

# SAFETY DATA SHEET



Custom MassCode cDNA Synthesis Kit, Part Number 930604

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Custom MassCode cDNA Synthesis Kit, Part Number 930604  
**Part No. (Chemical Kit)** : 930604  
**Part No.** : RNase-free Water 600164-58  
 MassCode Reverse Transcriptase 5190-3555  
 10X MassCode RT Buffer 5190-3557  
 100 mM dNTP Mix 5190-3558  
 RNase Block 5190-3556  
 Random Primers 5190-3559

**Validation date** : 07/15/2016

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

**Material uses** : Analytical reagent.  
 RNase-free Water 2 x 1.2 ml  
 MassCode Reverse Transcriptase 0.21 ml (192 reactions)  
 10X MassCode RT Buffer 0.42 ml  
 100 mM dNTP Mix 0.168 ml  
 RNase Block 0.105 ml (192 reactions)  
 Random Primers 0.66 ml (0.1 µg/µl)

### 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** : RNase-free 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.

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

10X MassCode RT Buffer This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

100 mM dNTP Mix 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.

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

Random Primers While this material is not considered hazardous by the

## Section 2. Hazards identification

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

#### MassCode Reverse

##### Transcriptase

H320 EYE IRRITATION - Category 2B

#### 10X MassCode RT Buffer

H319 EYE IRRITATION - Category 2A

#### RNase Block

H320 EYE IRRITATION - Category 2B

#### Ingredients of unknown toxicity

: RNase-free Water	Not applicable.
: MassCode Reverse Transcriptase	Not applicable.
: 10X MassCode RT Buffer	Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 7.9%
: 100 mM dNTP Mix	Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 5.7%
: RNase Block	Not applicable.
: Random Primers	Not applicable.

### 2.2 GHS label elements

#### Hazard pictograms



#### Signal word

: RNase-free Water	No signal word.
: MassCode Reverse Transcriptase	Warning
: 10X MassCode RT Buffer	Warning
: 100 mM dNTP Mix	No signal word.
: RNase Block	Warning
: Random Primers	No signal word.

#### Hazard statements

: RNase-free Water	No known significant effects or critical hazards.
: MassCode Reverse Transcriptase	H320 - Causes eye irritation.
: 10X MassCode RT Buffer	GHS SYMBOL - <b>Exclamation mark</b> - H319 - Causes serious eye irritation.
: 100 mM dNTP Mix	No known significant effects or critical hazards.
: RNase Block	H320 - Causes eye irritation.
: Random Primers	No known significant effects or critical hazards.

### Precautionary statements

#### Prevention

: RNase-free Water	Not applicable.
: MassCode Reverse Transcriptase	P264 - Wash hands thoroughly after handling.
: 10X MassCode RT Buffer	P280 - Wear eye or face protection.
: 100 mM dNTP Mix	P264 - Wash hands thoroughly after handling.
: RNase Block	Not applicable.
: Random Primers	P264 - Wash hands thoroughly after handling.
	Not applicable.

## Section 2. Hazards identification

<b>Response</b>	: RNase-free Water	Not applicable.
	MassCode Reverse Transcriptase	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	10X MassCode RT Buffer	P337 + P313 - If eye irritation persists: 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.
<b>Storage</b>	100 mM dNTP Mix	Not applicable.
	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.
	Random Primers	P337 + P313 - If eye irritation persists: Get medical attention. Not applicable.
<b>Disposal</b>	: RNase-free Water	Not applicable.
	MassCode Reverse Transcriptase	Not applicable.
	10X MassCode RT Buffer	Not applicable.
	100 mM dNTP Mix	Not applicable.
	RNase Block	Not applicable.
<b>Supplemental label elements</b>	Random Primers	Not applicable.
	: RNase-free Water	None known.
	MassCode Reverse Transcriptase	None known.
	10X MassCode RT Buffer	None known.
	100 mM dNTP Mix	None known.
<b>2.3 Other hazards</b>	RNase Block	None known.
	Random Primers	None known.
	: RNase-free Water	None known.
	MassCode Reverse Transcriptase	None known.
	10X MassCode RT Buffer	None known.
<b>Hazards not otherwise classified</b>	100 mM dNTP Mix	None known.
	RNase Block	None known.
	Random Primers	None known.
	: RNase-free Water	None known.
	MassCode Reverse Transcriptase	None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: RNase-free Water	Substance
	MassCode Reverse Transcriptase	Mixture
	10X MassCode RT Buffer	Mixture
	100 mM dNTP Mix	Mixture
	RNase Block	Mixture
	Random Primers	Mixture

## Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
<b>RNase-free Water</b> Water	100	7732-18-5
<b>MassCode Reverse Transcriptase</b> Glycerol	≥50 - ≤75	56-81-5
<b>10X MassCode RT Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride Potassium chloride	<10 ≤10	1185-53-1 7447-40-7
<b>100 mM dNTP Mix</b> 2'-Deoxyguanosine 5'-(tetrahydrogen triphosphate) 2'-Deoxyadenosine 5'-(tetrahydrogen triphosphate)	≤3 ≤3	2564-35-4 1927-31-7
<b>RNase Block</b> Glycerol	≥50 - ≤75	56-81-5

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

<b>Eye contact</b>	: RNase-free Water	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	MassCode Reverse Transcriptase	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.
	10X MassCode RT 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.
	100 mM dNTP Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	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.
	Random Primers	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

## Section 4. First aid measures

<b>Inhalation</b>	: RNase-free Water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	MassCode Reverse Transcriptase	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.
	10X MassCode RT Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	100 mM dNTP Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	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.
	Random Primers	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

## Section 4. First aid measures

<b>Skin contact</b>	: RNase-free Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	MassCode Reverse Transcriptase	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.
	10X MassCode RT 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.
	100 mM dNTP Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	RNase Block	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	Random Primers	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: RNase-free Water	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	MassCode Reverse Transcriptase	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.
	10X MassCode RT Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person.

## Section 4. First aid measures

100 mM dNTP Mix	<p>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.</p> <p>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.</p>
RNase Block	<p>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.</p>
Random Primers	<p>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.</p>

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

<b>Eye contact</b>	: RNase-free Water MassCode Reverse Transcriptase 10X MassCode RT Buffer 100 mM dNTP Mix RNase Block Random Primers	No known significant effects or critical hazards. Causes eye irritation. Causes serious eye irritation. No known significant effects or critical hazards. Causes eye irritation. No known significant effects or critical hazards.
<b>Inhalation</b>	: RNase-free Water MassCode Reverse Transcriptase 10X MassCode RT Buffer 100 mM dNTP Mix RNase Block Random Primers	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: RNase-free Water MassCode Reverse Transcriptase 10X MassCode RT Buffer 100 mM dNTP Mix RNase Block Random Primers	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.



## Section 4. First aid measures

<b>Ingestion</b>	: RNase-free Water	No known significant effects or critical hazards.
	MassCode Reverse Transcriptase	No known significant effects or critical hazards.
	10X MassCode RT Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	RNase Block	No known significant effects or critical hazards.
	Random Primers	No known significant effects or critical hazards.

### Over-exposure signs/symptoms

<b>Eye contact</b>	: RNase-free Water	No specific data.
	MassCode Reverse Transcriptase	Adverse symptoms may include the following: irritation watering redness
	10X MassCode RT Buffer	Adverse symptoms may include the following: pain or irritation watering redness
	100 mM dNTP Mix	No specific data.
	RNase Block	Adverse symptoms may include the following: irritation watering redness
	Random Primers	No specific data.

<b>Inhalation</b>	: RNase-free Water	No specific data.
	MassCode Reverse Transcriptase	No specific data.
	10X MassCode RT Buffer	No specific data.
	100 mM dNTP Mix	No specific data.
	RNase Block	No specific data.
	Random Primers	No specific data.

<b>Skin contact</b>	: RNase-free Water	No specific data.
	MassCode Reverse Transcriptase	No specific data.
	10X MassCode RT Buffer	No specific data.
	100 mM dNTP Mix	No specific data.
	RNase Block	No specific data.
	Random Primers	No specific data.

<b>Ingestion</b>	: RNase-free Water	No specific data.
	MassCode Reverse Transcriptase	No specific data.
	10X MassCode RT Buffer	No specific data.
	100 mM dNTP Mix	No specific data.
	RNase Block	No specific data.
	Random Primers	No specific data.

