mM rCTP	Not available.
		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.

SECTION 9: Physical and chemical properties

Control DNA Target	Not available.
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	Not available.
gRNA Binding Buffer	Not available.
5X gRNA Wash Buffer	Not available.
gRNA Elution Buffer	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity :

DEPC Treated Water	No specific test data related to reactivity available for this product or its ingredients.
RNase Free Water	No specific test data related to reactivity available for this product or its ingredients.
T7 Promoter Forward Primer	No specific test data related to reactivity available for this product or its ingredients.
Control Template	No specific test data related to reactivity available for this product or its ingredients.
DTT	No specific test data related to reactivity available for this product or its ingredients.
RNase Free DNase	No specific test data related to reactivity available for this product or its ingredients.
T7 RNA Polymerase	No specific test data related to reactivity available for this product or its ingredients.
100 mM rATP	No specific test data related to reactivity available for this product or its ingredients.
100 mM rGTP	No specific test data related to reactivity available for this product or its ingredients.
100 mM rUTP	No specific test data related to reactivity available for this product or its ingredients.
100 mM rCTP	No specific test data related to reactivity available for this product or its ingredients.
5X RNAMaxx Transcription Buffer	No specific test data related to reactivity available for this product or its ingredients.
Yeast Pyrophosphatase	No specific test data related to reactivity available for this product or its ingredients.
RNase Block	No specific test data related to reactivity available for this product or its ingredients.
Control DNA Target	No specific test data related to reactivity available for this product or its ingredients.
10X Cas9 Digestion Buffer	No specific test data related to reactivity available for this product or its ingredients.
Cas9 Nuclease	No specific test data related to reactivity available for this product or its ingredients.
Control gRNA	No specific test data related to reactivity available for this product or its ingredients.
gRNA Binding Buffer	No specific test data related to reactivity available for this product or its ingredients.
5X gRNA Wash Buffer	No specific test data related to reactivity available for this product or its ingredients.
gRNA Elution Buffer	No specific test data related to reactivity available for this product or its ingredients.

SECTION 10: Stability and reactivity

10.2 Chemical stability :

DEPC Treated Water	The product is stable.
RNase Free Water	The product is stable.
T7 Promoter Forward Primer	The product is stable.
Control Template	The product is stable.
DTT	The product is stable.
RNase Free DNase	The product is stable.
T7 RNA Polymerase	The product is stable.
100 mM rATP	The product is stable.
100 mM rGTP	The product is stable.
100 mM rUTP	The product is stable.
100 mM rCTP	The product is stable.
5X RNAMaxx Transcription Buffer	The product is stable.
Yeast Pyrophosphatase	The product is stable.
RNase Block	The product is stable.
Control DNA Target	The product is stable.
10X Cas9 Digestion Buffer	The product is stable.
Cas9 Nuclease	The product is stable.
Control gRNA	The product is stable.
gRNA Binding Buffer	The product is stable.
5X gRNA Wash Buffer	The product is stable.
gRNA Elution Buffer	The product is stable.

10.3 Possibility of hazardous reactions :

DEPC Treated Water	Under normal conditions of storage and use, hazardous reactions will not occur.
RNase Free Water	Under normal conditions of storage and use, hazardous reactions will not occur.
T7 Promoter Forward Primer	Under normal conditions of storage and use, hazardous reactions will not occur.
Control Template	Under normal conditions of storage and use, hazardous reactions will not occur.
DTT	Under normal conditions of storage and use, hazardous reactions will not occur.
RNase Free DNase	Under normal conditions of storage and use, hazardous reactions will not occur.
T7 RNA Polymerase	Under normal conditions of storage and use, hazardous reactions will not occur.
100 mM rATP	Under normal conditions of storage and use, hazardous reactions will not occur.
100 mM rGTP	Under normal conditions of storage and use, hazardous reactions will not occur.
100 mM rUTP	Under normal conditions of storage and use, hazardous reactions will not occur.
100 mM rCTP	Under normal conditions of storage and use, hazardous reactions will not occur.
5X RNAMaxx Transcription Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
Yeast Pyrophosphatase	Under normal conditions of storage and use, hazardous reactions will not occur.
RNase Block	Under normal conditions of storage and use, hazardous reactions will not occur.
Control DNA Target	Under normal conditions of storage and use, hazardous reactions will not occur.
10X Cas9 Digestion Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
Cas9 Nuclease	Under normal conditions of storage and use, hazardous reactions will not occur.
Control gRNA	Under normal conditions of storage and use, hazardous reactions will not occur.
gRNA Binding Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
5X gRNA Wash Buffer	Under normal conditions of storage and use, hazardous

