SAFETY DATA SHEET
RNAMaxx High Yield Transcription Kit, Part Number 200339

Section 1. Identification

Product identifier: RNAMaxx High Yield Transcription Kit, Part Number 200339
Part No. (Chemical 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

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

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

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

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

Section 2. Hazard(s) identification

Classification of the substance or mixture
- 0.75 M DTT
  - H315 SKIN CORROSION/IRRITATION - Category 2
  - H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage of the mixture consisting of ingredient(s) of unknown toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 mM rGTP</td>
<td>1.3%</td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>4.8%</td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 12/10/2016
Date of previous issue: 09/09/2014
Version: 4

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Section 2. Hazard(s) identification

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 mM rATP</td>
<td>5%</td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>1.3%</td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>4.8%</td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

**GHS label elements**

**Signal word**

- DEPC Treated Water: No signal word.
- T7 RNA Polymerase: No signal word.
- 5X RNAMaxx Transcription Buffer: No signal word.
- 100 mM rATP: No signal word.
- 100 mM rGTP: No signal word.
- 100 mM rUTP: No signal word.
- 100 mM rCTP: No signal word.
- Yeast Pyrophosphatase: 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 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: H319 - Causes serious eye irritation.
- H315 - Causes skin irritation.

**Precautionary statements**

**Prevention**

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

**Response**

- DEPC Treated Water: Not applicable.
- T7 RNA Polymerase: Not applicable.
- 5X RNAMaxx Transcription Buffer: Not applicable.
- 100 mM rATP: Not applicable.
- 100 mM rGTP: Not applicable.
- 100 mM rUTP: Not applicable.
- 100 mM rCTP: Not applicable.
- Yeast Pyrophosphatase: Not applicable.
Section 2. Hazard(s) identification

**RNase Block**
- Not applicable.

- **0.75 M DTT**
  - P302 + P352 + P362 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.

**Storage**:
- DEPC Treated Water Not applicable.
- T7 RNA Polymerase Not applicable.
- 5X RNAMaxx Transcription Buffer Not applicable.
- 100 mM rATP Not applicable.
- 100 mM rGTP Not applicable.
- 100 mM rUTP Not applicable.
- 100 mM rCTP Not applicable.
- Yeast Pyrophosphatase Not applicable.
- RNase Block Not applicable.
- 0.75 M DTT Not applicable.

**Disposal**:
- DEPC Treated Water Not applicable.
- T7 RNA Polymerase Not applicable.
- 5X RNAMaxx Transcription Buffer Not applicable.
- 100 mM rATP Not applicable.
- 100 mM rGTP Not applicable.
- 100 mM rUTP Not applicable.
- 100 mM rCTP Not applicable.
- Yeast Pyrophosphatase Not applicable.
- RNase Block Not applicable.
- 0.75 M DTT Not applicable.

**Supplemental label elements**:
- DEPC Treated Water Not applicable.
- T7 RNA Polymerase Not applicable.
- 5X RNAMaxx Transcription Buffer Not applicable.
- 100 mM rATP Not applicable.
- 100 mM rGTP Not applicable.
- 100 mM rUTP Not applicable.
- 100 mM rCTP Not applicable.
- Yeast Pyrophosphatase Not applicable.
- RNase Block Not applicable.
- 0.75 M DTT Not applicable.

**Other hazards which do not result in classification**:
- DEPC Treated Water None known.
- T7 RNA Polymerase None known.
- 5X RNAMaxx Transcription Buffer None known.
- 100 mM rATP None known.
- 100 mM rGTP None known.
- 100 mM rUTP None known.
- 100 mM rCTP None known.
- Yeast Pyrophosphatase None known.
- RNase Block None known.
- 0.75 M DTT None known.
Section 3. Composition and ingredient information

