



## Section 2. Hazards identification

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

### Classification of the substance or mixture

#### RNA Polymerase

H320 EYE IRRITATION - Category 2B

#### Yeast Pyrophosphatase

H320 EYE IRRITATION - Category 2B


#### RNase Block

H320 EYE IRRITATION - Category 2B

#### 0.75 M DTT

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

#### Ingredients of unknown toxicity

:  100 mM rGTP	Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 1.3%
100 mM rUTP	Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 4.8%
100 mM rCTP	Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 4.8%

### 2.2 GHS label elements

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### Hazard pictograms



### Signal word

☑ EPC Treated Water	No signal word.
T7 RNA Polymerase	Warning
5X RNAMaxx Transcription Buffer	No signal word.
100 mM rATP	No signal word.
100 mM rGTP	No signal word.
100 mM rUTP	No signal word.
100 mM rCTP	No signal word.
Yeast Pyrophosphatase	Warning
RNase Block	Warning
0.75 M DTT	Warning

### Hazard statements

☑ EPC Treated Water	No known significant effects or critical hazards.
T7 RNA Polymerase	H320 - Causes eye irritation.
5X RNAMaxx Transcription Buffer	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.
Yeast Pyrophosphatase	H320 - Causes eye irritation.
RNase Block	H320 - Causes eye irritation.
0.75 M DTT	GHS SYMBOL - <b>Exclamation mark</b> - H319 - Causes serious eye irritation. H315 - Causes skin irritation.

### Precautionary statements

#### Prevention

☑ EPC Treated Water	Not applicable.
T7 RNA Polymerase	P264 - Wash hands thoroughly after handling.
5X RNAMaxx Transcription Buffer	Not applicable.
100 mM rATP	Not applicable.
100 mM rGTP	Not applicable.
100 mM rUTP	Not applicable.
100 mM rCTP	Not applicable.
Yeast Pyrophosphatase	P264 - Wash hands thoroughly after handling.
RNase Block	P264 - Wash hands thoroughly after handling.
0.75 M DTT	P280 - Wear protective gloves. Wear eye or face protection. P264 - Wash hands thoroughly after handling.

#### Response

☑ EPC Treated Water	Not applicable.
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.
5X RNAMaxx Transcription Buffer	Not applicable.
100 mM rATP	Not applicable.
100 mM rGTP	Not applicable.
100 mM rUTP	Not applicable.
100 mM rCTP	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.

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	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.
	0.75 M 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.
<b>Storage</b>	: DEPC Treated Water	Not applicable.
	T7 RNA Polymerase	Not applicable.
	5X RNAMaxx Transcription Buffer	Not applicable.
	100 mM rATP	Not applicable.
	100 mM rGTP	Not applicable.
	100 mM rUTP	Not applicable.
	100 mM rCTP	Not applicable.
	Yeast Pyrophosphatase	Not applicable.
	RNase Block	Not applicable.
	0.75 M DTT	Not applicable.
<b>Disposal</b>	: DEPC Treated Water	Not applicable.
	T7 RNA Polymerase	Not applicable.
	5X RNAMaxx Transcription Buffer	Not applicable.
	100 mM rATP	Not applicable.
	100 mM rGTP	Not applicable.
	100 mM rUTP	Not applicable.
	100 mM rCTP	Not applicable.
	Yeast Pyrophosphatase	Not applicable.
	RNase Block	Not applicable.
	0.75 M DTT	Not applicable.
<b>Supplemental label elements</b>	: DEPC Treated Water	None known.
	T7 RNA Polymerase	None known.
	5X RNAMaxx Transcription Buffer	None known.
	100 mM rATP	None known.
	100 mM rGTP	None known.
	100 mM rUTP	None known.
	100 mM rCTP	None known.
	Yeast Pyrophosphatase	None known.
	RNase Block	None known.
	0.75 M DTT	None known.
<b>2.3 Other hazards</b>		
<b>Hazards not otherwise classified</b>	: DEPC Treated Water	None known.
	T7 RNA Polymerase	None known.
	5X RNAMaxx Transcription Buffer	None known.
	100 mM rATP	None known.
	100 mM rGTP	None known.
	100 mM rUTP	None known.
	100 mM rCTP	None known.
	Yeast Pyrophosphatase	None known.
	RNase Block	None known.
	0.75 M DTT	None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	:	☑EPC Treated Water	Substance
		T7 RNA Polymerase	Mixture
		5X RNAMaxx Transcription Buffer	Mixture
		100 mM rATP	Mixture
		100 mM rGTP	Mixture
		100 mM rUTP	Mixture
		100 mM rCTP	Mixture
		Yeast Pyrophosphatase	Mixture
		RNase Block	Mixture
		0.75 M DTT	Mixture