SECTION 10: Stability and reactivity

		reactions will not occur.
	gRNA Elution Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid :	DEPC Treated Water	No specific data.
	RNase Free Water	No specific data.
	T7 Promoter Forward Primer	No specific data.
	Control Template	No specific data.
	DTT	No specific data.
	RNase Free DNase	No specific data.
	T7 RNA Polymerase	No specific data.
	100 mM rATP	No specific data.
	100 mM rGTP	No specific data.
	100 mM rUTP	No specific data.
	100 mM rCTP	No specific data.
	5X RNAMaxx Transcription Buffer	No specific data.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	No specific data.
	Cas9 Nuclease	No specific data.
	Control gRNA	No specific data.
	gRNA Binding Buffer	No specific data.
	5X gRNA Wash Buffer	No specific data.
	gRNA Elution Buffer	No specific data.
10.5 Incompatible materials :	DEPC Treated Water	May react or be incompatible with oxidising materials.
	RNase Free Water	May react or be incompatible with oxidising materials.
	T7 Promoter Forward Primer	May react or be incompatible with oxidising materials.
	Control Template	May react or be incompatible with oxidising materials.
	DTT	May react or be incompatible with oxidising materials.
	RNase Free DNase	May react or be incompatible with oxidising materials.
	T7 RNA Polymerase	May react or be incompatible with oxidising materials.
	100 mM rATP	May react or be incompatible with oxidising materials.
	100 mM rGTP	May react or be incompatible with oxidising materials.
	100 mM rUTP	May react or be incompatible with oxidising materials.
	100 mM rCTP	May react or be incompatible with oxidising materials.
	5X RNAMaxx Transcription Buffer	May react or be incompatible with oxidising materials.
	Yeast Pyrophosphatase	May react or be incompatible with oxidising materials.
	RNase Block	May react or be incompatible with oxidising materials.
	Control DNA Target	May react or be incompatible with oxidising materials.
	10X Cas9 Digestion Buffer	May react or be incompatible with oxidising materials.
	Cas9 Nuclease	May react or be incompatible with oxidising materials.
	Control gRNA	May react or be incompatible with oxidising materials.
	gRNA Binding Buffer	May react or be incompatible with oxidising materials.
	5X gRNA Wash Buffer	May react or be incompatible with oxidising materials.
	gRNA Elution Buffer	May react or be incompatible with oxidising materials.
10.6 Hazardous decomposition products :	DEPC Treated Water	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	RNase Free Water	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	T7 Promoter Forward Primer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Control Template	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DTT	Under normal conditions of storage and use, hazardous

SECTION 10: Stability and reactivity

	decomposition products should not be produced.
RNase Free DNase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
T7 RNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
100 mM rATP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
100 mM rGTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
100 mM rUTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
100 mM rCTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
5X RNAMaxx Transcription Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Yeast Pyrophosphatase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
RNase Block	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Control DNA Target	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
10X Cas9 Digestion Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Cas9 Nuclease	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Control gRNA	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
gRNA Binding Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
5X gRNA Wash Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
gRNA Elution Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
5X RNAMaxx Transcription Buffer				
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
10X Cas9 Digestion Buffer				
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Acute toxicity estimates

Route	ATE value
DTT	
Oral	4310.3 mg/kg
Cas9 Nuclease	
Oral	152500 mg/kg
Dermal	125000 mg/kg
Inhalation (vapours)	1250 mg/l
gRNA Binding Buffer	
Oral	1063.8 mg/kg
Dermal	2340.4 mg/kg
Inhalation (dusts and mists)	3.191 mg/l