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Ingredient name</th>
<th>(w/w)</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPC Treated Water</td>
<td>Water</td>
<td>100</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>T7 RNA Polymerase</td>
<td>Glycerol</td>
<td>≥30 - ≤60</td>
<td>56-81-5</td>
</tr>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>Glycerol</td>
<td>≥30 - ≤60</td>
<td>56-81-5</td>
</tr>
<tr>
<td>100 mM rATP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RNase Block</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.75 M DTT</td>
<td>(R*,R*)-1,4-Dimercaptobutane-2,3-diol</td>
<td>≥10 - &lt;20</td>
<td>3483-12-3</td>
</tr>
</tbody>
</table>

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

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

- **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**

<table>
<thead>
<tr>
<th>Substance</th>
<th>First aid measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 mM rCTP</td>
<td>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.</td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>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.</td>
</tr>
<tr>
<td>RNase Block</td>
<td>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.</td>
</tr>
<tr>
<td>0.75 M DTT</td>
<td>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.</td>
</tr>
<tr>
<td>DEPC Treated Water</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>T7 RNA Polymerase</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rATP</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>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.</td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>RNase Block</td>
<td>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
<tr>
<td>0.75 M DTT</td>
<td>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</td>
</tr>
</tbody>
</table>
Section 4. First aid measures

Skin contact:

- **DEPC Treated Water**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **T7 RNA Polymerase**: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- **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.
water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

100 mM rGTP
Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

100 mM rUTP
Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

100 mM rCTP
Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Yeast Pyrophosphatase
Wash out mouth with water. Remove 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.

Most important symptoms/effects, 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 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 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 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.)

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.)

Over-exposure signs/symptoms:

Eye contact:
- DEPC Treated Water (No specific data.)
- T7 RNA Polymerase (No specific data.)
- 5X RNAMaxx Transcription Buffer (No specific data.)
- 100 mM rATP (No specific data.)
- 100 mM rGTP (No specific data.)
- 100 mM rUTP (No specific data.)
- 100 mM rCTP (No specific data.)
- Yeast Pyrophosphatase (No specific data.)
- RNase Block (No specific data.)
- 0.75 M DTT (Adverse symptoms may include the following: pain or irritation, watering, redness.)
Section 4. First aid measures

**Inhalation**

- DEPC Treated Water: No specific data.
- T7 RNA Polymerase: No specific data.
- 5X RNAMaxx Transcription Buffer: No specific data.
- 100 mM rATP: No specific data.
- 100 mM rGTP: No specific data.
- 100 mM rUTP: No specific data.
- 100 mM rCTP: No specific data.
- Yeast Pyrophosphatase: No specific data.
- RNase Block: No specific data.
- 0.75 M DTT: Adverse symptoms may include the following:
  - irritation
  - redness

**Skin contact**

- DEPC Treated Water: No specific data.
- T7 RNA Polymerase: No specific data.
- 5X RNAMaxx Transcription Buffer: No specific data.
- 100 mM rATP: No specific data.
- 100 mM rGTP: No specific data.
- 100 mM rUTP: No specific data.
- 100 mM rCTP: No specific data.
- Yeast Pyrophosphatase: No specific data.
- RNase Block: No specific data.
- 0.75 M DTT: No specific data.

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

- DEPC Treated Water
  - Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- T7 RNA Polymerase
  - Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- 5X RNAMaxx Transcription Buffer
  - In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 100 mM rATP
  - In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 100 mM rGTP
  - In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 100 mM rUTP
  - In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 100 mM rCTP
  - In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Notes to physician:

- DEPC Treated Water: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- T7 RNA Polymerase: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- 5X RNAMaxx Transcription Buffer: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
## Section 4. First aid measures

<table>
<thead>
<tr>
<th>Protection of first-aiders</th>
<th>Specific treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPC Treated Water</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>T7 RNA Polymerase</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>100 mM rATP</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>RNase Block</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>0.75 M DTT</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
</tbody>
</table>

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.

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.

