Conforms to US OSHA Hazard Communication 29CFR1910.1200

SAFETY DATA SHEET

Agilent Technologies

SureGuide gRNA Synthesis Kit, Part Number 5190-7719

Section 1. Identification

1.1 Product identifier

Product name : SureGuide gRNA Synthesis Kit, Part Number 5190-7719

Part No. (Chemical Kit) : 5190-7719

Part No. :

DEPC Treated Water	200420-58
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
gRNA Binding Buffer	5190-7546
5X gRNA Wash Buffer	5190-7547
gRNA Elution Buffer	5190-7548

Validation date : 1/12/2018

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

Material uses : Analytical reagent.

DEPC Treated Water	1 ml
T7 Promoter Forward Primer	0.025 ml
Control Template	0.05 ml
DTT	0.05 ml
RNase Free DNase	0.05 ml (500 U 10 U/µl)
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
gRNA Binding Buffer	5 ml
5X gRNA Wash Buffer	7 ml
gRNA Elution Buffer	2.5 ml

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status :

DEPC Treated Water	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
T7 Promoter Forward Primer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Control Template	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
DTT	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
RNase Free DNase	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
T7 RNA Polymerase	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
100 mM rATP	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
100 mM rGTP	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
100 mM rUTP	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
100 mM rCTP	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
5X RNAMaxx Transcription Buffer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Yeast Pyrophosphatase	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
RNase Block	This material is considered hazardous by the OSHA

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	Hazard Communication Standard (29 CFR 1910.1200).
gRNA Binding Buffer	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
5X gRNA Wash Buffer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
gRNA Elution Buffer	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture

DTT

H315	SKIN IRRITATION - Category 2
H319	EYE IRRITATION - Category 2A

RNase Free DNase

H320	EYE IRRITATION - Category 2B

T7 RNA Polymerase

H320	EYE IRRITATION - Category 2B

Yeast Pyrophosphatase

H320	EYE IRRITATION - Category 2B

RNase Block

H320	EYE IRRITATION - Category 2B

gRNA Binding Buffer

H302	ACUTE TOXICITY (oral) - Category 4
H332	ACUTE TOXICITY (inhalation) - Category 4

Ingredients of unknown toxicity :

DTT	Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 10 - 30% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 10 - 30%
RNase Free DNase	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%
T7 RNA Polymerase	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%
100 mM rATP	Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10%
100 mM rGTP	Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10%
100 mM rUTP	Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient

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	(s) of unknown oral toxicity: 1 - 10%
100 mM rCTP	Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10%
5X RNAMaxx Transcription Buffer	Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10%
Yeast Pyrophosphatase	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%
RNase Block	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%

2.2 GHS label elements

Hazard pictograms :

DTT

gRNA Binding Buffer

Signal word :

DEPC Treated Water	No signal word.
T7 Promoter Forward Primer	No signal word.
Control Template	No signal word.
DTT	Warning
RNase Free DNase	Warning
T7 RNA Polymerase	Warning
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	Warning
RNase Block	Warning
gRNA Binding Buffer	Warning
5X gRNA Wash Buffer	No signal word.
gRNA Elution Buffer	No signal word.

Hazard statements :

DEPC Treated Water	No known significant effects or critical hazards.
T7 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	H320 - Causes eye irritation.
T7 RNA Polymerase	H320 - Causes eye irritation.
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	H320 - Causes eye irritation.

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	RNase Block	H320 - Causes eye irritation.
	gRNA Binding Buffer	H302 + H332 - Harmful if swallowed or if inhaled.
	5X gRNA Wash Buffer	No known significant effects or critical hazards.
	gRNA Elution Buffer	No known significant effects or critical hazards.

Precautionary statements

Prevention :

DEPC Treated Water	Not applicable.
T7 Promoter Forward Primer	Not applicable.
Control Template	Not applicable.
DTT	P280 - Wear protective gloves. Wear eye or face protection. P264 - Wash hands thoroughly after handling.
RNase Free DNase	P264 - Wash hands thoroughly after handling.
T7 RNA Polymerase	P264 - Wash hands thoroughly after handling.
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	P264 - Wash hands thoroughly after handling.
RNase Block	P264 - Wash hands thoroughly after handling.
gRNA Binding Buffer	P271 - Use only outdoors or in a well-ventilated area. P261 - Avoid breathing vapor. 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.