Irritation/Corrosion

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
T7 RNA Polymerase					
Polyoxyethylene octyl phenyl ether	Eyes - Moderate irritant	Rabbit	-	24 hours 10 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
5X RNAMaxx Transcription Buffer					
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
10X Cas9 Digestion Buffer					
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitiser

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
DTT			
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	Category 3	Not applicable.	Respiratory tract irritation
5X RNAMaxx Transcription Buffer			
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
10X Cas9 Digestion Buffer			
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure :

DEPC Treated Water	Not available.
RNase Free Water	Not available.
T7 Promoter Forward Primer	Not available.
Control Template	Not available.
DTT	Routes of entry anticipated: Oral, Dermal, Inhalation.
RNase Free DNase	Routes of entry anticipated: Oral, Dermal, Inhalation.
T7 RNA Polymerase	Routes of entry anticipated: Oral, Dermal, Inhalation.
100 mM rATP	Not available.
100 mM rGTP	Not available.
100 mM rUTP	Not available.
100 mM rCTP	Not available.
5X RNAMaxx Transcription Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
Yeast Pyrophosphatase	Routes of entry anticipated: Oral, Dermal, Inhalation.
RNase Block	Routes of entry anticipated: Oral, Dermal, Inhalation.
Control DNA Target	Not available.

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10X Cas9 Digestion Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
Cas9 Nuclease	Routes of entry anticipated: Oral, Dermal, Inhalation.
Control gRNA	Not available.
gRNA Binding Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
5X gRNA Wash Buffer	Not available.
gRNA Elution Buffer	Not available.

Potential acute health effects

Inhalation :

DEPC Treated Water	No known significant effects or critical hazards.
RNase Free Water	No known significant effects or critical hazards.
T7 Promoter Forward Primer	No known significant effects or critical hazards.
Control Template	No known significant effects or critical hazards.
DTT	No known significant effects or critical hazards.
RNase Free DNase	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
100 mM rATP	No known significant effects or critical hazards.
100 mM rGTP	No known significant effects or critical hazards.
100 mM rUTP	No known significant effects or critical hazards.
100 mM rCTP	No known significant effects or critical hazards.
5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
Yeast Pyrophosphatase	No known significant effects or critical hazards.
RNase Block	No known significant effects or critical hazards.
Control DNA Target	No known significant effects or critical hazards.
10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
Cas9 Nuclease	No known significant effects or critical hazards.
Control gRNA	No known significant effects or critical hazards.
gRNA Binding Buffer	Harmful if inhaled.
5X gRNA Wash Buffer	No known significant effects or critical hazards.
gRNA Elution Buffer	No known significant effects or critical hazards.

Ingestion :

DEPC Treated Water	No known significant effects or critical hazards.
RNase Free Water	No known significant effects or critical hazards.
T7 Promoter Forward Primer	No known significant effects or critical hazards.
Control Template	No known significant effects or critical hazards.
DTT	No known significant effects or critical hazards.
RNase Free DNase	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
100 mM rATP	No known significant effects or critical hazards.
100 mM rGTP	No known significant effects or critical hazards.
100 mM rUTP	No known significant effects or critical hazards.
100 mM rCTP	No known significant effects or critical hazards.
5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
Yeast Pyrophosphatase	No known significant effects or critical hazards.
RNase Block	No known significant effects or critical hazards.
Control DNA Target	No known significant effects or critical hazards.
10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
Cas9 Nuclease	No known significant effects or critical hazards.
Control gRNA	No known significant effects or critical hazards.
gRNA Binding Buffer	Harmful if swallowed.
5X gRNA Wash Buffer	No known significant effects or critical hazards.
gRNA Elution Buffer	No known significant effects or critical hazards.

Skin contact :

DEPC Treated Water	No known significant effects or critical hazards.
RNase Free Water	No known significant effects or critical hazards.
T7 Promoter Forward Primer	No known significant effects or critical hazards.
Control Template	No known significant effects or critical hazards.
DTT	Causes skin irritation.
RNase Free DNase	No known significant effects or critical hazards.