## Section 5. Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

<table>
<thead>
<tr>
<th>Extinguishing media</th>
<th>Suitable extinguishing media</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPC Treated Water</td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
</tr>
<tr>
<td>T7 RNA Polymerase</td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
</tr>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
</tr>
<tr>
<td>100 mM rATP</td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>Use an extinguishing agent suitable for the surrounding fire.</td>
</tr>
</tbody>
</table>

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

Date of previous issue: 09/09/2014

Version: 4

10/34
**Section 5. Firefighting measures**

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

**Specific hazards arising from the chemical**
- DEPC Treated Water: In a fire or if heated, a pressure increase will occur and the container may burst.
- T7 RNA Polymerase: In a fire or if heated, a pressure increase will occur and the container may burst.
- 5X RNAMaxx Transcription Buffer: In a fire or if heated, a pressure increase will occur and the container may burst.
- 100 mM rATP: In a fire or if heated, a pressure increase will occur and the container may burst.
- 100 mM rGTP: In a fire or if heated, a pressure increase will occur and the container may burst.
- 100 mM rUTP: In a fire or if heated, a pressure increase will occur and the container may burst.
- 100 mM rCTP: In a fire or if heated, a pressure increase will occur and the container may burst.
- Yeast Pyrophosphatase: In a fire or if heated, a pressure increase will occur and the container may burst.
- RNase Block: In a fire or if heated, a pressure increase will occur and the container may burst.
- 0.75 M DTT: In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition 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
- 100 mM rGTP: Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - nitrogen oxides
## Section 5. Firefighting measures

<table>
<thead>
<tr>
<th>Substance</th>
<th>Decomposition products may include the following materials:</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 mM rUTP</td>
<td>carbon dioxide, carbon monoxide, nitrogen oxides, phosphorus oxides, metal oxide/oxides</td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>carbon dioxide, carbon monoxide, nitrogen oxides, phosphorus oxides, metal oxide/oxides</td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>carbon dioxide, carbon monoxide, nitrogen oxides, phosphorus oxides, metal oxide/oxides</td>
</tr>
<tr>
<td>RNase Block</td>
<td>carbon dioxide, carbon monoxide, nitrogen oxides, phosphorus oxides, metal oxide/oxides</td>
</tr>
<tr>
<td>0.75 M DTT</td>
<td>carbon dioxide, carbon monoxide, sulfur oxides</td>
</tr>
</tbody>
</table>

**Special protective actions for fire-fighters:**

- **DEPC Treated Water**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- **T7 RNA Polymerase**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- **5X RNAMaxx Transcription Buffer**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- **100 mM rATP**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- **100 mM rGTP**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- **100 mM rUTP**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- **100 mM rCTP**: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- **Yeast Pyrophosphatase**: Promptly isolate the scene by removing all persons 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.
Section 5. Firefighting measures

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

0.75 M DTT
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

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

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

5X RNAMaxx Transcription Buffer
Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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

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

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

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

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

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

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

Section 6. Accidental release measures

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.
Section 6. Accidental release measures

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 on appropriate personal protective equipment.

For emergency responders:

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

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
Section 6. Accidental release measures

Environmental precautions: DEPC Treated Water
Avoid dispersal of spill 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
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
Avoid dispersal of spill 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 spill 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 spill 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 spill 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 spill material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

100 mM rCTP
Avoid dispersal of spill 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
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".
### Section 6. Accidental release measures

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>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). 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.</td>
</tr>
<tr>
<td>RNase Block</td>
<td>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). 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.</td>
</tr>
<tr>
<td>0.75 M DTT</td>
<td>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). 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.</td>
</tr>
<tr>
<td>DEPC Treated Water</td>
<td>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.</td>
</tr>
<tr>
<td>T7 RNA Polymerase</td>
<td>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.</td>
</tr>
<tr>
<td>5X RNAMxx Transcription Buffer</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rATP</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>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.</td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>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.</td>
</tr>
</tbody>
</table>

**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.**
Section 6. Accidental release measures

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

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

Section 7. Handling and storage

**Precautions for safe handling**

<table>
<thead>
<tr>
<th>Protective measures</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPC Treated Water</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>T7 RNA Polymerase</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>100 mM rATP</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>RNase Block</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
<tr>
<td>0.75 M DTT</td>
<td>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.</td>
</tr>
</tbody>
</table>

**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.
Section 7. Handling and storage

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

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

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

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

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.