Response :

DEPC Treated Water	Not applicable.
T7 Promoter Forward Primer	Not applicable.
Control Template	Not applicable.
DTT	P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it 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.
RNase Free DNase	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.
T7 RNA Polymerase	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.
100 mM rATP	Not applicable.
100 mM rGTP	Not applicable.
100 mM rUTP	Not applicable.
100 mM rCTP	Not applicable.

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		5X RNAMaxx Transcription Buffer	Not applicable.
		Yeast Pyrophosphatase	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.
		RNase Block	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.
		gRNA Binding Buffer	P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.
		5X gRNA Wash Buffer	Not applicable.
		gRNA Elution Buffer	Not applicable.
Storage	:	DEPC Treated 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.
		gRNA Binding Buffer	Not applicable.
		5X gRNA Wash Buffer	Not applicable.
		gRNA Elution Buffer	Not applicable.
Disposal	:	DEPC Treated 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.
		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.

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Supplemental label elements :

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

2.3 Other hazards

Hazards not otherwise classified :

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

Section 3. Composition/information on ingredients

Substance/mixture :

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

Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
DEPC Treated Water		
Water	100	7732-18-5
DTT		
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	≥10 - <20	3483-12-3
RNase Free DNase		
Glycerol	≥50 - ≤75	56-81-5
T7 RNA Polymerase		
Glycerol	≥50 - ≤75	56-81-5
5X RNAMaxx Transcription Buffer		
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	≤5	1185-53-1
Sodium chloride	≤3	7647-14-5
Yeast Pyrophosphatase		
Glycerol	≥50 - ≤75	56-81-5
RNase Block		
Glycerol	≥50 - ≤75	56-81-5
gRNA Binding Buffer		
Guanidinium thiocyanate	≥25 - ≤50	593-84-0

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

4.1 Description of necessary first aid measures

Eye contact :

DEPC Treated Water	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
T7 Promoter Forward Primer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Control Template	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
DTT	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
RNase Free DNase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
T7 RNA Polymerase	Immediately flush eyes with plenty of water,

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		occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	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. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	RNase Block	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. If irritation persists, get medical attention.
	gRNA Binding Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
	5X gRNA Wash Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	gRNA Elution Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation :	DEPC Treated Water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	T7 Promoter Forward Primer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Control Template	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	DTT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory

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	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. 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.
T7 RNA Polymerase	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.
100 mM rATP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
100 mM rGTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 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

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	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. 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 Block	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.
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.

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Skin contact	:	DEPC Treated Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		T7 Promoter Forward Primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Control Template	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		DTT	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		RNase Free DNase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		T7 RNA Polymerase	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.
		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. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		RNase Block	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.
		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

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

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	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.
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 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

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	medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
RNase Block	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.
gRNA Binding Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
5X gRNA Wash Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
gRNA Elution Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

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

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	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.
	gRNA Binding Buffer	Harmful if swallowed.
	5X gRNA Wash Buffer	No known significant effects or critical hazards.
	gRNA Elution Buffer	No known significant effects or critical hazards.

Over-exposure signs/symptoms

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

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

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

Notes to physician	:	DEPC Treated Water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		T7 Promoter Forward Primer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Control Template	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		DTT	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		RNase Free DNase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		T7 RNA Polymerase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		100 mM rATP	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