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	T7 RNA Polymerase	No known significant effects or critical hazards.
	100 mM rATP	No known significant effects or critical hazards.
	100 mM rGTP	No known significant effects or critical hazards.
	100 mM rUTP	No known significant effects or critical hazards.
	100 mM rCTP	No known significant effects or critical hazards.
	5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
	Yeast Pyrophosphatase	No known significant effects or critical hazards.
	RNase Block	No known significant effects or critical hazards.
	Control DNA Target	No known significant effects or critical hazards.
	10X Cas9 Digestion Buffer	Causes skin irritation.
	Cas9 Nuclease	No known significant effects or critical hazards.
	Control gRNA	No known significant effects or critical hazards.
	gRNA Binding Buffer	No known significant effects or critical hazards.
	5X gRNA Wash Buffer	No known significant effects or critical hazards.
	gRNA Elution Buffer	No known significant effects or critical hazards.
Eye contact :	DEPC Treated Water	No known significant effects or critical hazards.
	RNase Free Water	No known significant effects or critical hazards.
	T7 Promoter Forward Primer	No known significant effects or critical hazards.
	Control Template	No known significant effects or critical hazards.
	DTT	Causes serious eye irritation.
	RNase Free DNase	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	100 mM rATP	No known significant effects or critical hazards.
	100 mM rGTP	No known significant effects or critical hazards.
	100 mM rUTP	No known significant effects or critical hazards.
	100 mM rCTP	No known significant effects or critical hazards.
	5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
	Yeast Pyrophosphatase	No known significant effects or critical hazards.
	RNase Block	No known significant effects or critical hazards.
	Control DNA Target	No known significant effects or critical hazards.
	10X Cas9 Digestion Buffer	Causes serious eye irritation.
	Cas9 Nuclease	No known significant effects or critical hazards.
	Control gRNA	No known significant effects or critical hazards.
	gRNA Binding Buffer	No known significant effects or critical hazards.
	5X gRNA Wash Buffer	No known significant effects or critical hazards.
	gRNA Elution Buffer	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation :	DEPC Treated Water	No specific data.
	RNase Free Water	No specific data.
	T7 Promoter Forward Primer	No specific data.
	Control Template	No specific data.
	DTT	No specific data.
	RNase Free DNase	No specific data.
	T7 RNA Polymerase	No specific data.
	100 mM rATP	No specific data.
	100 mM rGTP	No specific data.
	100 mM rUTP	No specific data.
	100 mM rCTP	No specific data.
	5X RNAMaxx Transcription Buffer	No specific data.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	No specific data.
	Cas9 Nuclease	No specific data.
	Control gRNA	No specific data.
	gRNA Binding Buffer	No specific data.

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	5X gRNA Wash Buffer	No specific data.
	gRNA Elution Buffer	No specific data.
Ingestion :	DEPC Treated Water	No specific data.
	RNase Free Water	No specific data.
	T7 Promoter Forward Primer	No specific data.
	Control Template	No specific data.
	DTT	No specific data.
	RNase Free DNase	No specific data.
	T7 RNA Polymerase	No specific data.
	100 mM rATP	No specific data.
	100 mM rGTP	No specific data.
	100 mM rUTP	No specific data.
	100 mM rCTP	No specific data.
	5X RNAMaxx Transcription Buffer	No specific data.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	No specific data.
	Cas9 Nuclease	No specific data.
	Control gRNA	No specific data.
	gRNA Binding Buffer	No specific data.
	5X gRNA Wash Buffer	No specific data.
	gRNA Elution Buffer	No specific data.
Skin contact :	DEPC Treated Water	No specific data.
	RNase Free Water	No specific data.
	T7 Promoter Forward Primer	No specific data.
	Control Template	No specific data.
	DTT	Adverse symptoms may include the following: irritation redness
	RNase Free DNase	No specific data.
	T7 RNA Polymerase	No specific data.
	100 mM rATP	No specific data.
	100 mM rGTP	No specific data.
	100 mM rUTP	No specific data.
	100 mM rCTP	No specific data.
	5X RNAMaxx Transcription Buffer	No specific data.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	Adverse symptoms may include the following: irritation redness
	Cas9 Nuclease	No specific data.
	Control gRNA	No specific data.
	gRNA Binding Buffer	No specific data.
	5X gRNA Wash Buffer	No specific data.
	gRNA Elution Buffer	No specific data.
Eye contact :	DEPC Treated Water	No specific data.
	RNase Free Water	No specific data.
	T7 Promoter Forward Primer	No specific data.
	Control Template	No specific data.
	DTT	Adverse symptoms may include the following: pain or irritation watering redness
	RNase Free DNase	No specific data.