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

<b>Notes to physician</b>	: RNase-free Water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	MassCode Reverse Transcriptase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	10X MassCode RT 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.
	100 mM dNTP Mix	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	RNase Block	Treat symptomatically. Contact poison treatment



## Section 4. First aid measures

	Random Primers	specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: RNase-free Water	No specific treatment.
	MassCode Reverse Transcriptase	No specific treatment.
	10X MassCode RT Buffer	No specific treatment.
	100 mM dNTP Mix	No specific treatment.
	RNase Block	No specific treatment.
	Random Primers	No specific treatment.
<b>Protection of first-aiders</b>	: RNase-free Water	No action shall be taken involving any personal risk or without suitable training.
	MassCode Reverse Transcriptase	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	10X MassCode RT Buffer	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	100 mM dNTP Mix	No action shall be taken involving any personal risk or without suitable training.
	RNase Block	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	Random Primers	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

<b>Suitable extinguishing media</b>	: RNase-free Water	Use an extinguishing agent suitable for the surrounding fire.
	MassCode Reverse Transcriptase	Use an extinguishing agent suitable for the surrounding fire.
	10X MassCode RT Buffer	Use an extinguishing agent suitable for the surrounding fire.
	100 mM dNTP Mix	Use an extinguishing agent suitable for the surrounding fire.
	RNase Block	Use an extinguishing agent suitable for the surrounding fire.
	Random Primers	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: RNase-free Water	None known.
	MassCode Reverse Transcriptase	None known.
	10X MassCode RT Buffer	None known.
	100 mM dNTP Mix	None known.
	RNase Block	None known.
	Random Primers	None known.

### 5.2 Special hazards arising from the substance or mixture

## Section 5. Fire-fighting measures

<b>Specific hazards arising from the chemical</b>	: RNase-free Water	In a fire or if heated, a pressure increase will occur and the container may burst.
	MassCode Reverse Transcriptase	In a fire or if heated, a pressure increase will occur and the container may burst.
	10X MassCode RT Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	100 mM dNTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	RNase Block	In a fire or if heated, a pressure increase will occur and the container may burst.
	Random Primers	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: RNase-free Water	No specific data.
	MassCode Reverse Transcriptase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	10X MassCode RT Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	100 mM dNTP Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	RNase Block	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Random Primers	No specific data.

### 5.3 Advice for firefighters

<b>Special protective actions for fire-fighters</b>	: RNase-free Water	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	MassCode Reverse Transcriptase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	10X MassCode RT 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.
	100 mM dNTP Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	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.
	Random Primers	Promptly isolate the scene by removing all persons

## Section 5. Fire-fighting measures

### Special protective equipment for fire-fighters

: RNase-free Water

from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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

MassCode Reverse Transcriptase

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

10X MassCode RT Buffer

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 dNTP Mix

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

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.

Random Primers

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

: RNase-free Water

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

MassCode Reverse Transcriptase

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.

10X MassCode RT 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.

100 mM dNTP Mix

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not

## Section 6. Accidental release measures

	RNase Block	touch or walk through spilled material. Put on appropriate personal protective equipment. 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.
	Random Primers	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.
<b>For emergency responders :</b>	RNase-free 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".
	MassCode Reverse Transcriptase	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".
	10X MassCode RT 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".
	100 mM dNTP Mix	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".
	Random Primers	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".
<b>6.2 Environmental precautions</b>	: RNase-free 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).
	MassCode Reverse Transcriptase	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	10X MassCode RT 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).
	100 mM dNTP Mix	Avoid dispersal of spilled material and runoff and

## Section 6. Accidental release measures

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

### 6.3 Methods and materials for containment and cleaning up

**Methods for cleaning up** : RNase-free Water

	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
MassCode Reverse Transcriptase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
10X MassCode RT 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.
100 mM dNTP Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
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.
Random Primers	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: RNase-free Water	Put on appropriate personal protective equipment (see Section 8).
	MassCode Reverse Transcriptase	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.
	10X MassCode RT 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. 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 dNTP Mix	Put on appropriate personal protective equipment (see Section 8).
	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.
	Random Primers	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	: RNase-free Water	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	MassCode Reverse Transcriptase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	10X MassCode RT 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.
	100 mM dNTP Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8



## Section 7. Handling and storage

	RNase Block	for additional information on hygiene measures. 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.
	Random Primers	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.
<p><b>7.2 Conditions for safe storage, including any incompatibilities</b></p>	: RNase-free Water	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
	MassCode Reverse Transcriptase	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.
	10X MassCode RT 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.
	100 mM dNTP Mix	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
	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



## Section 7. Handling and storage

Random Primers

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

Store 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.