**Conditions for safe storage, including any incompatibilities**

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

**T7 RNA Polymerase**
Store in accordance with local regulations. Store in
## Section 7. Handling and storage

<table>
<thead>
<tr>
<th>Component</th>
<th>Handling and Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rATP</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>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.</td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>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.</td>
</tr>
</tbody>
</table>
Section 7. Handling and storage

- **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 8. Exposure controls and personal protection

### Control parameters

#### Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>T7 RNA Polymerase</strong></td>
<td>Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
</tr>
<tr>
<td><strong>Yeast Pyrophosphatase</strong></td>
<td>Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
</tr>
<tr>
<td><strong>RNase Block</strong></td>
<td>Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
</tr>
</tbody>
</table>

#### Appropriate engineering controls

- Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

#### Environmental exposure controls

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

#### Individual protection measures

#### Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Section 8. Exposure controls and personal protection

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

Skin protection

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

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

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

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

Section 9. Physical and chemical properties

Appearance

Physical state:

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

Colour:

- DEPC Treated Water: Not available.
- T7 RNA Polymerase: Not available.
- 5X RNAMaxx Transcription Buffer: Not available.
- 100 mM rATP: Not available.
- 100 mM rGTP: Not available.
- 100 mM rUTP: Not available.
- 100 mM rCTP: Not available.
- Yeast Pyrophosphatase: Not available.
- RNase Block: Not available.
- 0.75 M DTT: Not available.

Odour:

- DEPC Treated Water: Not available.
- T7 RNA Polymerase: Not available.
- 5X RNAMaxx Transcription Buffer: Not available.
- 100 mM rATP: Not available.
- 100 mM rGTP: Not available.
- 100 mM rUTP: Not available.
- 100 mM rCTP: Not available.
- Yeast Pyrophosphatase: Not available.
- RNase Block: Not available.
- 0.75 M DTT: Not available.
Section 9. Physical and chemical properties

**Odour threshold**

- **DEPC Treated Water**: Not available.
- **T7 RNA Polymerase**: Not available.
- **5X RNAMaxx Transcription Buffer**: Not available.
- **100 mM rATP**: Not available.
- **100 mM rGTP**: Not available.
- **100 mM rUTP**: Not available.
- **100 mM rCTP**: Not available.
- **Yeast Pyrophosphatase**: Not available.
- **RNase Block**: Not available.
- **0.75 M DTT**: Not available.

**pH**

- **DEPC Treated Water**: Not available.
- **T7 RNA Polymerase**: 7.7
- **5X RNAMaxx Transcription Buffer**: 10
- **100 mM rATP**: 8
- **100 mM rGTP**: 8
- **100 mM rUTP**: 8
- **100 mM rCTP**: 8
- **Yeast Pyrophosphatase**: 7.5
- **RNase Block**: 7.6
- **0.75 M DTT**: Not available.

**Melting point**

- **DEPC Treated Water**: 0°C (32°F)
- **T7 RNA Polymerase**: Not available.
- **5X RNAMaxx Transcription Buffer**: Not available.
- **100 mM rATP**: 0°C (32°F)
- **100 mM rGTP**: 0°C (32°F)
- **100 mM rUTP**: 0°C (32°F)
- **100 mM rCTP**: 0°C (32°F)
- **Yeast Pyrophosphatase**: Not available.
- **RNase Block**: Not available.
- **0.75 M DTT**: Not available.