SECTION 11: Toxicological information

T7 RNA Polymerase	No specific data.
100 mM rATP	No specific data.
100 mM rGTP	No specific data.
100 mM rUTP	No specific data.
100 mM rCTP	No specific data.
5X RNAMaxx Transcription Buffer	No specific data.
Yeast Pyrophosphatase	No specific data.
RNase Block	No specific data.
Control DNA Target	No specific data.
10X Cas9 Digestion Buffer	Adverse symptoms may include the following: pain or irritation watering redness
Cas9 Nuclease	No specific data.
Control gRNA	No specific data.
gRNA Binding Buffer	No specific data.
5X gRNA Wash Buffer	No specific data.
gRNA Elution Buffer	No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General :

DEPC Treated Water	No known significant effects or critical hazards.
RNase Free Water	No known significant effects or critical hazards.
T7 Promoter Forward Primer	No known significant effects or critical hazards.
Control Template	No known significant effects or critical hazards.
DTT	No known significant effects or critical hazards.
RNase Free DNase	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
100 mM rATP	No known significant effects or critical hazards.
100 mM rGTP	No known significant effects or critical hazards.
100 mM rUTP	No known significant effects or critical hazards.
100 mM rCTP	No known significant effects or critical hazards.
5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
Yeast Pyrophosphatase	No known significant effects or critical hazards.
RNase Block	No known significant effects or critical hazards.
Control DNA Target	No known significant effects or critical hazards.
10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
Cas9 Nuclease	No known significant effects or critical hazards.
Control gRNA	No known significant effects or critical hazards.
gRNA Binding Buffer	No known significant effects or critical hazards.
5X gRNA Wash Buffer	No known significant effects or critical hazards.
gRNA Elution Buffer	No known significant effects or critical hazards.

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Carcinogenicity	:	DEPC Treated Water	No known significant effects or critical hazards.
		RNase Free Water	No known significant effects or critical hazards.
		T7 Promoter Forward Primer	No known significant effects or critical hazards.
		Control Template	No known significant effects or critical hazards.
		DTT	No known significant effects or critical hazards.
		RNase Free DNase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		100 mM rATP	No known significant effects or critical hazards.
		100 mM rGTP	No known significant effects or critical hazards.
		100 mM rUTP	No known significant effects or critical hazards.
		100 mM rCTP	No known significant effects or critical hazards.
		5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
		Yeast Pyrophosphatase	No known significant effects or critical hazards.
		RNase Block	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
		Cas9 Nuclease	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
		gRNA Binding Buffer	No known significant effects or critical hazards.
		5X gRNA Wash Buffer	No known significant effects or critical hazards.
		gRNA Elution Buffer	No known significant effects or critical hazards.
Mutagenicity	:	DEPC Treated Water	No known significant effects or critical hazards.
		RNase Free Water	No known significant effects or critical hazards.
		T7 Promoter Forward Primer	No known significant effects or critical hazards.
		Control Template	No known significant effects or critical hazards.
		DTT	No known significant effects or critical hazards.
		RNase Free DNase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		100 mM rATP	No known significant effects or critical hazards.
		100 mM rGTP	No known significant effects or critical hazards.
		100 mM rUTP	No known significant effects or critical hazards.
		100 mM rCTP	No known significant effects or critical hazards.
		5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
		Yeast Pyrophosphatase	No known significant effects or critical hazards.
		RNase Block	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
		Cas9 Nuclease	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
		gRNA Binding Buffer	No known significant effects or critical hazards.
		5X gRNA Wash Buffer	No known significant effects or critical hazards.
		gRNA Elution Buffer	No known significant effects or critical hazards.
Teratogenicity	:	DEPC Treated Water	No known significant effects or critical hazards.
		RNase Free Water	No known significant effects or critical hazards.
		T7 Promoter Forward Primer	No known significant effects or critical hazards.
		Control Template	No known significant effects or critical hazards.
		DTT	No known significant effects or critical hazards.
		RNase Free DNase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		100 mM rATP	No known significant effects or critical hazards.
		100 mM rGTP	No known significant effects or critical hazards.
		100 mM rUTP	No known significant effects or critical hazards.
		100 mM rCTP	No known significant effects or critical hazards.
		5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
		Yeast Pyrophosphatase	No known significant effects or critical hazards.
		RNase Block	No known significant effects or critical hazards.