Ingredient name	%	CAS number
☑EPC Treated Water Water	100	7732-18-5
<b>T7 RNA Polymerase</b> Glycerol	≥50 - ≤75	56-81-5
<b>5X RNAMaxx Transcription Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	≤5	1185-53-1
Sodium chloride	≤3	7647-14-5
<b>Yeast Pyrophosphatase</b> Glycerol	≥50 - ≤75	56-81-5
<b>RNase Block</b> Glycerol	≥50 - ≤75	56-81-5
<b>0.75 M DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	≥10 - <20	3483-12-3

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>	:	☑EPC 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 RNA Polymerase	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.
		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.
		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.

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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.
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.
0.75 M 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.
<b>Inhalation</b>	
:  EPC Treated Water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
T7 RNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
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.
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

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	of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
100 mM rUTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
100 mM rCTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
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.
0.75 M DTT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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<b>Skin contact</b>	:  EPC Treated Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	T7 RNA Polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	5X RNAMaxx Transcription Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	100 mM rATP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	100 mM rGTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	100 mM rUTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	100 mM rCTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	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.
	0.75 M 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.
<b>Ingestion</b>	:  EPC 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 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. 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



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	airway. Loosen tight clothing such as a collar, tie, belt or waistband.
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.
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.
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 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

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0.75 M DTT

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.

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.

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

#### Potential acute health effects

<b>Eye contact</b>	: <ul style="list-style-type: none"> <li>☑ EPC Treated Water</li> <li>T7 RNA Polymerase</li> <li>5X RNAMaxx Transcription Buffer</li> <li>100 mM rATP</li> <li>100 mM rGTP</li> <li>100 mM rUTP</li> <li>100 mM rCTP</li> <li>Yeast Pyrophosphatase</li> <li>RNase Block</li> <li>0.75 M DTT</li> </ul>	<p>No known significant effects or critical hazards. Causes eye irritation.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>Causes eye irritation.</p> <p>Causes eye irritation.</p> <p>Causes serious eye irritation.</p>
<b>Inhalation</b>	: <ul style="list-style-type: none"> <li>☑ EPC Treated Water</li> <li>T7 RNA Polymerase</li> <li>5X RNAMaxx Transcription Buffer</li> <li>100 mM rATP</li> <li>100 mM rGTP</li> <li>100 mM rUTP</li> <li>100 mM rCTP</li> <li>Yeast Pyrophosphatase</li> <li>RNase Block</li> <li>0.75 M DTT</li> </ul>	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>
<b>Skin contact</b>	: <ul style="list-style-type: none"> <li>☑ EPC Treated Water</li> <li>T7 RNA Polymerase</li> <li>5X RNAMaxx Transcription Buffer</li> <li>100 mM rATP</li> <li>100 mM rGTP</li> <li>100 mM rUTP</li> <li>100 mM rCTP</li> <li>Yeast Pyrophosphatase</li> <li>RNase Block</li> </ul>	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>

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	0.75 M DTT	Causes skin irritation.
<b>Ingestion</b>	: <input checked="" type="checkbox"/> EPC Treated Water	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	5X RNAMaxx Transcription Buffer	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.
	Yeast Pyrophosphatase	No known significant effects or critical hazards.
	RNase Block	No known significant effects or critical hazards.
	0.75 M DTT	No known significant effects or critical hazards.

