

SAFETY DATA SHEET



RNAMaxx High Yield Transcription Kit, Part Number 200339

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

1.1 Product identifier

Product name	: RNAMaxx High Yield Transcription Kit, Part Number 200339		
Part No. (Kit)	: 200339		
Part No.	: DEPC Treated Water	200420-58	
	T7 RNA Polymerase	200339-51	
	5X RNAMaxx Transcription Buffer	200339-56	
	100 mM rATP	200339-52	
	100 mM rGTP	200339-53	
	100 mM rUTP	200339-54	
	100 mM rCTP	200339-55	
	Yeast Pyrophosphatase	200339-57	
	RNase Block	200339-58	
	0.75 M DTT	200340-85	

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

Identified uses	
Analytical reagent.	
DEPC Treated Water	1 ml
T7 RNA Polymerase	0.05 ml (50 µl 200 U/µl)
5X RNAMaxx Transcription Buffer	0.25 ml
100 mM rATP	0.05 ml
100 mM rGTP	0.05 ml
100 mM rUTP	0.05 ml
100 mM rCTP	0.05 ml
Yeast Pyrophosphatase	0.025 ml (25 µl 0.75 U/µl)
RNase Block	0.05 ml
0.75 M DTT	0.25 ml

1.3 Details of the supplier of the safety data sheet

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

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

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

SECTION 2: Hazards identification

Product definition	:	DEPC Treated Water	Mono-constituent substance
		T7 RNA Polymerase	Mixture
		5X RNAMaxx	Mixture
		Transcription Buffer	
		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

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

0.75 M DTT

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

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

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

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

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

2.2 Label elements

Hazard pictograms :



Signal word	:	DEPC Treated Water	No signal word.
		T7 RNA Polymerase	No signal word.
		5X RNAMaxx	No signal word.
		Transcription Buffer	
		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	No signal word.
		RNase Block	No signal word.
		0.75 M DTT	Warning

Hazard statements	:	DEPC Treated Water	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		5X RNAMaxx	No known significant effects or critical hazards.
		Transcription Buffer	
		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	GHS07 -

SECTION 2: Hazards identification

Causes skin irritation.
Causes serious eye irritation.

Precautionary statements

Prevention	: DEPC 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 applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. P280 - Wear protective gloves. Wear eye or face protection. P264 - Wash hands thoroughly after handling.
Response	: DEPC 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 applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	: DEPC 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 applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Disposal	: DEPC 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 applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Hazardous ingredients	: 5X RNAMaxx Transcription Buffer 0.75 M DTT	Not applicable. Not applicable.
Supplemental label elements	: DEPC Treated Water T7 RNA Polymerase 5X RNAMaxx Transcription Buffer 100 mM rATP 100 mM rGTP 100 mM rUTP 100 mM rCTP Yeast Pyrophosphatase	Not applicable. Not applicable. Safety data sheet available on request. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

SECTION 2: Hazards identification

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	RNase Block	Not applicable.
	0.75 M DTT	Not applicable.
	: DEPC Treated Water	Not applicable.
	T7 RNA Polymerase	Not applicable.
	5X RNAMaxx	Not applicable.
	Transcription Buffer	
	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.	

Special packaging requirements

Tactile warning of danger	: DEPC Treated Water	Not applicable.
	T7 RNA Polymerase	Not applicable.
	5X RNAMaxx	Not applicable.
	Transcription Buffer	
	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.

2.3 Other hazards

Other hazards which do not result in classification	: DEPC Treated Water	None known.
	T7 RNA Polymerase	None known.
	5X RNAMaxx	None known.
	Transcription Buffer	
	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

3.2 Mixtures	: DEPC Treated Water	Mono-constituent substance
	T7 RNA Polymerase	Mixture
	5X RNAMaxx	Mixture
	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

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
DEPC Treated Water Water	EC: 231-791-2 CAS: 7732-18-5	100	Not classified.	[A]
T7 RNA Polymerase Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
Polyoxyethylene octyl phenyl ether	CAS: 9002-93-1	≤0.3	Acute Tox. 4, H302 Skin Irrit. 2, H315	[1] [5]

SECTION 3: Composition/information on ingredients

			Eye Dam. 1, H318 Aquatic Chronic 2, H411	
5X RNAMaxx Transcription Buffer 2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	≤5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≤3	Eye Irrit. 2, H319	[1]
Yeast Pyrophosphatase Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
RNase Block Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
0.75 M DTT (R*,R*)-1,4-Dimercaptobutane-2, 3-diol	EC: 222-468-7 CAS: 3483-12-3	≥10 - <20	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412 See Section 16 for the full text of the H statements declared above.	[1]

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

Type

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: DEPC Treated Water	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	T7 RNA Polymerase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	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.
	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.