SECTION 11: Toxicological information

		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
		Cas9 Nuclease	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
		gRNA Binding Buffer	No known significant effects or critical hazards.
		5X gRNA Wash Buffer	No known significant effects or critical hazards.
		gRNA Elution Buffer	No known significant effects or critical hazards.
Developmental effects	:	DEPC Treated Water	No known significant effects or critical hazards.
		RNase Free Water	No known significant effects or critical hazards.
		T7 Promoter Forward Primer	No known significant effects or critical hazards.
		Control Template	No known significant effects or critical hazards.
		DTT	No known significant effects or critical hazards.
		RNase Free DNase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		100 mM rATP	No known significant effects or critical hazards.
		100 mM rGTP	No known significant effects or critical hazards.
		100 mM rUTP	No known significant effects or critical hazards.
		100 mM rCTP	No known significant effects or critical hazards.
		5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
		Yeast Pyrophosphatase	No known significant effects or critical hazards.
		RNase Block	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
		Cas9 Nuclease	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
		gRNA Binding Buffer	No known significant effects or critical hazards.
		5X gRNA Wash Buffer	No known significant effects or critical hazards.
		gRNA Elution Buffer	No known significant effects or critical hazards.
Fertility effects	:	DEPC Treated Water	No known significant effects or critical hazards.
		RNase Free Water	No known significant effects or critical hazards.
		T7 Promoter Forward Primer	No known significant effects or critical hazards.
		Control Template	No known significant effects or critical hazards.
		DTT	No known significant effects or critical hazards.
		RNase Free DNase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		100 mM rATP	No known significant effects or critical hazards.
		100 mM rGTP	No known significant effects or critical hazards.
		100 mM rUTP	No known significant effects or critical hazards.
		100 mM rCTP	No known significant effects or critical hazards.
		5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
		Yeast Pyrophosphatase	No known significant effects or critical hazards.
		RNase Block	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	No known significant effects or critical hazards.
		Cas9 Nuclease	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
		gRNA Binding Buffer	No known significant effects or critical hazards.
		5X gRNA Wash Buffer	No known significant effects or critical hazards.
		gRNA Elution Buffer	No known significant effects or critical hazards.
Other information	:	DEPC Treated Water	Not available.
		RNase Free Water	Not available.
		T7 Promoter Forward Primer	Not available.
		Control Template	Not available.
		DTT	Not available.
		RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.