### Over-exposure signs/symptoms

<b>Eye contact</b>	: <input checked="" type="checkbox"/> EPC Treated Water	No specific data.
	T7 RNA Polymerase	Adverse symptoms may include the following: irritation watering redness
	5X RNAMaxx Transcription Buffer	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.
	Yeast Pyrophosphatase	Adverse symptoms may include the following: irritation watering redness
	RNase Block	Adverse symptoms may include the following: irritation watering redness
	0.75 M DTT	Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	: <input checked="" type="checkbox"/> EPC Treated Water	No specific data.
	T7 RNA Polymerase	No specific data.
	5X RNAMaxx Transcription Buffer	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.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
	0.75 M DTT	No specific data.
<b>Skin contact</b>	: <input checked="" type="checkbox"/> EPC Treated Water	No specific data.
	T7 RNA Polymerase	No specific data.
	5X RNAMaxx Transcription Buffer	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.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
	0.75 M DTT	Adverse symptoms may include the following: irritation redness

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<b>Ingestion</b>	: <input checked="" type="checkbox"/> EPC Treated Water	No specific data.
	T7 RNA Polymerase	No specific data.
	5X RNAMaxx Transcription Buffer	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.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
	0.75 M DTT	No specific data.

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

<b>Notes to physician</b>	: <input checked="" type="checkbox"/> EPC Treated Water	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.
	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.
	100 mM rATP	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	100 mM rGTP	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	100 mM rUTP	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	100 mM rCTP	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	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.
	0.75 M DTT	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

<b>Specific treatments</b>	: <input checked="" type="checkbox"/> EPC Treated Water	No specific treatment.
	T7 RNA Polymerase	No specific treatment.
	5X RNAMaxx Transcription Buffer	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.
	Yeast Pyrophosphatase	No specific treatment.
	RNase Block	No specific treatment.
	0.75 M DTT	No specific treatment.

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<b>Protection of first-aiders</b>	: <input checked="" type="checkbox"/> EPC Treated Water	No action shall be taken involving any personal risk or without suitable training.
	T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	5X RNAMaxx Transcription Buffer	No action shall be taken involving any personal risk or without suitable training.
	100 mM rATP	No action shall be taken involving any personal risk or without suitable training.
	100 mM rGTP	No action shall be taken involving any personal risk or without suitable training.
	100 mM rUTP	No action shall be taken involving any personal risk or without suitable training.
	100 mM rCTP	No action shall be taken involving any personal risk or without suitable training.
	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.
	0.75 M 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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Use an extinguishing agent suitable for the surrounding fire.
	T7 RNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
	5X RNAMaxx Transcription Buffer	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rATP	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rGTP	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rUTP	Use an extinguishing agent suitable for the surrounding fire.
	100 mM rCTP	Use an extinguishing agent suitable for the surrounding fire.
	Yeast Pyrophosphatase	Use an extinguishing agent suitable for the surrounding fire.
	RNase Block	Use an extinguishing agent suitable for the surrounding fire.
	0.75 M DTT	Use an extinguishing agent suitable for the surrounding fire.

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<b>Unsuitable extinguishing media</b>	<b>:</b> DEPC Treated Water	None known.
	T7 RNA Polymerase	None known.
	5X RNAMaxx Transcription Buffer	None known.
	100 mM rATP	None known.
	100 mM rGTP	None known.
	100 mM rUTP	None known.
	100 mM rCTP	None known.
	Yeast Pyrophosphatase	None known.
	RNase Block	None known.
	0.75 M DTT	None known.

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


<b>Specific hazards arising from the chemical</b>	<b>:</b> DEPC Treated Water	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.
	5X RNAMaxx Transcription Buffer	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.
	Yeast Pyrophosphatase	In a fire or if heated, a pressure increase will occur and the container may burst.
	RNase Block	In a fire or if heated, a pressure increase will occur and the container may burst.
	0.75 M DTT	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	<b>:</b> DEPC Treated Water	No specific data.
	T7 RNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	5X RNAMaxx Transcription Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	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

## Section 5. Fire-fighting measures

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
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
0.75 M DTT	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides

### 5.3 Advice for firefighters

#### Special protective actions for fire-fighters

:  EPC 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 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.
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.
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.
Yeast Pyrophosphatase	Promptly isolate the scene by removing all persons

## Section 5. Fire-fighting measures

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.

0.75 M 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.

### Special protective equipment for fire-fighters

:  EPC 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 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.

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.

100 mM rATP

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

100 mM rGTP

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

100 mM rUTP

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

100 mM rCTP

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

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.

0.75 M DTT

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

:  EPC Treated Water

T7 RNA Polymerase

5X RNAMaxx Transcription Buffer

100 mM rATP

100 mM rGTP

100 mM rUTP

100 mM rCTP

Yeast Pyrophosphatase

RNase Block

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

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.

