Section 1. Identification

1.1 Product identifier
Product name: AffinityScript Multiple Temperature Reverse Transcriptase, Part Number 600107
Part No. (Chemical Kit): 600107
Part No.: 10X AffinityScript RT Buffer 600100-52
AffinityScript Multi-Temp RT 600107-51
100 mM DTT 600100-53
Validation date: 5/19/2017

1.2 Relevant identified uses of the substance or mixture and uses advised against
Material uses: Analytical reagent.

1.3 Details of the supplier of the safety data sheet
Supplier/Manufacturer: Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

1.4 Emergency telephone number
In case of emergency: CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture
OSHA/HCS status:
10X AffinityScript RT Buffer
AffinityScript Multi-Temp RT
100 mM DTT

Classification of the substance or mixture
10X AffinityScript RT Buffer
EYE IRRITATION - Category 2A
H319

AffinityScript Multi-Temp RT
EYE IRRITATION - Category 2B
H320

Ingredients of unknown toxicity:
10X AffinityScript RT Buffer
AffinityScript Multi-Temp RT

Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 10 - 30%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30%
Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%

Date of issue: 05/19/2017
Section 2. Hazards identification

2.2 GHS label elements

Hazard pictograms: 10X AffinityScript RT Buffer

Signal word: 10X AffinityScript RT Buffer Warning
AffinityScript Multi-Temp RT Warning
100 mM DTT No signal word.

Hazard statements: 10X AffinityScript RT Buffer H319 - Causes serious eye irritation.
AffinityScript Multi-Temp RT H320 - Causes eye irritation.
100 mM DTT No known significant effects or critical hazards.

Precautionary statements

Prevention: 10X AffinityScript RT Buffer P280 - Wear eye or face protection.
AffinityScript Multi-Temp RT P264 - Wash hands thoroughly after handling.
100 mM DTT Not applicable.

Response: 10X AffinityScript RT Buffer 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.
AffinityScript Multi-Temp RT P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.
100 mM DTT Not applicable.

Storage: 10X AffinityScript RT Buffer Not applicable.
AffinityScript Multi-Temp RT Not applicable.
100 mM DTT Not applicable.

Disposal: 10X AffinityScript RT Buffer Not applicable.
AffinityScript Multi-Temp RT Not applicable.
100 mM DTT Not applicable.

Supplemental label elements: 10X AffinityScript RT Buffer None known.
AffinityScript Multi-Temp RT None known.
100 mM DTT None known.

2.3 Other hazards

Hazards not otherwise classified: 10X AffinityScript RT Buffer None known.
AffinityScript Multi-Temp RT None known.
100 mM DTT None known.

Section 3. Composition/information on ingredients

Substance/mixture: 10X AffinityScript RT Buffer Mixture
AffinityScript Multi-Temp RT Mixture
100 mM DTT Mixture

Date of issue: 05/19/2017
Section 3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X AffinityScript RT Buffer</td>
<td>&lt;10</td>
<td>1185-53-1</td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td>≤10</td>
<td>7447-40-7</td>
</tr>
<tr>
<td>AffinityScript Multi-Temp RT</td>
<td>≥50 - ≤75</td>
<td>56-81-5</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact:

- **10X AffinityScript RT Buffer**: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

- **AffinityScript Multi-Temp RT**: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.

- **100 mM DTT**: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation:

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

- **AffinityScript Multi-Temp RT**: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a...
## Section 4. First aid measures

<table>
<thead>
<tr>
<th>Substance</th>
<th>First Aid Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin contact</td>
<td>10X AffinityScript RT Buffer: Wash out mouth with water. 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></td>
<td>AffinityScript Multi-Temp RT: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.</td>
</tr>
<tr>
<td></td>
<td>100 mM DTT: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</td>
</tr>
</tbody>
</table>

**Ingestion**

<table>
<thead>
<tr>
<th>Substance</th>
<th>First Aid Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10X AffinityScript RT Buffer: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. 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.</td>
</tr>
<tr>
<td></td>
<td>AffinityScript Multi-Temp RT: 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.</td>
</tr>
<tr>
<td></td>
<td>100 mM DTT: 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.</td>
</tr>
</tbody>
</table>

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

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## Section 4. First aid measures

### Potential acute health effects

<table>
<thead>
<tr>
<th>Mode</th>
<th>10X AffinityScript RT Buffer</th>
<th>AffinityScript Multi-Temp RT</th>
<th>100 mM DTT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Causes serious eye irritation.</td>
<td>Causes eye irritation.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