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	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.
	RNase Block	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	gRNA Binding Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	5X gRNA Wash Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	gRNA Elution Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments :	DEPC Treated Water	No specific treatment.
	T7 Promoter Forward Primer	No specific treatment.
	Control Template	No specific treatment.
	DTT	No specific treatment.
	RNase Free DNase	No specific treatment.
	T7 RNA Polymerase	No specific treatment.
	100 mM rATP	No specific treatment.
	100 mM rGTP	No specific treatment.
	100 mM rUTP	No specific treatment.
	100 mM rCTP	No specific treatment.
	5X RNAMaxx Transcription Buffer	No specific treatment.
	Yeast Pyrophosphatase	No specific treatment.
	RNase Block	No specific treatment.
	gRNA Binding Buffer	No specific treatment.
	5X gRNA Wash Buffer	No specific treatment.
	gRNA Elution Buffer	No specific treatment.
Protection of first-aiders :	DEPC Treated Water	No action shall be taken involving any personal risk or without suitable training.
	T7 Promoter Forward Primer	No action shall be taken involving any personal risk or without suitable training.
	Control Template	No action shall be taken involving any personal risk or without suitable training.
	DTT	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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RNase Free DNase	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.
T7 RNA Polymerase	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.
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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
RNase Block	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.
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. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	: DEPC Treated Water	Use an extinguishing agent suitable for the surrounding fire.
	T7 Promoter Forward Primer	Use an extinguishing agent suitable for the surrounding fire.
	Control Template	Use an extinguishing agent suitable for the surrounding fire.
	DTT	Use an extinguishing agent suitable for the surrounding fire.
	RNase Free DNase	Use an extinguishing agent suitable for the surrounding fire.
	T7 RNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rATP	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rGTP	Use an extinguishing agent suitable for the surrounding fire.

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	100 mM rUTP	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rCTP	Use an extinguishing agent suitable for the surrounding fire.
	5X RNAMaxx Transcription Buffer	Use an extinguishing agent suitable for the surrounding fire.
	Yeast Pyrophosphatase	Use an extinguishing agent suitable for the surrounding fire.
	RNase Block	Use an extinguishing agent suitable for the surrounding fire.
	gRNA Binding Buffer	Use an extinguishing agent suitable for the surrounding fire.
	5X gRNA Wash Buffer	Use an extinguishing agent suitable for the surrounding fire.
	gRNA Elution Buffer	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media :	DEPC Treated Water	None known.
	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.
	gRNA Binding Buffer	None known.
	5X gRNA Wash Buffer	None known.
	gRNA Elution Buffer	None known.

5.2 Special hazards arising from the substance or mixture

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

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	RNase Block	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.
	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 :	DEPC Treated Water	No specific data.
	T7 Promoter Forward Primer	No specific data.
	Control Template	No specific data.
	DTT	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	RNase Free DNase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	T7 RNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	100 mM rATP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides
	100 mM rGTP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides
	100 mM rUTP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides
	100 mM rCTP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides
	5X RNAMaxx Transcription Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides

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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
gRNA Binding Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
5X gRNA Wash Buffer	No specific data.
gRNA Elution Buffer	No specific data.

5.3 Advice for firefighters

Special protective actions for fire-fighters :

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

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	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.
	gRNA Binding Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	5X gRNA Wash Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	gRNA Elution Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters :	DEPC Treated Water	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	T7 Promoter Forward Primer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	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

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	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.
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.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	DEPC Treated Water	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
		T7 Promoter Forward Primer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled 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 spilled 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate

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	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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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 spilled 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 spilled 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 spilled 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 spilled 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 spilled material. Put on appropriate personal protective equipment.
Yeast Pyrophosphatase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
RNase Block	No action shall be taken involving any personal

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		risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	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 spilled material. Avoid breathing vapor 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 spilled material. Put on appropriate personal protective equipment.
	gRNA Elution Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders :	DEPC Treated Water	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	T7 Promoter Forward Primer	If specialized 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 specialized 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 specialized 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 specialized 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 specialized 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 specialized 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 specialized clothing is required to deal with the spillage, take note of any information in Section 8

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		on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	100 mM rUTP	If specialized 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 specialized 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 specialized 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 specialized 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 specialized 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 specialized 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 specialized 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 specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2 Environmental precautions :	DEPC Treated Water	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	T7 Promoter Forward Primer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Control Template	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	DTT	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	RNase Free DNase	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has

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	caused environmental pollution (sewers, waterways, soil or air).
T7 RNA Polymerase	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
100 mM rATP	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
100 mM rGTP	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
100 mM rUTP	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
100 mM rCTP	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
5X RNAMaxx Transcription Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Yeast Pyrophosphatase	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
RNase Block	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
gRNA Binding Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
5X gRNA Wash Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
gRNA Elution Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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6.3 Methods and materials for containment and cleaning up

