

SAFETY DATA SHEET



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

Section 1. Identification

Product identifier	: SureGuide CRISPR/Cas Complete Kit - 40 Reactions, Part Number 5190-7714																																											
Part No. (Chemical Kit)	: 5190-7714																																											
Part No.	:	<table> <tr><td>DEPC Treated Water</td><td>200420-58</td></tr> <tr><td>RNase Free Water</td><td>740000-42</td></tr> <tr><td>T7 Promoter Forward Primer</td><td>5190-7542</td></tr> <tr><td>Control Template</td><td>5190-7543</td></tr> <tr><td>DTT</td><td>5190-7544</td></tr> <tr><td>RNase Free DNase</td><td>5190-7545</td></tr> <tr><td>T7 RNA Polymerase</td><td>200339-51</td></tr> <tr><td>100 mM rATP</td><td>200339-52</td></tr> <tr><td>100 mM rGTP</td><td>200339-53</td></tr> <tr><td>100 mM rUTP</td><td>200339-54</td></tr> <tr><td>100 mM rCTP</td><td>200339-55</td></tr> <tr><td>5X RNAMaxx Transcription Buffer</td><td>200339-56</td></tr> <tr><td>Yeast Pyrophosphatase</td><td>200339-57</td></tr> <tr><td>RNase Block</td><td>200339-58</td></tr> <tr><td>Control DNA Target</td><td>5190-7536</td></tr> <tr><td>10X Cas9 Digestion Buffer</td><td>5190-7537</td></tr> <tr><td>Cas9 Nuclease</td><td>5190-7538</td></tr> <tr><td>Control gRNA</td><td>5190-7539</td></tr> <tr><td>gRNA Binding Buffer</td><td>5190-7546</td></tr> <tr><td>5X gRNA Wash Buffer</td><td>5190-7547</td></tr> <tr><td>gRNA Elution Buffer</td><td>5190-7548</td></tr> </table>	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
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gRNA Binding Buffer	5190-7546																																											
5X gRNA Wash Buffer	5190-7547																																											
gRNA Elution Buffer	5190-7548																																											

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

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

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

Section 1. Identification

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

Section 2. Hazard(s) identification

Classification of the substance or mixture

DTT

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

10X Cas9 Digestion Buffer

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

gRNA Binding Buffer

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

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%
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%

GHS label elements

Hazard pictograms

:




Signal word

:


17 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.
DEPC Treated Water	No signal word.
Control DNA Target	No signal word.
10X Cas9 Digestion Buffer	WARNING
Cas9 Nuclease	No signal word.
RNase Free Water	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.

Section 2. Hazard(s) identification

Hazard statements	: 	Promoter Forward Primer	No known significant effects or critical hazards.
		Control Template	No known significant effects or critical hazards.
		DTT	H319 - Causes serious eye irritation. H315 - 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.
		DEPC Treated Water	No known significant effects or critical hazards.
		Control DNA Target	No known significant effects or critical hazards.
		10X Cas9 Digestion Buffer	H319 - Causes serious eye irritation. H315 - Causes skin irritation.
		Cas9 Nuclease	No known significant effects or critical hazards.
		RNase Free Water	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
		gRNA Binding Buffer	H302 + H332 - Harmful if swallowed or if inhaled. H412 - 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

:		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.
		DEPC Treated Water	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.
		RNase Free Water	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. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
		5X gRNA Wash Buffer	Not applicable.
gRNA Elution Buffer	Not applicable.		