**Boiling point**

- **DEPC Treated Water**: 100°C (212°F)
- **T7 RNA Polymerase**: Not available.
- **5X RNAMaxx Transcription Buffer**: Not available.
- **100 mM rATP**: 100°C (212°F)
- **100 mM rGTP**: 100°C (212°F)
- **100 mM rUTP**: 100°C (212°F)
- **100 mM rCTP**: 100°C (212°F)
- **Yeast Pyrophosphatase**: Not available.
- **RNase Block**: Not available.
- **0.75 M DTT**: Not available.

**Flash point**

- **DEPC Treated Water**: Not available.
- **T7 RNA Polymerase**: Not available.
- **5X RNAMaxx Transcription Buffer**: Not available.
- **100 mM rATP**: Not available.
- **100 mM rGTP**: Not available.
- **100 mM rUTP**: Not available.
- **100 mM rCTP**: Not available.
- **Yeast Pyrophosphatase**: Not available.
- **RNase Block**: Not available.
- **0.75 M DTT**: Not available.
## Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Component</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaporation rate</td>
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<td>100 mM rCTP</td>
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<td>Yeast Pyrophosphatase</td>
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<td></td>
<td>RNase Block</td>
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</tr>
<tr>
<td></td>
<td>0.75 M DTT</td>
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</tr>
<tr>
<td>Flammability (solid, gas)</td>
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</tr>
<tr>
<td></td>
<td>T7 RNA Polymerase</td>
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<td>5X RNAMxx Transcription Buffer</td>
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</tr>
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</tr>
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<tr>
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<td>100 mM rCTP</td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>RNase Block</td>
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<tr>
<td></td>
<td>0.75 M DTT</td>
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<td>Lower and upper explosive (flammable) limits</td>
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<td>T7 RNA Polymerase</td>
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<tr>
<td></td>
<td>5X RNAMxx Transcription Buffer</td>
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</tr>
<tr>
<td></td>
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</tr>
<tr>
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<td>100 mM rUTP</td>
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</tr>
<tr>
<td></td>
<td>100 mM rCTP</td>
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<tr>
<td></td>
<td>Yeast Pyrophosphatase</td>
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</tr>
<tr>
<td></td>
<td>RNase Block</td>
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<tr>
<td></td>
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<tr>
<td>Vapour pressure</td>
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<td>T7 RNA Polymerase</td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>100 mM rATP</td>
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</tr>
<tr>
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<td>100 mM rGTP</td>
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</tr>
<tr>
<td></td>
<td>100 mM rUTP</td>
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</tr>
<tr>
<td></td>
<td>100 mM rCTP</td>
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<tr>
<td></td>
<td>Yeast Pyrophosphatase</td>
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<tr>
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<td>RNase Block</td>
<td>Not available.</td>
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<tr>
<td></td>
<td>0.75 M DTT</td>
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<td>Vapour density</td>
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<td>T7 RNA Polymerase</td>
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<tr>
<td></td>
<td>5X RNAMxx Transcription Buffer</td>
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</tr>
<tr>
<td></td>
<td>100 mM rATP</td>
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<tr>
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<td>100 mM rGTP</td>
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<td>100 mM rUTP</td>
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<td>100 mM rCTP</td>
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<td></td>
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<tr>
<td></td>
<td>RNase Block</td>
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</tr>
<tr>
<td></td>
<td>0.75 M DTT</td>
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</tbody>
</table>
Section 9. Physical and chemical properties

Relative density:
- DEPC Treated Water: Not available.
- T7 RNA Polymerase: Not available.
- 5X RNAMaxx Transcription Buffer: Not available.
- 100 mM rATP: Not available.
- 100 mM rGTP: Not available.
- 100 mM rUTP: Not available.
- 100 mM rCTP: Not available.
- Yeast Pyrophosphatase: Not available.
- RNase Block: Not available.
- 0.75 M DTT: Not available.

Solubility:
- 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 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 Transcription Buffer: Not available.
- 100 mM rATP: Not available.
- 100 mM rGTP: Not available.
- 100 mM rUTP: Not available.
- 100 mM rCTP: Not available.
- Yeast Pyrophosphatase: Not available.
- RNase Block: Not available.
- 0.75 M DTT: Not available.