### 7.3 Specific end use(s)

#### Recommendations

: RNase-free Water	Industrial applications, Professional applications.
MassCode Reverse Transcriptase	Industrial applications, Professional applications.
10X MassCode RT Buffer	Industrial applications, Professional applications.
100 mM dNTP Mix	Industrial applications, Professional applications.
RNase Block	Industrial applications, Professional applications.
Random Primers	Industrial applications, Professional applications.

#### Industrial sector specific solutions

: RNase-free Water	Not applicable.
MassCode Reverse Transcriptase	Not applicable.
10X MassCode RT Buffer	Not applicable.
100 mM dNTP Mix	Not applicable.
RNase Block	Not applicable.
Random Primers	Not applicable.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<b>MassCode Reverse Transcriptase</b> Glycerol	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Total dust <b>OSHA PEL (United States, 2/2013).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m <sup>3</sup> 8 hours. Form: Total dust
<b>10X MassCode RT Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride Potassium chloride	None. None.
<b>100 mM dNTP Mix</b> 2'-Deoxyguanosine 5'-(tetrahydrogen triphosphate) 2'-Deoxyadenosine 5'-(tetrahydrogen triphosphate)	None. None.
<b>RNase Block</b> Glycerol	

## Section 8. Exposure controls/personal protection

**OSHA PEL 1989 (United States, 3/1989).**  
 TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction  
 TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust  
**OSHA PEL (United States, 2/2013).**  
 TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction  
 TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust

### 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

#### 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

## Section 9. Physical and chemical properties

<b>Physical state</b>	: RNase-free Water	Liquid.
	MassCode Reverse Transcriptase	Liquid.
	10X MassCode RT Buffer	Liquid.
	100 mM dNTP Mix	Liquid.
	RNase Block	Liquid.
<b>Color</b>	: RNase-free Water	Colorless.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Odor</b>	: RNase-free Water	Odorless.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Odor threshold</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>pH</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	8
	10X MassCode RT Buffer	8.3
	100 mM dNTP Mix	7.5
	RNase Block	7.6
<b>Melting point</b>	: RNase-free Water	0°C (32°F)
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Boiling point</b>	: RNase-free Water	100°C (212°F)
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Flash point</b>	: RNase-free Water	100°C (212°F)
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Evaporation rate</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.

## Section 9. Physical and chemical properties

<b>Flammability (solid, gas)</b>	: RNase-free Water	Not applicable.
	MassCode Reverse Transcriptase	Not applicable.
	10X MassCode RT Buffer	Not applicable.
	100 mM dNTP Mix	Not applicable.
	RNase Block	Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Vapor pressure</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Vapor density</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Relative density</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Solubility</b>	: RNase-free Water	Easily soluble in the following materials: cold water and hot water.
	MassCode Reverse Transcriptase	Soluble in the following materials: cold water and hot water.
	10X MassCode RT Buffer	Easily soluble in the following materials: cold water and hot water.
	100 mM dNTP Mix	Easily soluble in the following materials: cold water and hot water.
	RNase Block	Soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Auto-ignition temperature</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
	Random Primers	Not available.

## Section 9. Physical and chemical properties

<b>Decomposition temperature</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
<b>Viscosity</b>	: RNase-free Water	Not available.
	MassCode Reverse Transcriptase	Not available.
	10X MassCode RT Buffer	Not available.
	100 mM dNTP Mix	Not available.
	RNase Block	Not available.
	: Random Primers	Not available.