Section 2. Hazard(s) identification

Response	<p>☒ Promoter Forward Primer Not applicable. Control Template Not applicable. DTT P302 + P352 + P362 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.</p> <p>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.</p> <p>Yeast Pyrophosphatase Not applicable. RNase Block Not applicable. DEPC Treated Water Not applicable. Control DNA Target Not applicable. 10X Cas9 Digestion Buffer P302 + P352 + P362 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.</p> <p>Cas9 Nuclease Not applicable. RNase Free Water Not applicable. Control gRNA Not applicable. gRNA Binding Buffer P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.</p> <p>5X gRNA Wash Buffer Not applicable. gRNA Elution Buffer Not applicable.</p>
Storage	<p>☒ 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.</p> <p>Yeast Pyrophosphatase Not applicable. RNase Block Not applicable. DEPC Treated Water Not applicable. Control DNA Target Not applicable. 10X Cas9 Digestion Buffer Not applicable. Cas9 Nuclease Not applicable.</p>

Section 2. Hazard(s) identification

	RNase Free Water	Not applicable.
	Control gRNA	Not applicable.
	gRNA Binding Buffer	Not applicable.
	5X gRNA Wash Buffer	Not applicable.
	gRNA Elution Buffer	Not applicable.
Disposal	:  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.
	DEPC Treated Water	Not applicable.
	Control DNA Target	Not applicable.
	10X Cas9 Digestion Buffer	Not applicable.
	Cas9 Nuclease	Not applicable.
	RNase Free Water	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.
Supplemental label elements	:  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.
	DEPC Treated Water	Not applicable.
	Control DNA Target	Not applicable.
	10X Cas9 Digestion Buffer	Not applicable.
	Cas9 Nuclease	Not applicable.
	RNase Free Water	Not applicable.
	Control gRNA	Not applicable.
	gRNA Binding Buffer	Not applicable.
	5X gRNA Wash Buffer	Not applicable.
	gRNA Elution Buffer	Not applicable.
Other hazards which do not result in classification	:  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.

Section 2. Hazard(s) identification

Yeast Pyrophosphatase	None known.
RNase Block	None known.
DEPC Treated Water	None known.
Control DNA Target	None known.
10X Cas9 Digestion Buffer	None known.
Cas9 Nuclease	None known.
RNase Free Water	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 and ingredient information

Substance/mixture	:	DEPC Treated Water	Substance
		RNase Free Water	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

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
DTT (R*,R*)-1,4-Dimercaptobutane-2,3-diol	≥10 - <20	3483-12-3
RNase Free DNase Glycerol	≥30 - ≤60	56-81-5
T7 RNA Polymerase Glycerol	≥30 - ≤60	56-81-5
Yeast Pyrophosphatase Glycerol	≥30 - ≤60	56-81-5
RNase Block Glycerol	≥30 - ≤60	56-81-5
DEPC Treated Water Water	100	7732-18-5
10X Cas9 Digestion Buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	≥10 - <20	1185-53-1
Cas9 Nuclease Glycerol	≥30 - ≤60	56-81-5

Section 3. Composition and ingredient information

RNase Free Water Water	100	7732-18-5
gRNA Binding Buffer Guanidinium thiocyanate	≥30 - <55	593-84-0


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

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


Section 4. First aid measures

Description of necessary first aid measures

Eye contact

:  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 lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Section 4. First aid measures

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.
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.
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.
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	
:  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


Section 4. First aid measures

	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 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.
DEPC Treated Water	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.
RNase Free Water	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.

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	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 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	77 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.
	DEPC Treated Water	Flush contaminated skin with plenty of water.

Section 4. First aid measures

Control DNA Target	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. Get medical attention if symptoms occur.
Cas9 Nuclease	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 Water	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 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	
:  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

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	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 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.
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

Section 4. First aid measures

	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.
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.
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 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.


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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.


Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

:  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.
DEPC Treated Water	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.
RNase Free Water	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

:  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.
DEPC Treated Water	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.
RNase Free Water	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.



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Skin contact	:	☒	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.
			DEPC Treated Water	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.
			RNase Free Water	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	:	☒	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.
			DEPC Treated Water	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.
			RNase Free Water	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	:	☒	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.
			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.
			DEPC Treated Water	No specific data.