Auto-ignition temperature:
- DEPC Treated Water: Not available.
- T7 RNA Polymerase: Not available.
- 5X RNAMaxx Transcription Buffer: Not available.
- 100 mM rATP: Not available.
- 100 mM rGTP: Not available.
- 100 mM rUTP: Not available.
- 100 mM rCTP: Not available.
- Yeast Pyrophosphatase: Not available.
- RNase Block: Not available.
- 0.75 M DTT: Not available.

Decomposition temperature:
- DEPC Treated Water: Not available.
- T7 RNA Polymerase: Not available.
- 5X RNAMaxx Transcription Buffer: Not available.
- 100 mM rATP: Not available.
- 100 mM rGTP: Not available.
- 100 mM rUTP: Not available.
- 100 mM rCTP: Not available.
- Yeast Pyrophosphatase: Not available.
Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Viscosity</th>
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<tr>
<td>5X RNAMaxx Transcription Buffer</td>
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<td></td>
</tr>
<tr>
<td>100 mM rATP</td>
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<td></td>
</tr>
<tr>
<td>100 mM rGTP</td>
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</tr>
<tr>
<td>100 mM rUTP</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>100 mM rCTP</td>
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<td></td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
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<td></td>
</tr>
<tr>
<td>RNase Block</td>
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<td></td>
</tr>
<tr>
<td>0.75 M DTT</td>
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Section 10. Stability and reactivity

<table>
<thead>
<tr>
<th>Reactivity</th>
<th>DEPC Treated Water</th>
<th>No specific test data related to reactivity available for this product or its ingredients.</th>
</tr>
</thead>
<tbody>
<tr>
<td>T7 RNA Polymerase</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
<tr>
<td>100 mM rATP</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
<tr>
<td>RNase Block</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
<tr>
<td>0.75 M DTT</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical stability</th>
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<tbody>
<tr>
<td>T7 RNA Polymerase</td>
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<td></td>
</tr>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>The product is stable.</td>
<td></td>
</tr>
<tr>
<td>100 mM rATP</td>
<td>The product is stable.</td>
<td></td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>The product is stable.</td>
<td></td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>The product is stable.</td>
<td></td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>The product is stable.</td>
<td></td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>The product is stable.</td>
<td></td>
</tr>
<tr>
<td>RNase Block</td>
<td>The product is stable.</td>
<td></td>
</tr>
<tr>
<td>0.75 M DTT</td>
<td>The product is stable.</td>
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</tr>
</tbody>
</table>

<table>
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<tr>
<th>Possibility of hazardous reactions</th>
<th>DEPC Treated Water</th>
<th>Under normal conditions of storage and use, hazardous reactions will not occur.</th>
</tr>
</thead>
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<tr>
<td>T7 RNA Polymerase</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td></td>
</tr>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td></td>
</tr>
<tr>
<td>100 mM rATP</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td></td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td></td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td></td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td></td>
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</tbody>
</table>
## Section 10. Stability and reactivity

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Conditions to avoid</th>
<th>Incompatible materials</th>
<th>Hazardous decomposition products</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPC Treated Water</td>
<td>Under normal conditions of storage and use,</td>
<td>May react or be incompatible with oxidising materials.</td>
<td>Under normal conditions of storage and use,</td>
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<tr>
<td>T7 RNA Polymerase</td>
<td>hazardous reactions will not occur.</td>
<td>May react or be incompatible with oxidising materials.</td>
<td>hazardous decomposition products should not be</td>
</tr>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>No specific data.</td>
<td>May react or be incompatible with oxidising materials.</td>
<td>produced.</td>
</tr>
<tr>
<td>100 mM rATP</td>
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<td>May react or be incompatible with oxidising materials.</td>
<td>Under normal conditions of storage and use,</td>
</tr>
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<td>May react or be incompatible with oxidising materials.</td>
<td>hazardous decomposition products should not be</td>
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<td>100 mM rUTP</td>
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<td>May react or be incompatible with oxidising materials.</td>
<td>produced.</td>
</tr>
<tr>
<td>100 mM rCTP</td>
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<td>May react or be incompatible with oxidising materials.</td>
<td>Under normal conditions of storage and use,</td>
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<td>hazardous decomposition products should not be</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>produced.</td>
</tr>
</tbody>
</table>