Methods for cleaning up :	DEPC Treated Water	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	T7 Promoter Forward Primer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Control Template	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	DTT	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	RNase Free DNase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	T7 RNA Polymerase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	100 mM rATP	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	100 mM rGTP	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	100 mM rUTP	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	100 mM rCTP	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an

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	inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
5X RNAMaxx Transcription Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Yeast Pyrophosphatase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
RNase Block	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
gRNA Binding Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
5X gRNA Wash Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
gRNA Elution Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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7.1 Precautions for safe handling

Protective measures	:	DEPC Treated Water	Put on appropriate personal protective equipment (see Section 8).
		T7 Promoter Forward Primer	Put on appropriate personal protective equipment (see Section 8).
		Control Template	Put on appropriate personal protective equipment (see Section 8).
		DTT	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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). Do not ingest. Avoid contact with

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	eyes, skin and clothing. Avoid breathing vapor 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.
T7 RNA Polymerase	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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.
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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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 Block	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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.
gRNA Binding Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
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).

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

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	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.
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.

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7.2 Conditions for safe storage, including any incompatibilities	:	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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
		T7 Promoter Forward Primer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
		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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
		DTT	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
		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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
		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

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	and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled

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	containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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7.3 Specific end use(s)

Recommendations	:	DEPC Treated Water	Industrial applications, Professional applications.
		T7 Promoter Forward Primer	Industrial applications, Professional applications.
		Control Template	Industrial applications, Professional applications.
		DTT	Industrial applications, Professional applications.
		RNase Free DNase	Industrial applications, Professional applications.
		T7 RNA Polymerase	Industrial applications, Professional applications.
		100 mM rATP	Industrial applications, Professional applications.
		100 mM rGTP	Industrial applications, Professional applications.
		100 mM rUTP	Industrial applications, Professional applications.
		100 mM rCTP	Industrial applications, Professional applications.
		5X RNAMaxx Transcription Buffer	Industrial applications, Professional applications.
		Yeast Pyrophosphatase	Industrial applications, Professional applications.
		RNase Block	Industrial applications, Professional applications.
		gRNA Binding Buffer	Industrial applications, Professional applications.
		5X gRNA Wash Buffer	Industrial applications, Professional applications.
		gRNA Elution Buffer	Industrial applications, Professional applications.
Industrial sector specific solutions	:	DEPC Treated 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.
		gRNA Binding Buffer	Not applicable.
		5X gRNA Wash Buffer	Not applicable.
		gRNA Elution Buffer	Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
DEPC Treated Water Water	None.
DTT (R*,R*)-1,4-Dimercaptobutane-2,3-diol	None.
RNase Free DNase Glycerol	**OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
T7 RNA Polymerase Glycerol	**OSHA PEL 1989 (United States, 3/1989).**

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	TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
5X RNAMaxx Transcription Buffer	
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	None.
Sodium chloride	None.
Yeast Pyrophosphatase	
Glycerol	**OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
RNase Block	
Glycerol	**OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
gRNA Binding Buffer	
Guanidinium thiocyanate	None.

8.2 Exposure controls

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

Section 8. Exposure controls/personal protection

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

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

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

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

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state :

DEPC Treated 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.
gRNA Binding Buffer	Liquid.
5X gRNA Wash Buffer	Liquid.
gRNA Elution Buffer	Liquid.

Color :

DEPC Treated 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.
gRNA Binding Buffer	Not available.
5X gRNA Wash Buffer	Not available.
gRNA Elution Buffer	Not available.

Section 9. Physical and chemical properties

Odor	:	DEPC Treated 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.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Odor threshold	:	DEPC Treated 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.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
pH	:	DEPC Treated Water	Not available.
		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
		gRNA Binding Buffer	7
		5X gRNA Wash Buffer	6.5
		gRNA Elution Buffer	7.5
Melting point	:	DEPC Treated 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)

Section 9. Physical and chemical properties

		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		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)
		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.
		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.
		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.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Evaporation rate	:	DEPC Treated 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.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.

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Flammability (solid, gas)	:	DEPC Treated 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.
		gRNA Binding Buffer	Not applicable.
		5X gRNA Wash Buffer	Not applicable.
		gRNA Elution Buffer	Not applicable.
Lower and upper explosive (flammable) limits	:	DEPC Treated 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.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Vapor pressure	:	DEPC Treated 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.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Vapor density	:	DEPC Treated 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.