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	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.
	RNase Free Water	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	:  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.
	DEPC Treated Water	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	No specific data.
	Cas9 Nuclease	No specific data.
	RNase Free Water	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	:  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.
	DEPC Treated Water	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.
	RNase Free Water	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.

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Ingestion	:  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.
	DEPC Treated Water	No specific data.
	Control DNA Target	No specific data.
	10X Cas9 Digestion Buffer	No specific data.
	Cas9 Nuclease	No specific data.
	RNase Free Water	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.

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

Notes to physician	:  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 immediately if large quantities have been ingested or inhaled.

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RNase Block	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
DEPC Treated Water	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.
RNase Free Water	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

<ul style="list-style-type: none"> 7 Promoter Forward Primer Control Template DTT RNase Free DNase T7 RNA Polymerase 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP 5X RNAMaxx Transcription Buffer Yeast Pyrophosphatase RNase Block DEPC Treated Water Control DNA Target 10X Cas9 Digestion Buffer Cas9 Nuclease RNase Free Water Control gRNA gRNA Binding Buffer 5X gRNA Wash Buffer gRNA Elution Buffer 	<ul style="list-style-type: none"> No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment.
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Protection of first-aiders

<ul style="list-style-type: none"> 7 Promoter Forward Primer Control Template DTT RNase Free DNase 	<ul style="list-style-type: none"> No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. No action shall be taken involving any personal risk
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T7 RNA Polymerase	or without suitable training. 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.
DEPC Treated Water	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 without suitable training.
RNase Free Water	No action shall be taken involving any personal risk or 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.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media

:  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.

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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.
DEPC Treated Water	Use an extinguishing agent suitable for the surrounding fire.
Control DNA Target	Use an extinguishing agent suitable for the surrounding fire.
10X Cas9 Digestion Buffer	Use an extinguishing agent suitable for the surrounding fire.
Cas9 Nuclease	Use an extinguishing agent suitable for the surrounding fire.
RNase Free Water	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	
: 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.
DEPC Treated Water	None known.
Control DNA Target	None known.
10X Cas9 Digestion Buffer	None known.
Cas9 Nuclease	None known.
RNase Free Water	None known.
Control gRNA	None known.
gRNA Binding Buffer	None known.
5X gRNA Wash Buffer	None known.
gRNA Elution Buffer	None known.
Specific hazards arising from the chemical	
: 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.


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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.	
DEPC Treated Water	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.	
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.	
RNase Free Water	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 thermal decomposition products	7 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:	

Section 5. Firefighting measures

	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
RNase Block	Decomposition products may include the following materials: carbon dioxide carbon monoxide
DEPC Treated Water	No specific data.
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
RNase Free Water	No specific data.
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.

Special protective actions for fire-fighters


:  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

Section 5. Firefighting measures

	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 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.
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.
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.
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.
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

Section 5. Firefighting measures

Special protective equipment for fire-fighters

		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.
	 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.
	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.
	DTT	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	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.
	T7 RNA Polymerase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	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.
	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.
	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.
	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.
	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.
	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.
	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.
	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.
	Control DNA Target	Fire-fighters should wear appropriate protective

Section 5. Firefighting measures

	equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
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.
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.
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.
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.
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.
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.
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.

Hazchem code


: <input checked="" type="checkbox"/>	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.

Section 6. Accidental release measures

[Personal precautions, protective equipment and emergency procedures](#)

Section 6. Accidental release measures


For non-emergency personnel

: 	7 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 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

Section 6. Accidental release measures


	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.
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.
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.
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.
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 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.

Section 6. Accidental release measures

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 :  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, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
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".
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

Section 6. Accidental release measures

Cas9 Nuclease	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".
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".

Environmental precautions :	<p> 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).</p> <p>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).</p> <p>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).</p> <p>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).</p> <p>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).</p> <p>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).</p> <p>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).</p>
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Section 6. Accidental release measures

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).
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).
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).
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).
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.