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.

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.

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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.

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

## Section 6. Accidental release measures

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.

0.75 M 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 personal protective equipment.

**For emergency responders :** ☑EPC Treated Water

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".

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".

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 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".

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".

0.75 M 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".

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".

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".

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".

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".

## Section 6. Accidental release measures

### 6.2 Environmental precautions

:  EPC 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 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).

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).

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).

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).

0.75 M 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).

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

## Section 6. Accidental release measures

<b>Methods for cleaning up</b>	:  EPC 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 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.
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.
100 mM rATP		Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
100 mM rGTP		Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
100 mM rUTP		Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
100 mM rCTP		Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
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.
0.75 M 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.

## Section 6. Accidental release measures

disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Put on appropriate personal protective equipment (see Section 8).
	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.
	5X RNAMaxx Transcription Buffer	Put on appropriate personal protective equipment (see Section 8).
	100 mM rATP	Put on appropriate personal protective equipment (see Section 8).
	100 mM rGTP	Put on appropriate personal protective equipment (see Section 8).
	100 mM rUTP	Put on appropriate personal protective equipment (see Section 8).
	100 mM rCTP	Put on appropriate personal protective equipment (see Section 8).
	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.
	0.75 M 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.
<b>Advice on general occupational hygiene</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	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

## Section 7. Handling and storage

5X RNAMaxx Transcription Buffer	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. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
100 mM rATP	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
100 mM rGTP	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
100 mM rUTP	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
100 mM rCTP	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
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.
0.75 M 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

## Section 7. Handling and storage

### 7.2 Conditions for safe storage, including any incompatibilities

:  EPC Treated Water

for additional information on hygiene measures.

T7 RNA Polymerase

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

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 containers. Use appropriate containment to avoid environmental contamination.

100 mM rATP

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

100 mM rGTP

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

100 mM rUTP

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright

## Section 7. Handling and storage

100 mM rCTP	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.
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.
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.
0.75 M 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.

### 7.3 Specific end use(s)

#### Recommendations

<ul style="list-style-type: none"> <li>☑ EPC Treated Water</li> <li>T7 RNA Polymerase</li> <li>5X RNAMaxx Transcription Buffer</li> <li>100 mM rATP</li> <li>100 mM rGTP</li> <li>100 mM rUTP</li> <li>100 mM rCTP</li> <li>Yeast Pyrophosphatase</li> <li>RNase Block</li> <li>0.75 M DTT</li> </ul>	<ul style="list-style-type: none"> <li>Industrial applications, Professional applications.</li> <li>Industrial applications, Professional applications.</li> <li>Industrial applications, Professional applications.</li> <li>Industrial applications, Professional applications.</li> <li>Industrial applications, Professional applications.</li> <li>Industrial applications, Professional applications.</li> <li>Industrial applications, Professional applications.</li> <li>Industrial applications, Professional applications.</li> <li>Industrial applications, Professional applications.</li> <li>Industrial applications, Professional applications.</li> </ul>
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## Section 7. Handling and storage

<b>Industrial sector specific solutions</b>	<b>DEPC Treated Water</b>	Not applicable.
	<b>T7 RNA Polymerase</b>	Not applicable.
	<b>5X RNAMaxx Transcription Buffer</b>	Not applicable.
	<b>100 mM rATP</b>	Not applicable.
	<b>100 mM rGTP</b>	Not applicable.
	<b>100 mM rUTP</b>	Not applicable.
	<b>100 mM rCTP</b>	Not applicable.
	<b>Yeast Pyrophosphatase</b>	Not applicable.
	<b>RNase Block</b>	Not applicable.
	<b>0.75 M DTT</b>	Not applicable.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<b>DEPC Treated Water</b> Water	None.
<b>T7 RNA Polymerase</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>5X RNAMaxx Transcription Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride Sodium chloride	None. None.
<b>Yeast Pyrophosphatase</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>RNase Block</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>0.75 M DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	None.