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: RNase-free Water	No specific test data related to reactivity available for this product or its ingredients.
	MassCode Reverse Transcriptase	No specific test data related to reactivity available for this product or its ingredients.
	10X MassCode RT Buffer	No specific test data related to reactivity available for this product or its ingredients.
	100 mM dNTP Mix	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.
<b>10.2 Chemical stability</b>	: RNase-free Water	The product is stable.
	MassCode Reverse Transcriptase	The product is stable.
	10X MassCode RT Buffer	The product is stable.
	100 mM dNTP Mix	The product is stable.
	RNase Block	The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: RNase-free Water	Under normal conditions of storage and use, hazardous reactions will not occur.
	MassCode Reverse Transcriptase	Under normal conditions of storage and use, hazardous reactions will not occur.
	10X MassCode RT Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	100 mM dNTP Mix	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.
<b>10.4 Conditions to avoid</b>	: RNase-free Water	No specific data.
	MassCode Reverse Transcriptase	No specific data.
	10X MassCode RT Buffer	No specific data.
	100 mM dNTP Mix	No specific data.
	RNase Block	No specific data.
	: Random Primers	No specific data.

## Section 10. Stability and reactivity

<b>10.5 Incompatible materials</b>	: RNase-free Water	May react or be incompatible with oxidizing materials.
	MassCode Reverse Transcriptase	May react or be incompatible with oxidizing materials.
	10X MassCode RT Buffer	May react or be incompatible with oxidizing materials.
	100 mM dNTP Mix	May react or be incompatible with oxidizing materials.
	RNase Block	May react or be incompatible with oxidizing materials.
	Random Primers	May react or be incompatible with oxidizing materials.

<b>10.6 Hazardous decomposition products</b>	: RNase-free Water	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	MassCode Reverse Transcriptase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	10X MassCode RT Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	100 mM dNTP Mix	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.
	Random Primers	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
<b>MassCode Reverse Transcriptase</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>10X MassCode RT Buffer</b> Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
<b>RNase Block</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>MassCode Reverse Transcriptase</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-		24 hours 500 milligrams
<b>10X MassCode RT Buffer</b>					

## Section 11. Toxicological information

Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>RNase Block</b>					
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
<b>10X MassCode RT Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

: RNase-free Water	Not available.
MassCode Reverse Transcriptase	Routes of entry anticipated: Oral, Dermal, Inhalation.
10X MassCode RT Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
100 mM dNTP Mix	Not available.
RNase Block	Routes of entry anticipated: Oral, Dermal, Inhalation.
Random Primers	Not available.

### Potential acute health effects

#### Eye contact

: RNase-free Water	No known significant effects or critical hazards.
MassCode Reverse Transcriptase	Causes eye irritation.
10X MassCode RT Buffer	Causes serious eye irritation.
100 mM dNTP Mix	No known significant effects or critical hazards.
RNase Block	Causes eye irritation.
Random Primers	No known significant effects or critical hazards.



## Section 11. Toxicological information

<b>Inhalation</b>	: RNase-free Water	No known significant effects or critical hazards.
	MassCode Reverse Transcriptase	No known significant effects or critical hazards.
	10X MassCode RT Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	RNase Block	No known significant effects or critical hazards.
<b>Skin contact</b>	: RNase-free Water	No known significant effects or critical hazards.
	MassCode Reverse Transcriptase	No known significant effects or critical hazards.
	10X MassCode RT Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	RNase Block	No known significant effects or critical hazards.
<b>Ingestion</b>	: RNase-free Water	No known significant effects or critical hazards.
	MassCode Reverse Transcriptase	No known significant effects or critical hazards.
	10X MassCode RT Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix	No known significant effects or critical hazards.
	RNase Block	No known significant effects or critical hazards.
	Random Primers	No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	: RNase-free Water	No specific data.
	MassCode Reverse Transcriptase	Adverse symptoms may include the following: irritation watering redness
	10X MassCode RT Buffer	Adverse symptoms may include the following: pain or irritation watering redness
	100 mM dNTP Mix	No specific data.
	RNase Block	Adverse symptoms may include the following: irritation watering redness
<b>Inhalation</b>	: RNase-free Water	No specific data.
	MassCode Reverse Transcriptase	No specific data.
	10X MassCode RT Buffer	No specific data.
	100 mM dNTP Mix	No specific data.
	RNase Block	No specific data.
<b>Skin contact</b>	: RNase-free Water	No specific data.
	MassCode Reverse Transcriptase	No specific data.
	10X MassCode RT Buffer	No specific data.
	100 mM dNTP Mix	No specific data.
	RNase Block	No specific data.
<b>Ingestion</b>	: RNase-free Water	No specific data.
	MassCode Reverse Transcriptase	No specific data.
	10X MassCode RT Buffer	No specific data.
	100 mM dNTP Mix	No specific data.
	RNase Block	No specific data.
	Random Primers	No specific data.