Section 6. Accidental release measures

gRNA Elution Buffer

Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

[Methods and material for containment and cleaning up](#)

Methods for cleaning up

:  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.

Section 6. Accidental release measures

	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.
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.
Control DNA Target	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
10X 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.
RNase Free 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.
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

Section 6. Accidental release measures

	area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
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.

Section 7. Handling and storage


Precautions for safe handling

Protective measures

7 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 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).
DEPC Treated Water	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).
RNase Free Water	Put on appropriate personal protective equipment (see Section 8).
Control gRNA	Put on appropriate personal protective equipment (see Section 8).

Section 7. Handling and storage

Advice on general occupational hygiene


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).
:  EPC 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, 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.

Section 7. Handling and storage

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 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.

Section 7. Handling and storage

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.

Conditions for safe storage, including any incompatibilities	 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.
	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

Section 7. Handling and storage

	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 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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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.
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.
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

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	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.
Control gRNA	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 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.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
RNase Free DNase Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
T7 RNA Polymerase Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
Yeast Pyrophosphatase Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
RNase Block Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
Cas9 Nuclease Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.

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

Individual protection measures

- Hygiene measures** : 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.

Section 8. Exposure controls and personal protection

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.

Section 9. 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.
		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.

Section 9. Physical and chemical properties

		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 threshold	:	<input checked="" type="checkbox"/> EPC 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	:	<input checked="" type="checkbox"/> EPC 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

Section 9. Physical and chemical properties

Melting point	:	DEPC Treated Water	0°C (32°F)	
		RNase Free Water	0°C (32°F)	
		T7 Promoter Forward Primer	0°C (32°F)	
		Control Template	0°C (32°F)	
		DTT	Not available.	
		RNase Free DNase	Not available.	
		T7 RNA Polymerase	Not available.	
		100 mM rATP	0°C (32°F)	
		100 mM rGTP	0°C (32°F)	
		100 mM rUTP	0°C (32°F)	
		100 mM rCTP	0°C (32°F)	
		5X RNAMaxx Transcription Buffer	Not available.	
		Yeast Pyrophosphatase	Not available.	
		RNase Block	Not available.	
		Control DNA Target	0°C (32°F)	
		10X Cas9 Digestion Buffer	Not available.	
		Cas9 Nuclease	Not available.	
		Control gRNA	0°C (32°F)	
		gRNA Binding Buffer	Not available.	
		5X gRNA Wash Buffer	0°C (32°F)	
		gRNA Elution Buffer	0°C (32°F)	
	Boiling point	:	DEPC Treated Water	100°C (212°F)
			RNase Free Water	100°C (212°F)
			T7 Promoter Forward Primer	100°C (212°F)
			Control Template	100°C (212°F)
			DTT	Not available.
			RNase Free DNase	Not available.
		T7 RNA Polymerase	Not available.	
		100 mM rATP	100°C (212°F)	
		100 mM rGTP	100°C (212°F)	
		100 mM rUTP	100°C (212°F)	
		100 mM rCTP	100°C (212°F)	
		5X RNAMaxx Transcription Buffer	Not available.	
		Yeast Pyrophosphatase	Not available.	
		RNase Block	Not available.	
		Control DNA Target	100°C (212°F)	
		10X Cas9 Digestion Buffer	Not available.	
		Cas9 Nuclease	Not available.	
		Control gRNA	100°C (212°F)	
		gRNA Binding Buffer	Not available.	
		5X gRNA Wash Buffer	100°C (212°F)	
		gRNA Elution Buffer	100°C (212°F)	
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.	

Section 9. Physical and chemical properties

	Control gRNA	Not available.
	gRNA Binding Buffer	Not available.
	5X gRNA Wash Buffer	Not available.
	gRNA Elution Buffer	Not available.
Evaporation rate	: <input checked="" type="checkbox"/> EPC 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.
Flammability (solid, gas)	: <input checked="" type="checkbox"/> EPC 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.
Lower and upper explosive (flammable) limits	: <input checked="" type="checkbox"/> EPC 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.