## Section 8. Exposure controls/personal protection

### 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

- Physical state** :
- |                                 |         |
|---------------------------------|---------|
| EPC Treated Water               | Liquid. |
| T7 RNA Polymerase               | Liquid. |
| 5X RNAMaxx Transcription Buffer | Liquid. |
| 100 mM rATP                     | Liquid. |
| 100 mM rGTP                     | Liquid. |
| 100 mM rUTP                     | Liquid. |
| 100 mM rCTP                     | Liquid. |
| Yeast Pyrophosphatase           | Liquid. |
| RNase Block                     | Liquid. |
| 0.75 M DTT                      | Liquid. |

## Section 9. Physical and chemical properties

<b>Color</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
<b>Odor</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
<b>Odor threshold</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
<b>pH</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not available.
	T7 RNA Polymerase	7.7
	5X RNAMaxx Transcription Buffer	10
	100 mM rATP	8
	100 mM rGTP	8
	100 mM rUTP	8
	100 mM rCTP	8
	Yeast Pyrophosphatase	7.5
	RNase Block	7.6
<b>Melting point</b>	: <input checked="" type="checkbox"/> EPC Treated Water	0°C (32°F)
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	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)
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
<b>Boiling point</b>	: <input checked="" type="checkbox"/> EPC Treated Water	100°C (212°F)
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	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)
	Yeast Pyrophosphatase	Not available.
	0.75 M DTT	Not available.

## Section 9. Physical and chemical properties

	RNase Block	Not available.
	0.75 M DTT	Not available.
<b>Flash point</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
	0.75 M DTT	Not available.
<b>Evaporation rate</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
	0.75 M DTT	Not available.
<b>Flammability (solid, gas)</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not applicable.
	T7 RNA Polymerase	Not applicable.
	5X RNAMaxx Transcription Buffer	Not applicable.
	100 mM rATP	Not applicable.
	100 mM rGTP	Not applicable.
	100 mM rUTP	Not applicable.
	100 mM rCTP	Not applicable.
	Yeast Pyrophosphatase	Not applicable.
	RNase Block	Not applicable.
	0.75 M DTT	Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
	0.75 M DTT	Not available.
<b>Vapor pressure</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
	0.75 M DTT	Not available.
<b>Vapor density</b>	:	

## Section 9. Physical and chemical properties

	☑ EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
	0.75 M DTT	Not available.
<b>Relative density</b>	: ☑ EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
	0.75 M DTT	Not available.
<b>Solubility</b>	: ☑ EPC Treated Water	Easily soluble in the following materials: cold water and hot water.
	T7 RNA Polymerase	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.
	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.
	Yeast Pyrophosphatase	Soluble in the following materials: cold water and hot water.
	RNase Block	Soluble in the following materials: cold water and hot water.
	0.75 M DTT	Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: ☑ EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
	0.75 M DTT	Not available.
<b>Auto-ignition temperature</b>	: ☑ EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.

## Section 9. Physical and chemical properties

	RNase Block	Not available.
	0.75 M DTT	Not available.
<b>Decomposition temperature</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
	0.75 M DTT	Not available.
<b>Viscosity</b>	: <input checked="" type="checkbox"/> EPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx Transcription Buffer	Not available.
	100 mM rATP	Not available.
	100 mM rGTP	Not available.
	100 mM rUTP	Not available.
	100 mM rCTP	Not available.
	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
	0.75 M DTT	Not available.


## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: <input checked="" type="checkbox"/> EPC Treated Water	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.
	5X RNAMaxx Transcription Buffer	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.
	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.
	0.75 M DTT	No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: <input checked="" type="checkbox"/> EPC Treated Water	The product is stable.
	T7 RNA Polymerase	The product is stable.
	5X RNAMaxx Transcription Buffer	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.
	Yeast Pyrophosphatase	The product is stable.
	RNase Block	The product is stable.
	0.75 M DTT	The product is stable.

## Section 10. Stability and reactivity

<b>10.3 Possibility of hazardous reactions</b>	<b>:</b> <input checked="" type="checkbox"/> EPC Treated Water	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.
	5X RNAMaxx Transcription Buffer	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.
	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.
0.75 M DTT	Under normal conditions of storage and use, hazardous reactions will not occur.	
<b>10.4 Conditions to avoid</b>	<b>:</b> <input checked="" type="checkbox"/> EPC Treated Water	No specific data.
	T7 RNA Polymerase	No specific data.
	5X RNAMaxx Transcription Buffer	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.
	Yeast Pyrophosphatase	No specific data.
	RNase Block	No specific data.
0.75 M DTT	No specific data.	
<b>10.5 Incompatible materials</b>	<b>:</b> <input checked="" type="checkbox"/> EPC Treated Water	May react or be incompatible with oxidizing materials.
	T7 RNA Polymerase	May react or be incompatible with oxidizing materials.
	5X RNAMaxx Transcription Buffer	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.
	Yeast Pyrophosphatase	May react or be incompatible with oxidizing materials.
	RNase Block	May react or be incompatible with oxidizing materials.
0.75 M DTT	May react or be incompatible with oxidizing materials.	