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		5X RNAMaxx Transcription Buffer	Not available.
		Yeast Pyrophosphatase	Not available.
		RNase Block	Not available.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Relative density	:	DEPC Treated Water	Not available.
		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.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Solubility	:	DEPC Treated 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.
		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.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water	:	DEPC Treated 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.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Auto-ignition temperature	:	DEPC Treated 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.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Decomposition temperature	:	DEPC Treated 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.
		gRNA Binding Buffer	Not available.
		5X gRNA Wash Buffer	Not available.
		gRNA Elution Buffer	Not available.
Viscosity	:	DEPC Treated 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.

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5X RNAMaxx Transcription Buffer	Not available.
Yeast Pyrophosphatase	Not available.
RNase Block	Not available.
gRNA Binding Buffer	Not available.
5X gRNA Wash Buffer	Not available.
gRNA Elution Buffer	Not available.

Section 10. Stability and reactivity

10.1 Reactivity :

DEPC Treated Water	No specific test data related to reactivity available for this product or its ingredients.
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.
gRNA Binding Buffer	No specific test data related to reactivity available for this product or its ingredients.
5X gRNA Wash Buffer	No specific test data related to reactivity available for this product or its ingredients.
gRNA Elution Buffer	No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability :

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

Section 10. Stability and reactivity

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

DEPC Treated Water	No specific data.
T7 Promoter Forward Primer	No specific data.
Control Template	No specific data.
DTT	No specific data.
RNase Free DNase	No specific data.
T7 RNA Polymerase	No specific data.
100 mM rATP	No specific data.
100 mM rGTP	No specific data.
100 mM rUTP	No specific data.
100 mM rCTP	No specific data.
5X RNAMaxx Transcription Buffer	No specific data.
Yeast Pyrophosphatase	No specific data.
RNase Block	No specific data.
gRNA Binding Buffer	No specific data.
5X gRNA Wash Buffer	No specific data.
gRNA Elution Buffer	No specific data.

Section 10. Stability and reactivity

10.5 Incompatible materials :	DEPC Treated Water	May react or be incompatible with oxidizing materials.
	T7 Promoter Forward Primer	May react or be incompatible with oxidizing materials.
	Control Template	May react or be incompatible with oxidizing materials.
	DTT	May react or be incompatible with oxidizing materials.
	RNase Free DNase	May react or be incompatible with oxidizing materials.
	T7 RNA Polymerase	May react or be incompatible with oxidizing materials.
	100 mM rATP	May react or be incompatible with oxidizing materials.
	100 mM rGTP	May react or be incompatible with oxidizing materials.
	100 mM rUTP	May react or be incompatible with oxidizing materials.
	100 mM rCTP	May react or be incompatible with oxidizing materials.
	5X RNAMaxx Transcription Buffer	May react or be incompatible with oxidizing materials.
	Yeast Pyrophosphatase	May react or be incompatible with oxidizing materials.
	RNase Block	May react or be incompatible with oxidizing materials.
	gRNA Binding Buffer	May react or be incompatible with oxidizing materials.
	5X gRNA Wash Buffer	May react or be incompatible with oxidizing materials.
	gRNA Elution Buffer	May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products :	DEPC Treated Water	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	T7 Promoter Forward Primer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Control Template	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DTT	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	RNase Free DNase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	T7 RNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	100 mM rATP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	100 mM rGTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	100 mM rUTP	Under normal conditions of storage and use,

Section 10. Stability and reactivity

	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.
gRNA Binding Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
5X gRNA Wash Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
gRNA Elution Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
RNase Free DNase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
T7 RNA Polymerase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
5X RNAMaxx Transcription Buffer				
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
Yeast Pyrophosphatase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
RNase Block				
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	-

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				milligrams	
5X RNAMaxx Transcription Buffer					
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
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	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

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
5X RNAMaxx Transcription 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.