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.
Vapour pressure	: <input checked="" type="checkbox"/> DEPC Treated Water	Not available.
	RNase Free Water	3.2 kPa (23.8 mm Hg) [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	: <input checked="" type="checkbox"/> 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	: <input checked="" type="checkbox"/> 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.

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	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.
Solubility	: <input checked="" type="checkbox"/> EPC 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	: <input checked="" type="checkbox"/> EPC 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.

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	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.
Auto-ignition temperature	<input checked="" type="checkbox"/> EPC 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	<input checked="" type="checkbox"/> EPC Treated Water	Not available.
	RNase Free Water	>1200°C (>2192°F)
	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.	


Section 10. Stability and reactivity

Reactivity	: 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.
	DEPC Treated Water	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.
	RNase Free Water	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


Section 10. Stability and reactivity

gRNA Elution Buffer this product or its ingredients.
No specific test data related to reactivity available for this product or its ingredients.

Chemical stability

:  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.
DEPC Treated Water 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.
RNase Free Water 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.


Possibility of hazardous reactions

:  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.
DEPC Treated Water 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.
RNase Free Water Under normal conditions of storage and use, hazardous reactions will not occur.
Control gRNA Under normal conditions of storage and use,


Section 10. Stability and reactivity

gRNA Binding Buffer	hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
5X gRNA Wash Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
gRNA Elution Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.


Conditions to avoid

:  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.
DEPC Treated Water	No specific data.
Control DNA Target	No specific data.
10X Cas9 Digestion Buffer	No specific data.
Cas9 Nuclease	No specific data.
RNase Free Water	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.

Incompatible materials

:  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.
DEPC Treated Water	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.
RNase Free Water	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.

Hazardous decomposition products

:  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 decomposition products should not be produced.

Section 10. Stability and reactivity

RNase Free DNase	produced. 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.
DEPC Treated Water	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.
RNase Free Water	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

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
RNase Free DNase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
T7 RNA Polymerase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Yeast Pyrophosphatase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
RNase Block Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Cas9 Nuclease Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
RNase Free DNase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
T7 RNA Polymerase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Yeast Pyrophosphatase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
RNase Block Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Cas9 Nuclease Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Section 11. Toxicological information

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
DTT (R*,R*)-1,4-Dimercaptobutane-2,3-diol	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	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> DEPC Treated Water <input type="checkbox"/> RNase Free Water <input type="checkbox"/> T7 Promoter Forward Primer <input type="checkbox"/> Control Template <input type="checkbox"/> DTT <input type="checkbox"/> RNase Free DNase <input type="checkbox"/> T7 RNA Polymerase <input type="checkbox"/> 100 mM rATP <input type="checkbox"/> 100 mM rGTP <input type="checkbox"/> 100 mM rUTP <input type="checkbox"/> 100 mM rCTP <input type="checkbox"/> 5X RNAMaxx Transcription Buffer <input type="checkbox"/> Yeast Pyrophosphatase <input type="checkbox"/> RNase Block <input type="checkbox"/> Control DNA Target <input type="checkbox"/> 10X Cas9 Digestion Buffer <input type="checkbox"/> Cas9 Nuclease <input type="checkbox"/> Control gRNA <input type="checkbox"/> gRNA Binding Buffer <input type="checkbox"/> 5X gRNA Wash Buffer <input type="checkbox"/> gRNA Elution Buffer 	<ul style="list-style-type: none"> Not available. Not available. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available. Not available. Not available. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation. Not available. Not available.
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Potential acute health effects