SECTION 4: First aid measures

	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. Get medical attention if irritation occurs.
	RNase Block	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	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.
Inhalation	: DEPC Treated Water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	T7 RNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	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 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. Get medical attention if symptoms occur.
	RNase Block	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	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

SECTION 4: First aid measures

Skin contact	: DEPC Treated Water	collar, tie, belt or waistband. 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.
	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.
	RNase Block	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	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.
Ingestion	: DEPC Treated Water	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	T7 RNA Polymerase	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	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

SECTION 4: First aid measures

	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. 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 victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
RNase Block	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
0.75 M DTT	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Protection of first-aiders : DEPC 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.
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.
RNase Block	No action shall be taken involving any personal risk or without suitable training.
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.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

SECTION 4: First aid measures

Eye contact	:	DEPC Treated Water	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		5X RNAMaxx	No known significant effects or critical hazards.
		Transcription Buffer	
		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	Causes serious eye irritation.	
Inhalation	:	DEPC Treated Water	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		5X RNAMaxx	No known significant effects or critical hazards.
		Transcription Buffer	
		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.	
Skin contact	:	DEPC Treated Water	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		5X RNAMaxx	No known significant effects or critical hazards.
		Transcription Buffer	
		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	Causes skin irritation.	
Ingestion	:	DEPC Treated Water	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		5X RNAMaxx	No known significant effects or critical hazards.
		Transcription Buffer	
		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

Eye contact	:	DEPC Treated Water	No specific data.
		T7 RNA Polymerase	No specific data.
		5X RNAMaxx	No specific data.
		Transcription Buffer	
		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: pain or irritation watering redness	

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Inhalation	:	DEPC 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. No specific data.
Skin contact	:	DEPC 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. Adverse symptoms may include the following: irritation redness
Ingestion	:	DEPC 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. No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	DEPC 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	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. 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. 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. 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. 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. 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. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
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SECTION 4: First aid measures

Specific treatments	: DEPC Treated Water	No specific treatment.
	T7 RNA Polymerase	No specific treatment.
	5X RNAMaxx	No specific treatment.
	Transcription Buffer	
	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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: DEPC 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	Use an extinguishing agent suitable for the surrounding fire.
	Transcription Buffer	
	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.

Unsuitable extinguishing media	: DEPC Treated Water	None known.
	T7 RNA Polymerase	None known.
	5X RNAMaxx	None known.
	Transcription Buffer	
	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

Hazards from the substance or mixture	: DEPC Treated Water	In a fire or if heated, a pressure increase will occur and the container may burst.
	T7 RNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
	5X RNAMaxx	In a fire or if heated, a pressure increase will occur and the container may burst.
	Transcription Buffer	
	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.

SECTION 5: Firefighting measures

Hazardous combustion products	:	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
		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 precautions for fire-fighters	:	DEPC Treated Water	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		T7 RNA Polymerase	
		5X RNAMaxx Transcription Buffer	
		100 mM rATP	
		100 mM rGTP	
		100 mM rUTP	

SECTION 5: Firefighting measures

Special protective equipment for fire-fighters

100 mM rCTP	taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Yeast Pyrophosphatase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
RNase Block	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
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.
: DEPC Treated Water	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
5X RNAMaxx Transcription Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
100 mM rATP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
100 mM rGTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
100 mM rUTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
100 mM rCTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Yeast Pyrophosphatase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
RNase Block	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for

SECTION 5: Firefighting measures

0.75 M DTT	<p>fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.</p> <p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.</p>
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SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel	: DEPC Treated Water	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	5X RNAMaxx Transcription Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	100 mM rATP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	100 mM rGTP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	100 mM rUTP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	100 mM rCTP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Yeast Pyrophosphatase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	RNase Block	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put

SECTION 6: Accidental release measures**For emergency responders**

: DEPC Treated Water

on appropriate personal protective equipment.