Section 11. Toxicological information

Information on the likely routes of exposure :

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

Potential acute health effects

Eye contact :

DEPC Treated Water	No known significant effects or critical hazards.
T7 Promoter Forward Primer	No known significant effects or critical hazards.
Control Template	No known significant effects or critical hazards.
DTT	Causes serious eye irritation.
RNase Free DNase	Causes eye irritation.
T7 RNA Polymerase	Causes eye irritation.
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	Causes eye irritation.
RNase Block	Causes eye irritation.
gRNA Binding Buffer	No known significant effects or critical hazards.
5X gRNA Wash Buffer	No known significant effects or critical hazards.
gRNA Elution Buffer	No known significant effects or critical hazards.

Inhalation :

DEPC Treated Water	No known significant effects or critical hazards.
T7 Promoter Forward Primer	No known significant effects or critical hazards.
Control Template	No known significant effects or critical hazards.
DTT	No known significant effects or critical hazards.
RNase Free DNase	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
100 mM rATP	No known significant effects or critical hazards.
100 mM rGTP	No known significant effects or critical hazards.
100 mM rUTP	No known significant effects or critical hazards.
100 mM rCTP	No known significant effects or critical hazards.
5X RNAMaxx Transcription Buffer	No known significant effects or critical hazards.
Yeast Pyrophosphatase	No known significant effects or critical hazards.
RNase Block	No known significant effects or critical hazards.
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.

Section 11. Toxicological information

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

Symptoms related to the physical, chemical and toxicological characteristics

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

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

Section 11. Toxicological information

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

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

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

Section 11. Toxicological information

Route	ATE value
DTT	
Oral	4310.3 mg/kg
5X RNAMaxx Transcription Buffer	
Oral	205479.5 mg/kg
gRNA Binding Buffer	
Oral	1063.8 mg/kg
Dermal	2340.4 mg/kg
Inhalation (dusts and mists)	3.191 mg/l

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
DTT			
(R*,R*)-1, 4-Dimercaptobutane-2,3-diol	Acute LC50 27000 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
5X RNAMaxx Transcription Buffer			
Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute EC50 402600 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks
Yeast Pyrophosphatase			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
RNase Block			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

12.2 Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
RNase Free DNase				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
T7 RNA Polymerase				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Yeast Pyrophosphatase				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
RNase Block				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
DEPC Treated Water			
Water	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
DEPC Treated Water			
Water	-1.38	-	low
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

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

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

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

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

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

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

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

U.S. Federal regulations : **TSCA 8(a) PAIR**: octamethylcyclotetrasiloxane; Polyoxyethylene octyl phenyl ether

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Water Act (CWA) 311: Edetic acid

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

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

Section 15. Regulatory information

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification :

DEPC Treated Water	Not applicable.
T7 Promoter Forward Primer	Not applicable.
Control Template	Not applicable.
DTT	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A
RNase Free DNase	EYE IRRITATION - Category 2B
T7 RNA Polymerase	EYE IRRITATION - Category 2B
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	EYE IRRITATION - Category 2B
RNase Block	EYE IRRITATION - Category 2B
gRNA Binding Buffer	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4
5X gRNA Wash Buffer	Not applicable.
gRNA Elution Buffer	Not applicable.

Composition/information on ingredients

Name	%	Classification
DTT		
(R*,R*)-1,4-Dimercaptobutane-2, 3-diol	≥10 - <20	ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
RNase Free DNase		
Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2A
T7 RNA Polymerase		
Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2A
5X RNAMaxx Transcription Buffer		
2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	≤5	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Sodium chloride	≤3	EYE IRRITATION - Category 2A
Yeast Pyrophosphatase		
Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2A
RNase Block		
Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2A
gRNA Binding Buffer		
Guanidinium thiocyanate	≥25 - ≤50	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4

Section 15. Regulatory information

		ACUTE TOXICITY (inhalation) - Category 4

State regulations

Massachusetts : The following components are listed: GLYCERINE MIST

New York : None of the components are listed.

New Jersey : The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL

Pennsylvania : The following components are listed: 1,2,3-PROPANETRIOL

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.

Inventory list

Australia : Not determined.

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.

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : All components are listed or exempted.

Thailand : Not determined.

Turkey : Not determined.

United States : Not determined.

Viet Nam : Not determined.

Section 16. Other information

History

Date of issue : 01/12/2018

Date of previous issue : 10/02/2015.

Version : 3

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

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