### Over-exposure signs/symptoms

<table>
<thead>
<tr>
<th>Mode</th>
<th>10X AffinityScript RT Buffer</th>
<th>AffinityScript Multi-Temp RT</th>
<th>100 mM DTT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Adverse symptoms may include the following: pain or irritation</td>
<td>Adverse symptoms may include the following: irritation</td>
<td>No specific data.</td>
</tr>
<tr>
<td></td>
<td>watering</td>
<td>watering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>redness</td>
<td>redness</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Notes to physician</th>
<th>10X AffinityScript RT Buffer</th>
<th>AffinityScript Multi-Temp RT</th>
<th>100 mM DTT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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>
<td>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
<td>No specific treatment.</td>
</tr>
<tr>
<td></td>
<td>AffinityScript Multi-Temp RT</td>
<td>Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.</td>
<td>No specific treatment.</td>
</tr>
<tr>
<td></td>
<td>100 mM DTT</td>
<td></td>
<td>No specific treatment.</td>
</tr>
</tbody>
</table>

### Specific treatments

<table>
<thead>
<tr>
<th>Specific treatments</th>
<th>10X AffinityScript RT Buffer</th>
<th>AffinityScript Multi-Temp RT</th>
<th>100 mM DTT</th>
</tr>
</thead>
</table>

### Protection of first-aiders

<table>
<thead>
<tr>
<th>Protection of first-aiders</th>
<th>10X AffinityScript RT Buffer</th>
<th>AffinityScript Multi-Temp RT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>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.</td>
<td>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.</td>
</tr>
</tbody>
</table>
Section 4. First aid measures

100 mM DTT
No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT
Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT
None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT
In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT
Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds
metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM 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.

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Section 5. Fire-fighting measures

Special protective equipment for fire-fighters:
- **10X AffinityScript RT Buffer**
  - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- **AffinityScript Multi-Temp RT**
  - 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 DTT**
  - Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:
- **10X AffinityScript RT Buffer**
  - No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- **AffinityScript Multi-Temp RT**
  - No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- **100 mM DTT**
  - No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

For emergency responders:
- **10X AffinityScript RT Buffer**
  - If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- **AffinityScript Multi-Temp RT**
  - If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- **100 mM DTT**
  - If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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### Section 6. Accidental release measures

#### 6.2 Environmental precautions

<table>
<thead>
<tr>
<th>Substance</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X AffinityScript RT Buffer</td>
<td>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
<tr>
<td>AffinityScript Multi-Temp RT</td>
<td>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
<tr>
<td>100 mM DTT</td>
<td>Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Methods for cleaning up</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X AffinityScript RT 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>AffinityScript Multi-Temp RT</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 DTT</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>

### Section 7. Handling and storage

#### 7.1 Precautions for safe handling

<table>
<thead>
<tr>
<th>Protective measures</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X AffinityScript RT Buffer</td>
<td>Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.</td>
</tr>
<tr>
<td>AffinityScript Multi-Temp RT</td>
<td>Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.</td>
</tr>
<tr>
<td>100 mM DTT</td>
<td>Put on appropriate personal protective equipment (see Section 8).</td>
</tr>
</tbody>
</table>
## Section 7. Handling and storage

### Advice on general occupational hygiene

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AffinityScript Multi-Temp RT</td>
<td>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.</td>
</tr>
<tr>
<td>10X AffinityScript RT Buffer</td>
<td>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.</td>
</tr>
<tr>
<td>100 mM DTT</td>
<td>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.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AffinityScript Multi-Temp RT</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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
</tr>
<tr>
<td>10X AffinityScript RT 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
</tr>
<tr>
<td>100 mM DTT</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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
</tr>
</tbody>
</table>

### 7.3 Specific end use(s)

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Section 7. Handling and storage

Recommendations:

- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT

Industrial sector specific solutions:

- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X AffinityScript RT Buffer</td>
<td>None.</td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td>None.</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>None.</td>
</tr>
<tr>
<td>AffinityScript Multi-Temp RT</td>
<td>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td>Glycerol</td>
<td>OSHA PEL (United States, 6/2016). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls:

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

Environmental exposure controls:

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

Individual protection measures

Hygiene measures:

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

Eye/face protection:

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

Skin protection:

- 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.
Section 8. Exposure controls/personal protection

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

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

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

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: 10X AffinityScript RT Buffer Liquid.
AffinityScript Multi-Temp RT Liquid.
100 mM DTT Liquid.