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

T7 RNA Polymerase

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

5X RNAMaxx Transcription Buffer

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

100 mM rATP

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

100 mM rGTP

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

100 mM rUTP

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

100 mM rCTP

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Yeast Pyrophosphatase

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

RNase Block

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

0.75 M DTT

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: DEPC Treated Water

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

T7 RNA Polymerase

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

5X RNAMaxx Transcription Buffer

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

100 mM rATP

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

100 mM rGTP

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

100 mM rUTP

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant

SECTION 6: Accidental release measures

	authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
100 mM rCTP	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Yeast Pyrophosphatase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
RNase Block	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
0.75 M DTT	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up**Methods for cleaning up** : DEPC Treated Water

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

SECTION 6: Accidental release measures

0.75 M DTT : place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
 Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	: DEPC Treated Water	Put on appropriate personal protective equipment (see Section 8).
	T7 RNA Polymerase	Put on appropriate personal protective equipment (see Section 8).
	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).
	RNase Block	Put on appropriate personal protective equipment (see Section 8).
	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 vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	: DEPC Treated Water	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	T7 RNA Polymerase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	5X RNAMaxx Transcription Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	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.

SECTION 7: Handling and storage

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 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage	: DEPC Treated Water	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
	T7 RNA Polymerase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
	5X RNAMaxx Transcription Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental

SECTION 7: Handling and storage

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

SECTION 7: Handling and storage

7.3 Specific end use(s)

Recommendations	: DEPC 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	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: DEPC 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 applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
T7 RNA Polymerase Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m ³ 8 hours. Form: Mist
Yeast Pyrophosphatase Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m ³ 8 hours. Form: Mist
RNase Block Glycerol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m ³ 8 hours. Form: Mist

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

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Date of issue/Date of revision : 12/10/2016

20/35

SECTION 8: Exposure controls/personal protection

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

Individual protection measures

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

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

Skin protection

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

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

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

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

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: DEPC Treated Water	Liquid.	
	T7 RNA Polymerase	Liquid.	
	5X RNAMaxx	Liquid.	
	Transcription Buffer		
	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.	
	Colour	: DEPC Treated Water	Not available.
		T7 RNA Polymerase	Not available.
		5X RNAMaxx	Not available.
Transcription Buffer			
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 9: Physical and chemical properties

Odour	:	DEPC Treated Water	Not available.	
		T7 RNA Polymerase	Not available.	
		5X RNAMaxx	Not available.	
		Transcription Buffer		
		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.	
	Odour threshold	:	DEPC Treated Water	Not available.
			T7 RNA Polymerase	Not available.
			5X RNAMaxx	Not available.
		Transcription Buffer		
		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.	
pH		:	DEPC Treated Water	Not available.
			T7 RNA Polymerase	7.7
			5X RNAMaxx	10
		Transcription Buffer		
		100 mM rATP	8	
		100 mM rGTP	8	
		100 mM rUTP	8	
		100 mM rCTP	8	
		Yeast Pyrophosphatase	7.5	
		RNase Block	7.6	
		0.75 M DTT	Not available.	
	Melting point/freezing point	:	DEPC Treated Water	0°C
			T7 RNA Polymerase	Not available.
			5X RNAMaxx	Not available.
		Transcription Buffer		
		100 mM rATP	0°C	
		100 mM rGTP	0°C	
		100 mM rUTP	0°C	
		100 mM rCTP	0°C	
		Yeast Pyrophosphatase	Not available.	
		RNase Block	Not available.	
		0.75 M DTT	Not available.	
Initial boiling point and boiling range		:	DEPC Treated Water	100°C
			T7 RNA Polymerase	Not available.
			5X RNAMaxx	Not available.
		Transcription Buffer		
		100 mM rATP	100°C	
		100 mM rGTP	100°C	
		100 mM rUTP	100°C	
		100 mM rCTP	100°C	
		Yeast Pyrophosphatase	Not available.	
		RNase Block	Not available.	
		0.75 M DTT	Not available.	
	Flash point	:	DEPC Treated Water	Not available.
			T7 RNA Polymerase	Not available.
			5X RNAMaxx	Not available.
		Transcription Buffer		
		100 mM rATP	Not available.	
		100 mM rGTP	Not available.	
		100 mM rUTP	Not available.	
		100 mM rCTP	Not available.	