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100 mM rATP	Not available.
100 mM rGTP	Not available.
100 mM rUTP	Not available.
100 mM rCTP	Not available.
5X RNAMaxx Transcription Buffer	Not available.
Yeast Pyrophosphatase	Not available.
RNase Block	Not available.
Control DNA Target	Not available.
10X Cas9 Digestion Buffer	Not available.
Cas9 Nuclease	Not available.
Control gRNA	Not available.
gRNA Binding Buffer	Not available.
5X gRNA Wash Buffer	Not available.
gRNA Elution Buffer	Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
DTT			
(R*,R*)-1, 4-Dimercaptobutane-2,3-diol	Acute LC50 27000 to 30000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
T7 RNA Polymerase			
Polyoxyethylene octyl phenyl ether	Acute LC50 5.85 mg/l Fresh water	Crustaceans - Ceriodaphnia rigaudi - Neonate	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
5X RNAMaxx Transcription Buffer			
Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
10X Cas9 Digestion Buffer			
Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks

SECTION 12: Ecological information

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
DEPC Treated Water Water	-	100 % - 28 days	-	-
RNase Free Water Water	-	100 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
DEPC Treated Water Water	-	-	Readily
RNase Free Water Water	-	-	Readily
T7 RNA Polymerase Polyoxyethylene octyl phenyl ether	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
DEPC Treated Water Water	-1.38	-	low
RNase Free Water Water	-1.38	-	low
T7 RNA Polymerase Polyoxyethylene octyl phenyl ether	4.86	-	high

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

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

Packaging

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

SECTION 13: Disposal considerations

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

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

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
T7 RNA Polymerase Polyoxyethylene octyl phenyl ether	Substance of equivalent concern for environment	Recommended	ED/169/2012	2/10/2014

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

DEPC Treated Water	Not applicable.
RNase Free Water	Not applicable.
T7 Promoter Forward Primer	Not applicable.
Control Template	Not applicable.
DTT	Not applicable.
RNase Free DNase	Not applicable.
T7 RNA Polymerase	Not applicable.
100 mM rATP	Not applicable.
100 mM rGTP	Not applicable.
100 mM rUTP	Not applicable.
100 mM rCTP	Not applicable.
5X RNAMaxx Transcription Buffer	Not applicable.
Yeast Pyrophosphatase	Not applicable.
RNase Block	Not applicable.
Control DNA Target	Not applicable.
10X Cas9 Digestion Buffer	Not applicable.
Cas9 Nuclease	Not applicable.
Control gRNA	Not applicable.
gRNA Binding Buffer	Not applicable.
5X gRNA Wash Buffer	Not applicable.
gRNA Elution Buffer	Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

SECTION 15: Regulatory information

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

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia	:	Not determined.
Canada	:	Not determined.
China	:	Not determined.
Japan	:	**Japan inventory (ENCS)**: Not determined. **Japan inventory (ISHL)**: Not determined.
Malaysia	:	Not determined.
New Zealand	:	Not determined.
Philippines	:	Not determined.
Republic of Korea	:	Not determined.
Taiwan	:	All components are listed or exempted.
Turkey	:	Not determined.
United States	:	Not determined.

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

SECTION 16: Other information

Indicates information that has changed from previously issued version.

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

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

SECTION 16: Other information

Classification	Justification
DTT	
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
10X Cas9 Digestion Buffer	
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
gRNA Binding Buffer	
Acute Tox. 4, H302	Calculation method
Acute Tox. 4, H332	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

DTT	
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
T7 RNA Polymerase	
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H411	Toxic to aquatic life with long lasting effects.
5X RNAMaxx Transcription Buffer	
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
10X Cas9 Digestion Buffer	
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
gRNA Binding Buffer	
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

DTT	
Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
Aquatic Chronic 3, H412	LONG-TERM AQUATIC HAZARD - Category 3
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
T7 RNA Polymerase	
Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
Aquatic Chronic 2, H411	LONG-TERM AQUATIC HAZARD - Category 2
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
5X RNAMaxx Transcription Buffer	
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE

SECTION 16: Other information

	(Respiratory tract irritation) - Category 3
10X Cas9 Digestion Buffer	
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3
gRNA Binding Buffer	
Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
Acute Tox. 4, H312	ACUTE TOXICITY (dermal) - Category 4
Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - Category 4
Aquatic Chronic 3, H412	LONG-TERM AQUATIC HAZARD - Category 3
EUH032	Contact with acids liberates very toxic gas.

Date of issue/ Date of revision : 17/10/2016

Date of previous issue : No previous validation.

Version : 1

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