Color: 10X AffinityScript RT Buffer Not available.
AffinityScript Multi-Temp RT Not available.
100 mM DTT Not available.

Odor: 10X AffinityScript RT Buffer Not available.
AffinityScript Multi-Temp RT Not available.
100 mM DTT Not available.

Odor threshold: 10X AffinityScript RT Buffer Not available.
AffinityScript Multi-Temp RT Not available.
100 mM DTT Not available.

pH: 10X AffinityScript RT Buffer 8.3
AffinityScript Multi-Temp RT 8
100 mM DTT Not available.

Melting point: 10X AffinityScript RT Buffer Not available.
AffinityScript Multi-Temp RT Not available.
100 mM DTT Not available.

Boiling point: 10X AffinityScript RT Buffer Not available.
AffinityScript Multi-Temp RT Not available.
100 mM DTT Not available.

Flash point: 10X AffinityScript RT Buffer Not available.
AffinityScript Multi-Temp RT Not available.
100 mM DTT Not available.

Evaporation rate: 10X AffinityScript RT Buffer Not available.
AffinityScript Multi-Temp RT Not available.
100 mM DTT Not available.

Flammability (solid, gas): 10X AffinityScript RT Buffer Not applicable.
AffinityScript Multi-Temp RT Not applicable.
100 mM DTT Not applicable.

Lower and upper explosive (flammable) limits: 10X AffinityScript RT Buffer Not available.
AffinityScript Multi-Temp RT Not available.
100 mM DTT Not available.

Vapor pressure: 10X AffinityScript RT Buffer Not available.
AffinityScript Multi-Temp RT Not available.
100 mM DTT Not available.

Vapor density: 10X AffinityScript RT Buffer Not available.
AffinityScript Multi-Temp RT Not available.
100 mM DTT Not available.

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Section 9. Physical and chemical properties

Relative density:
- 10X AffinityScript RT Buffer: Not available.
- AffinityScript Multi-Temp RT: Not available.
- 100 mM DTT: Not available.

Solubility:
- 10X AffinityScript RT Buffer: Easily soluble in the following materials: cold water and hot water.
- AffinityScript Multi-Temp RT: Soluble in the following materials: cold water and hot water.
- 100 mM DTT: Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water:
- 10X AffinityScript RT Buffer: Not available.
- AffinityScript Multi-Temp RT: Not available.
- 100 mM DTT: Not available.

Auto-ignition temperature:
- 10X AffinityScript RT Buffer: Not available.
- AffinityScript Multi-Temp RT: Not available.
- 100 mM DTT: Not available.

Decomposition temperature:
- 10X AffinityScript RT Buffer: Not available.
- AffinityScript Multi-Temp RT: Not available.
- 100 mM DTT: Not available.

Viscosity:
- 10X AffinityScript RT Buffer: Not available.
- AffinityScript Multi-Temp RT: Not available.
- 100 mM DTT: Not available.

Section 10. Stability and reactivity

10.1 Reactivity:
- 10X AffinityScript RT Buffer: No specific test data related to reactivity available for this product or its ingredients.
- AffinityScript Multi-Temp RT: No specific test data related to reactivity available for this product or its ingredients.
- 100 mM DTT: No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability:
- 10X AffinityScript RT Buffer: The product is stable.
- AffinityScript Multi-Temp RT: The product is stable.
- 100 mM DTT: The product is stable.

10.3 Possibility of hazardous reactions:
- 10X AffinityScript RT Buffer: Under normal conditions of storage and use, hazardous reactions will not occur.
- AffinityScript Multi-Temp RT: Under normal conditions of storage and use, hazardous reactions will not occur.
- 100 mM DTT: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid:
- 10X AffinityScript RT Buffer: No specific data.
- AffinityScript Multi-Temp RT: No specific data.
- 100 mM DTT: No specific data.