SECTION 9: Physical and chemical properties

	Yeast Pyrophosphatase	Not available.
	RNase Block	Not available.
	0.75 M DTT	Not available.
Evaporation rate	: DEPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx	Not available.
	Transcription Buffer	
	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.
Flammability (solid, gas)	: DEPC Treated Water	Not applicable.
	T7 RNA Polymerase	Not applicable.
	5X RNAMaxx	Not applicable.
	Transcription Buffer	
	100 mM rATP	Not applicable.
	100 mM rGTP	Not applicable.
	100 mM rUTP	Not applicable.
	100 mM rCTP	Not applicable.
	Yeast	Not applicable.
	Pyrophosphatase	
	RNase Block	Not applicable.
	0.75 M DTT	Not applicable.
Upper/lower flammability or explosive limits	: DEPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx	Not available.
	Transcription Buffer	
	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.
Vapour pressure	: DEPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx	Not available.
	Transcription Buffer	
	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.
Vapour density	: DEPC Treated Water	Not available.
	T7 RNA Polymerase	Not available.
	5X RNAMaxx	Not available.
	Transcription Buffer	
	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 9: Physical and chemical properties

Relative density	:	DEPC Treated Water	Not available.
		T7 RNA Polymerase	Not available.
		5X RNAMaxx	Not available.
		Transcription Buffer	
		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.
Solubility(ies)	:	DEPC 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	Easily soluble in the following materials: cold water and hot water.
		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.
Partition coefficient: n-octanol/water	:	DEPC Treated Water	Not available.
		T7 RNA Polymerase	Not available.
		5X RNAMaxx	Not available.
		Transcription Buffer	
		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.
Auto-ignition temperature	:	DEPC Treated Water	Not available.
		T7 RNA Polymerase	Not available.
		5X RNAMaxx	Not available.
		Transcription Buffer	
		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.
Decomposition temperature	:	DEPC Treated Water	Not available.
		T7 RNA Polymerase	Not available.
		5X RNAMaxx	Not available.
		Transcription Buffer	
		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.

SECTION 9: Physical and chemical properties

	0.75 M DTT	Not available.	
Viscosity	: DEPC Treated Water	Not available.	
	T7 RNA Polymerase	Not available.	
	5X RNAMaxx	Not available.	
	Transcription Buffer		
	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.	
	Explosive properties	: DEPC Treated Water	Not available.
		T7 RNA Polymerase	Not available.
5X RNAMaxx		Not available.	
Transcription Buffer			
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.	
Oxidising properties		: DEPC Treated Water	Not available.
		T7 RNA Polymerase	Not available.
	5X RNAMaxx	Not available.	
	Transcription Buffer		
	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.	

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: DEPC Treated Water	No specific test data related to reactivity available for this product or its ingredients.
	T7 RNA Polymerase	No specific test data related to reactivity available for this product or its ingredients.
	5X RNAMaxx	No specific test data related to reactivity available for this product or its ingredients.
	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.

SECTION 10: Stability and reactivity

10.2 Chemical stability	: DEPC 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	The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	: DEPC 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	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: DEPC 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. No specific data.
10.5 Incompatible materials	: DEPC 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	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.

SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products	: DEPC 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
5X RNAMaxx Transcription Buffer Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

Acute toxicity estimates

Route	ATE value
0.75 M DTT Oral	4310.3 mg/kg

Irritation/Corrosion

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

Sensitiser

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
5X RNAMaxx Transcription Buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
0.75 M DTT (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

Not available.

Information on likely routes of exposure

DEPC Treated Water	Not available.
T7 RNA Polymerase	Routes of entry anticipated: Oral, Dermal, Inhalation.
5X RNAMaxx Transcription Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
100 mM rATP	Not available.
100 mM rGTP	Not available.
100 mM rUTP	Not available.
100 mM rCTP	Not available.
Yeast Pyrophosphatase	Routes of entry anticipated: Oral, Dermal, Inhalation.
RNase Block	Routes of entry anticipated: Oral, Dermal, Inhalation.
0.75 M DTT	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Inhalation

DEPC 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.