**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

**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

**Hazardous decomposition products:**
- 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
### Section 11. Toxicological information

#### Information on toxicological effects

##### Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
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<tbody>
<tr>
<td>T7 RNA Polymerase</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RNase Block</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

##### Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>T7 RNA Polymerase</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>RNase Block</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>Glycerol</td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

##### Sensitisation

Not available.

##### Mutagenicity

Not available.

##### Carcinogenicity

Not available.

##### Reproductive toxicity

Not available.

##### Teratogenicity

Not available.

##### Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
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<tbody>
<tr>
<td>0.75 M DTT (R*,R*)-1,4-Dimercaptobutane-2,3-diol</td>
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<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
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</table>

##### Specific target organ toxicity (repeated exposure)

Not available.

##### Aspiration hazard

Not available.

---

**Date of issue/Date of revision**: 12/10/2016  
**Date of previous issue**: 09/09/2014  
**Version**: 4
### Section 11. Toxicological information

#### Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Substance</th>
<th>Routes of entry anticipated</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPC Treated Water</td>
<td>Oral, Dermal, Inhalation</td>
</tr>
<tr>
<td>T7 RNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>5X RNAMaxx Transcription Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>100 mM rATP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>100 mM rGTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>100 mM rUTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>100 mM rCTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>RNase Block</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
<tr>
<td>0.75 M DTT</td>
<td>Routes of entry anticipated: Oral, Dermal, Inhalation.</td>
</tr>
</tbody>
</table>

#### Potential acute health effects

<table>
<thead>
<tr>
<th>Route</th>
<th>Substance</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>DEPC Treated Water</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>T7 RNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>5X RNAMaxx Transcription Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rATP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rGTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rUTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rCTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Yeast Pyrophosphatase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>RNase Block</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>0.75 M DTT</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td>DEPC Treated Water</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>T7 RNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>5X RNAMaxx Transcription Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rATP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rGTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rUTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rCTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Yeast Pyrophosphatase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>RNase Block</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>0.75 M DTT</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>DEPC Treated Water</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>T7 RNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>5X RNAMaxx Transcription Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rATP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rGTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rUTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rCTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Yeast Pyrophosphatase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>RNase Block</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>0.75 M DTT</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>DEPC Treated Water</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>T7 RNA Polymerase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>5X RNAMaxx Transcription Buffer</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rATP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rGTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rUTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>100 mM rCTP</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>Yeast Pyrophosphatase</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>RNase Block</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td></td>
<td>0.75 M DTT</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

**Symptoms related to the physical, chemical and toxicological characteristics**
### Section 11. Toxicological information

#### Eye contact
- DEPC Treated Water: No specific data.
- T7 RNA Polymerase: No specific data.
- 5X RNAMaxx Transcription Buffer: No specific data.
- 100 mM rATP: No specific data.
- 100 mM rGTP: No specific data.
- 100 mM rUTP: No specific data.
- 100 mM rCTP: No specific data.
- Yeast Pyrophosphatase: No specific data.
- RNase Block: No specific data.
- 0.75 M DTT: Adverse symptoms may include the following: pain or irritation, watering, redness.

#### Inhalation
- DEPC Treated Water: No specific data.
- T7 RNA Polymerase: No specific data.
- 5X RNAMaxx Transcription Buffer: No specific data.
- 100 mM rATP: No specific data.
- 100 mM rGTP: No specific data.
- 100 mM rUTP: No specific data.
- 100 mM rCTP: No specific data.
- Yeast Pyrophosphatase: No specific data.
- RNase Block: No specific data.
- 0.75 M DTT: No specific data.