10.5 Incompatible materials:
- 10X AffinityScript RT Buffer: May react or be incompatible with oxidizing materials.
- AffinityScript Multi-Temp RT: May react or be incompatible with oxidizing materials.
- 100 mM DTT: May react or be incompatible with oxidizing materials.
Section 10. Stability and reactivity

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT

Section 11. Toxicological information

11.1 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>
</tr>
</thead>
<tbody>
<tr>
<td>10X AffinityScript RT Buffer Potassium chloride</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2600 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>AffinityScript Multi-Temp RT Glycerol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>12600 mg/kg</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>10X AffinityScript RT Buffer Potassium chloride</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>AffinityScript Multi-Temp RT Glycerol</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitization**

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>
</thead>
<tbody>
<tr>
<td>10X AffinityScript RT Buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>10X AffinityScript RT Buffer</th>
<th>AffinityScript Multi-Temp RT</th>
<th>100 mM DTT</th>
</tr>
</thead>
</table>

Potential acute health effects

<table>
<thead>
<tr>
<th>Route</th>
<th>10X AffinityScript RT Buffer</th>
<th>AffinityScript Multi-Temp RT</th>
<th>100 mM DTT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Causes serious eye irritation.</td>
<td>Causes eye irritation.</td>
<td>Not known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

<table>
<thead>
<tr>
<th>Route</th>
<th>10X AffinityScript RT Buffer</th>
<th>AffinityScript Multi-Temp RT</th>
<th>100 mM DTT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Adverse symptoms may include the following: pain or irritation, watering, redness.</td>
<td>Adverse symptoms may include the following: irritation, watering, redness.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>

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

Short term exposure

Potential immediate effects: Not available.

Potential delayed effects: Not available.

Long term exposure

Potential immediate effects: Not available.

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Potential delayed effects: Not available.

Potential chronic health effects:

General:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT
No known significant effects or critical hazards.

Carcinogenicity:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT
No known significant effects or critical hazards.

Mutagenicity:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT
No known significant effects or critical hazards.

Teratogenicity:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT
No known significant effects or critical hazards.

Developmental effects:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM DTT
No known significant effects or critical hazards.

Fertility effects:
- 10X AffinityScript RT Buffer
- AffinityScript Multi-Temp RT
- 100 mM 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>10X AffinityScript RT Buffer</td>
<td>46428.6 mg/kg</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X AffinityScript RT Buffer</td>
<td>Acute EC50 1337000 µg/l Fresh water</td>
<td>Algae - Navicula seminulum</td>
<td>96 hours</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>Acute EC50 9.24 g/L Fresh water</td>
<td>Algae - Desmodesmus subspicatus</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Acute EC50 141460 µg/l Fresh water</td>
<td>Daphnia - Daphnia magna</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 12.92 mg/l Fresh water</td>
<td>Crustaceans - Pseudosida ramosa - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 880000 µg/l Fresh water</td>
<td>Fish - Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td>AffinityScript Multi-Temp RT</td>
<td>Acute LC50 540000 mg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td>96 hours</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X AffinityScript RT Buffer</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Section 12. Ecological information

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X AffinityScript RT Buffer</td>
<td>-0.46</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Potassium chloride</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AffinityScript Multi-Temp RT</td>
<td>-1.76</td>
<td>-</td>
<td>low</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

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

12.5 Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

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

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

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

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

Section 14. Transport information

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

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

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

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Section 15. Regulatory information

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

U.S. Federal regulations:
- **Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)**: Not listed
- **Clean Air Act Section 602 Class I Substances**: Not listed
- **Clean Air Act Section 602 Class II Substances**: Not listed
- **DEA List I Chemicals (Precursor Chemicals)**: Not listed
- **DEA List II Chemicals (Essential Chemicals)**: Not listed

**SARA 302/304**
- **Composition/information on ingredients**: No products were found.

**SARA 304 RQ**: Not applicable.

**SARA 311/312**
- **Classification**: Not determined

**Composition/information on ingredients**

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1, 3-diol hydrochloride</td>
<td>10</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

State regulations
- **Massachusetts**: The following components are listed: GLYCERINE MIST
- **New York**: None of the components are listed.
- **New Jersey**: The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL
- **Pennsylvania**: The following components are listed: 1,2,3-PROPANETRIOL
- **California Prop. 65**: Not available.

International regulations
- **Chemical Weapon Convention List Schedules I, II & III Chemicals**: Not listed.
- **Montreal Protocol (Annexes A, B, C, E)**

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Section 15. Regulatory information

Not listed.

Stockholm Convention on Persistent Organic Pollutants
Not listed.

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

UNECE Aarhus Protocol on POPs and Heavy Metals
Not listed.

Inventory list

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

Section 16. Other information

History

Date of issue: 05/19/2017
Date of previous issue: 03/17/2016.
Version: 5

Indicates information that has changed from previously issued version.

Notice to reader

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