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

#### Short term exposure

## Section 11. Toxicological information

**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

<b>General</b>	: RNase-free Water MassCode Reverse Transcriptase 10X MassCode RT Buffer 100 mM dNTP Mix RNase Block Random Primers	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: RNase-free Water MassCode Reverse Transcriptase 10X MassCode RT Buffer 100 mM dNTP Mix RNase Block Random Primers	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: RNase-free Water MassCode Reverse Transcriptase 10X MassCode RT Buffer 100 mM dNTP Mix RNase Block Random Primers	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: RNase-free Water MassCode Reverse Transcriptase 10X MassCode RT Buffer 100 mM dNTP Mix RNase Block Random Primers	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: RNase-free Water MassCode Reverse Transcriptase 10X MassCode RT Buffer 100 mM dNTP Mix RNase Block Random Primers	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: RNase-free Water MassCode Reverse Transcriptase 10X MassCode RT Buffer 100 mM dNTP Mix RNase Block Random Primers	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
10X MassCode RT Buffer Oral	46428.6 mg/kg

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>MassCode Reverse Transcriptase</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>10X MassCode RT Buffer</b> Potassium chloride	Acute EC50 1337000 µg/l Fresh water Acute EC50 9.24 g/L Fresh water	Algae - Navicula seminulum Algae - Desmodesmus subspicatus	96 hours 72 hours
	Acute EC50 141460 µg/l Fresh water Acute LC50 880000 µg/l Fresh water	Daphnia - Daphnia magna Fish - Pimephales promelas	48 hours 96 hours
<b>RNase Block</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>MassCode Reverse Transcriptase</b> Glycerol	-1.76	-	low
<b>10X MassCode RT Buffer</b> Potassium chloride	-0.46	-	low
<b>RNase Block</b> Glycerol	-1.76	-	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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.

## Section 13. Disposal considerations

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

### Regulatory information

DOT / IMDG / IATA : Not regulated.

## Section 15. Regulatory information

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

**U.S. Federal regulations** : **United States inventory (TSCA 8b)**: All components are listed or exempted.  
**Clean Water Act (CWA) 311**: Edetic acid; Potassium hydroxide

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

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Immediate (acute) health hazard

#### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
<b>MassCode Reverse Transcriptase</b> Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
<b>10X MassCode RT Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1, 3-diol hydrochloride	<10	No.	No.	No.	Yes.	No.
Potassium chloride	≤10	No.	No.	No.	Yes.	No.

## Section 15. Regulatory information

<b>100 mM dNTP Mix</b>						
2'-Deoxyguanosine 5'-(tetrahydrogen triphosphate)	≤3	No.	No.	No.	Yes.	No.
2'-Deoxyadenosine 5'-(tetrahydrogen triphosphate)	≤3	No.	No.	No.	Yes.	No.
<b>RNase Block</b>						
Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.

### 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

### California Prop. 65

No products were found.

- Canada inventory** : All components are listed or exempted.

### International regulations

- International lists** :
- Australia inventory (AICS)**: Not determined.
  - China inventory (IECSC)**: All components are listed or exempted.
  - Japan inventory (ENCS)**: All components are listed or exempted.
  - Japan inventory (ISHL)**: All components are listed or exempted.
  - Korea inventory**: Not determined.
  - Malaysia Inventory (EHS Register)**: Not determined.
  - New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
  - Philippines inventory (PICCS)**: All components are listed or exempted.
  - Taiwan Chemical Substances Inventory (TCSI)**: All components are listed or exempted.
  - Turkey inventory**: Not determined.

- Chemical Weapons Convention List Schedule I Chemicals** : Not listed

- Chemical Weapons Convention List Schedule II Chemicals** : Not listed

- Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## Section 16. Other information

### History

- Date of issue** : 07/15/2016
- Date of previous issue** : 03/16/2011.
- Version** : 2

Indicates information that has changed from previously issued version.

### Notice to reader

## Section 16. Other information

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