## Section 10. Stability and reactivity

<b>10.6 Hazardous decomposition products</b>	:  EPC Treated Water	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.
	5X RNAMaxx Transcription Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	100 mM rATP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	100 mM rGTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	100 mM rUTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	100 mM rCTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	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.
	0.75 M DTT	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
 T7 RNA Polymerase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>5X RNAMaxx Transcription Buffer</b> Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>Yeast Pyrophosphatase</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>RNase Block</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-

#### Irritation/Corrosion



## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>T7 RNA Polymerase</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-		24 hours 500 milligrams
<b>5X RNAMaxx Transcription Buffer</b> Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams 10 milligrams 24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-		-
	Skin - Mild irritant	Rabbit	-		-
<b>Yeast Pyrophosphatase</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - 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>5X RNAMaxx Transcription Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
<b>0.75 M DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

## Section 11. Toxicological information

Not available.

<b>Information on the likely routes of exposure</b>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> EPC Treated Water</li> <li>T7 RNA Polymerase</li> <li>5X RNAMaxx Transcription Buffer</li> <li>100 mM rATP</li> <li>100 mM rGTP</li> <li>100 mM rUTP</li> <li>100 mM rCTP</li> <li>Yeast Pyrophosphatase</li> <li>RNase Block</li> <li>0.75 M DTT</li> </ul>	<p>Not available.</p> <p>Routes of entry anticipated: Oral, Dermal, Inhalation.</p> <p>Routes of entry anticipated: Oral, Dermal, Inhalation.</p> <p>Not available.</p> <p>Not available.</p> <p>Not available.</p> <p>Not available.</p> <p>Routes of entry anticipated: Oral, Dermal, Inhalation.</p> <p>Routes of entry anticipated: Oral, Dermal, Inhalation.</p> <p>Routes of entry anticipated: Oral, Dermal, Inhalation.</p>
<b>Potential acute health effects</b>		
<b>Eye contact</b>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> EPC Treated Water</li> <li>T7 RNA Polymerase</li> <li>5X RNAMaxx Transcription Buffer</li> <li>100 mM rATP</li> <li>100 mM rGTP</li> <li>100 mM rUTP</li> <li>100 mM rCTP</li> <li>Yeast Pyrophosphatase</li> <li>RNase Block</li> <li>0.75 M DTT</li> </ul>	<p>No known significant effects or critical hazards.</p> <p>Causes eye irritation.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>Causes eye irritation.</p> <p>Causes eye irritation.</p> <p>Causes serious eye irritation.</p>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> EPC Treated Water</li> <li>T7 RNA Polymerase</li> <li>5X RNAMaxx Transcription Buffer</li> <li>100 mM rATP</li> <li>100 mM rGTP</li> <li>100 mM rUTP</li> <li>100 mM rCTP</li> <li>Yeast Pyrophosphatase</li> <li>RNase Block</li> <li>0.75 M DTT</li> </ul>	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>
<b>Skin contact</b>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> EPC Treated Water</li> <li>T7 RNA Polymerase</li> <li>5X RNAMaxx Transcription Buffer</li> <li>100 mM rATP</li> <li>100 mM rGTP</li> <li>100 mM rUTP</li> <li>100 mM rCTP</li> <li>Yeast Pyrophosphatase</li> <li>RNase Block</li> <li>0.75 M DTT</li> </ul>	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>Causes skin irritation.</p>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> EPC Treated Water</li> <li>T7 RNA Polymerase</li> <li>5X RNAMaxx Transcription Buffer</li> <li>100 mM rATP</li> <li>100 mM rGTP</li> <li>100 mM rUTP</li> <li>100 mM rCTP</li> <li>Yeast Pyrophosphatase</li> <li>RNase Block</li> </ul>	<p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>

## Section 11. Toxicological information

0.75 M DTT

No known significant effects or critical hazards.