#### Skin contact
- DEPC Treated Water: No specific data.
- T7 RNA Polymerase: No specific data.
- 5X RNAMaxx Transcription Buffer: No specific data.
- 100 mM rATP: No specific data.
- 100 mM rGTP: No specific data.
- 100 mM rUTP: No specific data.
- 100 mM rCTP: No specific data.
- Yeast Pyrophosphatase: No specific data.
- RNase Block: No specific data.
- 0.75 M DTT: No specific data.

#### Ingestion
- DEPC Treated Water: No specific data.
- T7 RNA Polymerase: No specific data.
- 5X RNAMaxx Transcription Buffer: No specific data.
- 100 mM rATP: No specific data.
- 100 mM rGTP: No specific data.
- 100 mM rUTP: No specific data.
- 100 mM rCTP: No specific data.
- Yeast Pyrophosphatase: No specific data.
- RNase Block: No specific data.
- 0.75 M DTT: No specific data.

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

#### Short term exposure
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

#### Long term exposure
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.
- **Potential chronic health effects**: 

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**Date of issue/Date of revision**: 12/10/2016  
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Section 11. Toxicological information

Not available.

General:
- 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.

Carcinogenicity:
- 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.

Mutagenicity:
- 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.

Teratogenicity:
- 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.

Developmental effects:
- 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.
Section 11. Toxicological information

Fertility effects:
- 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.

Numerical measures of toxicity

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75 M DTT</td>
<td>4310.3 mg/kg</td>
</tr>
</tbody>
</table>

Other information:
- DEPC Treated Water: Not available.
- T7 RNA Polymerase: Not available.
- 5X RNAMaxx Transcription Buffer: Not available.
- 100 mM rATP: Not available.
- 100 mM rGTP: Not available.
- 100 mM rUTP: Not available.
- 100 mM rCTP: Not available.
- Yeast Pyrophosphatase: Not available.
- RNase Block: Not available.
- 0.75 M DTT: Not available.

Section 12. Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>T7 RNA Polymerase</td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td>RNase Block</td>
<td>Acute LC50 54000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td>0.75 M DTT (R*,R*)-1,</td>
<td>Acute LC50 27000 to 30000 μg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td>4-Dimercaptobutane-2,3-diol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPC Treated Water</td>
<td>-</td>
<td>100 % - 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

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Section 12. Ecological information

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPC Treated Water</td>
<td>-1.38</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T7 RNA Polymerase</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yeast Pyrophosphatase</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RNase Block</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mobility in soil

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

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

Section 13. Disposal considerations

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

Section 14. Transport information

Regulatory information

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

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

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

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AICS) : Not determined.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

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Section 15. Regulatory information

Not listed.

Montreal Protocol (Annexes A, B, C, E)
Not listed.

Stockholm Convention on Persistent Organic Pollutants
Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)
Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals
Not listed.

International lists

National inventory

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

Section 16. Any other relevant information

History

Date of issue/Date of revision : 12/10/2016
Date of previous issue : 09/09/2014.
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Key to abbreviations : ADG = Australian Dangerous Goods
         ATE = Acute Toxicity Estimate
         BCF = Bioconcentration Factor
         GHS = Globally Harmonized System of Classification and Labelling of Chemicals
         IATA = International Air Transport Association
         IBC = Intermediate Bulk Container
         IMDG = International Maritime Dangerous Goods
         LogPow = logarithm of the octanol/water partition coefficient
         NOHSC = National Occupational Health and Safety Commission
         SUSMP = Standard Uniform Schedule of Medicine and Poisons
         UN = United Nations

Procedure used to derive the classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75 M DTT Skin Irrit. 2, H315, Eye Irrit. 2A, H319</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

References : Not available.

Indicates information that has changed from previously issued version.
Section 16. Any other relevant information

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