Eye contact	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> T7 Promoter Forward Primer <input type="checkbox"/> Control Template <input type="checkbox"/> DTT <input type="checkbox"/> RNase Free DNase <input type="checkbox"/> T7 RNA Polymerase <input type="checkbox"/> 100 mM rATP <input type="checkbox"/> 100 mM rGTP <input type="checkbox"/> 100 mM rUTP <input type="checkbox"/> 100 mM rCTP <input type="checkbox"/> 5X RNAMaxx Transcription Buffer <input type="checkbox"/> Yeast Pyrophosphatase <input type="checkbox"/> RNase Block <input type="checkbox"/> DEPC Treated Water <input type="checkbox"/> Control DNA Target <input type="checkbox"/> 10X Cas9 Digestion Buffer <input type="checkbox"/> Cas9 Nuclease <input type="checkbox"/> RNase Free Water 	<ul style="list-style-type: none"> No known significant effects or critical hazards. No known significant effects or critical hazards. Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.
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Section 11. Toxicological information

	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	:  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.
	DEPC Treated Water	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.
	RNase Free Water	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.
Skin contact	:  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.
	DEPC Treated Water	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.
	RNase Free Water	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	:  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.
	DEPC Treated Water	No known significant effects or critical hazards.
	Control DNA Target	No known significant effects or critical hazards.

Section 11. Toxicological information

Skin contact	:	☒	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.			
			DEPC Treated Water	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.			
			RNase Free Water	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	:	☒	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.						
DEPC Treated Water	No specific data.						
Control DNA Target	No specific data.						
10X Cas9 Digestion Buffer	No specific data.						
Cas9 Nuclease	No specific data.						
RNase Free Water	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

Not available.

Section 11. Toxicological information

General	:	7 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.
		DEPC Treated Water	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.
		RNase Free Water	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
	Carcinogenicity	:	7 Promoter Forward Primer
		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.
		DEPC Treated Water	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.
		RNase Free Water	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.
Mutagenicity		:	7 Promoter Forward Primer
		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.
		DEPC Treated Water	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.
		RNase Free Water	No known significant effects or critical hazards.
		Control gRNA	No known significant effects or critical hazards.

Section 11. Toxicological information

	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	:  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.
	DEPC Treated Water	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.
	RNase Free Water	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	:  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.
	DEPC Treated Water	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.
	RNase Free Water	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	:  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.
	DEPC Treated Water	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.

Section 11. Toxicological information

Cas9 Nuclease	No known significant effects or critical hazards.
RNase Free Water	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.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
DTT Oral	4310.3 mg/kg
gRNA Binding Buffer Oral	1063.8 mg/kg
Dermal	2340.4 mg/kg
Inhalation (dusts and mists)	3.191 mg/l

Other information

: <input checked="" type="checkbox"/> 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.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> DTT (R*,R*)-1, 4-Dimercaptobutane-2,3-diol	Acute LC50 27000 to 30000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
RNase Free DNase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
T7 RNA Polymerase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Yeast Pyrophosphatase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
RNase Block			

Section 12. Ecological information

Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Cas9 Nuclease Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

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

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
RNase Free DNase Glycerol	-1.76	-	low
T7 RNA Polymerase Glycerol	-1.76	-	low
Yeast Pyrophosphatase Glycerol	-1.76	-	low
RNase Block Glycerol	-1.76	-	low
DEPC Treated Water Water	-1.38	-	low
Cas9 Nuclease Glycerol	-1.76	-	low
RNase Free Water Water	-1.38	-	low

Mobility in soil

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

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

Section 13. Disposal considerations

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulatory information

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

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

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

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

6

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AICS) : Not determined.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Canada : Not determined.
China : Not determined.
Europe : All components are listed or exempted.
Japan : **Japan inventory (ENCS):** Not determined.
Japan inventory (ISHL): Not determined.
Malaysia : Not determined.

Section 15. Regulatory information

New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Turkey	: <input checked="" type="checkbox"/> Not determined.
United States	: Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision	: 17/10/2016
Date of previous issue	: 02/10/2015.
Version	: 3

Key to abbreviations

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

Procedure used to derive the classification

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

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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