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

#### Eye contact

<input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase  5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase  RNase Block  0.75 M DTT	No specific data. Adverse symptoms may include the following: irritation watering redness  No specific data. No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: irritation watering redness  Adverse symptoms may include the following: irritation watering redness  Adverse symptoms may include the following: pain or irritation watering redness
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#### Inhalation

<input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase RNase Block 0.75 M DTT	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
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#### Skin contact

<input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase RNase Block 0.75 M DTT	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: irritation redness
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#### Ingestion

<input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase RNase Block 0.75 M DTT	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
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## 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

<b>General</b>	: <input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase RNase Block 0.75 M DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: <input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase RNase Block 0.75 M DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: <input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase RNase Block 0.75 M DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: <input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase RNase Block 0.75 M DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Developmental effects</b>	: <input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase RNase Block 0.75 M DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: <input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase RNase Block 0.75 M DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
<input checked="" type="checkbox"/> 5X RNAMaxx Transcription Buffer Oral	205479.5 mg/kg
<b>0.75 M DTT</b> Oral	4310.3 mg/kg

<b>Other information</b>	: <input checked="" type="checkbox"/> EPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase RNase Block 0.75 M DTT	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
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## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> T7 RNA Polymerase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>5X RNAMaxx Transcription Buffer</b> Sodium chloride	Acute EC50 2430000 µg/l Fresh water Acute EC50 519.6 mg/l Fresh water Acute IC50 6.87 g/L Fresh water Acute LC50 1661 mg/l Fresh water	Algae - Navicula seminulum Crustaceans - Cypris subglobosa Aquatic plants - Lemna minor Daphnia - Daphnia magna	96 hours 48 hours 96 hours 48 hours

## Section 12. Ecological information

<b>Yeast Pyrophosphatase</b> Glycerol	Acute LC50 1000000 µg/l Fresh water Chronic LC10 781 mg/l Fresh water	Fish - Morone saxatilis - Larvae Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	96 hours 3 weeks
	Chronic NOEC 6 g/L Fresh water Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	96 hours 21 days 8 weeks
	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>0.75 M DTT</b> (R*,R*)-1, 4-Dimercaptobutane-2,3-diol	Acute LC50 27000 to 30000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<input checked="" type="checkbox"/> DEPC Treated Water Water	-	100 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<input checked="" type="checkbox"/> DEPC Treated Water Water	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<input checked="" type="checkbox"/> DEPC Treated Water Water	-1.38	-	low
<b>T7 RNA Polymerase</b> Glycerol	-1.76	-	low
<b>Yeast Pyrophosphatase</b> Glycerol	-1.76	-	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.

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** : **TSCA 8(a) PAIR**: Polyoxyethylene octyl phenyl ether  
**United States inventory (TSCA 8b)**: 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

**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

## Section 15. Regulatory information

**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>T7 RNA Polymerase</b> Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
<b>5X RNAMaxx Transcription Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	≤5	No.	No.	No.	Yes.	No.
Sodium chloride	≤3	No.	No.	No.	Yes.	No.
<b>Yeast Pyrophosphatase</b> Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
<b>RNase Block</b> Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
<b>0.75 M DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	≥10 - <20	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.

### 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 inventory** : Not determined.
- China** : Not determined.
- Europe** : All components are listed or exempted.



## Section 15. Regulatory information

<b>Japan</b>	:	<input checked="" type="checkbox"/> <b>Japan inventory (ENCS):</b> Not determined. <input checked="" type="checkbox"/> <b>Japan inventory (ISHL):</b> Not determined.
<b>Malaysia</b>	:	<input checked="" type="checkbox"/> Not determined.
<b>New Zealand</b>	:	<input checked="" type="checkbox"/> Not determined.
<b>Philippines</b>	:	<input checked="" type="checkbox"/> Not determined.
<b>Republic of Korea</b>	:	<input checked="" type="checkbox"/> Not determined.
<b>Taiwan</b>	:	<input checked="" type="checkbox"/> All components are listed or exempted.
<b>Turkey</b>	:	<input checked="" type="checkbox"/> Not determined.

## Section 16. Other information

### History

<b>Date of issue</b>	:	10/12/2016
<b>Date of previous issue</b>	:	09/09/2014.
<b>Version</b>	:	4

Indicates information that has changed from previously issued version.

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