Ingestion

DEPC 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.

Skin contact

DEPC 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	Causes skin irritation.

SECTION 11: Toxicological information

Eye contact	:	DEPC Treated Water	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		5X RNAMaxx	No known significant effects or critical hazards.
		Transcription Buffer	
		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	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	:	DEPC Treated Water	No specific data.
		T7 RNA Polymerase	No specific data.
		5X RNAMaxx	No specific data.
		Transcription Buffer	
		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.

Ingestion	:	DEPC Treated Water	No specific data.
		T7 RNA Polymerase	No specific data.
		5X RNAMaxx	No specific data.
		Transcription Buffer	
		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.

Skin contact	:	DEPC Treated Water	No specific data.
		T7 RNA Polymerase	No specific data.
		5X RNAMaxx	No specific data.
		Transcription Buffer	
		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

Eye contact	:	DEPC Treated Water	No specific data.
		T7 RNA Polymerase	No specific data.
		5X RNAMaxx	No specific data.
		Transcription Buffer	
		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: pain or irritation watering redness

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

SECTION 11: Toxicological information**Short term exposure**

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: DEPC Treated Water 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.
Carcinogenicity	: DEPC 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.
Mutagenicity	: DEPC 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.
Teratogenicity	: DEPC 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.

SECTION 11: Toxicological information

Developmental effects	:	DEPC Treated Water	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		5X RNAMaxx	No known significant effects or critical hazards.
		Transcription Buffer	
		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.	
Fertility effects	:	DEPC Treated Water	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		5X RNAMaxx	No known significant effects or critical hazards.
		Transcription Buffer	
		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.	
Other information	:	DEPC Treated Water	Not available.
		T7 RNA Polymerase	Not available.
		5X RNAMaxx	Not available.
		Transcription Buffer	
		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 12: Ecological information

12.1 Toxicity

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

SECTION 12: Ecological information

4-Dimercaptobutane-2,3-diol	water		
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12.2 Persistence and degradability

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

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

12.3 Bioaccumulative potential

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

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

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

Packaging

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

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

SECTION 14: Transport information

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

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

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

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
T7 RNA Polymerase Polyoxyethylene octyl phenyl ether	Substance of equivalent concern for environment	Recommended	ED/169/2012	02/10/2014

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

DEPC Treated Water	Not applicable.
T7 RNA Polymerase	Not applicable.
5X RNA ^{Maxx} 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.

Other EU regulations

Europe inventory : All components are listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

SECTION 15: Regulatory information

Not listed.

[UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

[International lists](#)

[National inventory](#)

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

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

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

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

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

Classification	Justification
0.75 M DTT Skin Irrit. 2, H315 Eye Irrit. 2, H319	Calculation method Calculation method

[Full text of abbreviated H statements](#)

T7 RNA Polymerase H302 H315 H318 H411	Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Toxic to aquatic life with long lasting effects.
5X RNA^{Maxx} Transcription Buffer H315 H319 H335	Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.
0.75 M DTT H302 H315 H319 H335 H412	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Harmful to aquatic life with long lasting effects.

[Full text of classifications \[CLP/GHS\]](#)

Date of issue/Date of revision : 12/10/2016

SECTION 16: Other information

T7 RNA Polymerase

Acute Tox. 4, H302
 Aquatic Chronic 2, H411
 Eye Dam. 1, H318
 Skin Irrit. 2, H315

ACUTE TOXICITY (oral) - Category 4
 LONG-TERM AQUATIC HAZARD - Category 2
 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
 SKIN CORROSION/IRRITATION - Category 2

5X RNAMaxx Transcription Buffer

Eye Irrit. 2, H319
 Skin Irrit. 2, H315
 STOT SE 3, H335

SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
 SKIN CORROSION/IRRITATION - Category 2
 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE
 (Respiratory tract irritation) - Category 3

0.75 M DTT

Acute Tox. 4, H302
 Aquatic Chronic 3, H412
 Eye Irrit. 2, H319
 Skin Irrit. 2, H315
 STOT SE 3, H335

ACUTE TOXICITY (oral) - Category 4
 LONG-TERM AQUATIC HAZARD - Category 3
 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
 SKIN CORROSION/IRRITATION - Category 2
 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE
 (Respiratory tract irritation) - Category 3

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