

# SAFETY DATA SHEET



AffinityScript Multiple Temperature Reverse Transcriptase - 10 reactions, Part Number 5190-7277

## Section 1. Identification

### 1.1 Product identifier

**Product name** : AffinityScript Multiple Temperature Reverse Transcriptase - 10 reactions, Part Number 5190-7277

**Part No. (Chemical Kit)** : 5190-7277

**Part No.** : AffinityScript Multi-Temp RT 600105-51  
 10X AffinityScript RT Buffer 600100-52  
 100 mM DTT 600098-53

**Validation date** : 7/29/2016

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

**Material uses** : Analytical reagent.

AffinityScript Multi-Temp RT	0.01 mL (10 reactions)
10X AffinityScript RT Buffer	1.0 mL
100 mM DTT	0.04 mL

### 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** : AffinityScript Multi-Temp RT This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
 10X AffinityScript RT Buffer This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
 100 mM DTT While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

### Classification of the substance or mixture

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

**10X AffinityScript RT Buffer H319** EYE IRRITATION - Category 2A

**Ingredients of unknown toxicity** : AffinityScript Multi-Temp RT Not applicable.  
 10X AffinityScript RT Buffer Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 7.9%  
 100 mM DTT Not applicable.

## Section 2. Hazards identification

### 2.2 GHS label elements

#### Hazard pictograms



#### Signal word

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

Warning  
Warning  
No signal word.

#### Hazard statements

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

H320 - Causes eye irritation.  
GHS SYMBOL - **Exclamation mark** -  
H319 - Causes serious eye irritation.  
No known significant effects or critical hazards.

### Precautionary statements

#### Prevention

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

P264 - Wash hands thoroughly after handling.  
P280 - Wear eye or face protection.  
P264 - Wash hands thoroughly after handling.  
Not applicable.

#### Response

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

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.  
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

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

Not applicable.  
Not applicable.  
Not applicable.

#### Disposal

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

Not applicable.  
Not applicable.  
Not applicable.

#### Supplemental label elements

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

None known.  
None known.  
None known.

### 2.3 Other hazards

#### Hazards not otherwise classified

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

None known.  
None known.  
None known.

## Section 3. Composition/information on ingredients

#### Substance/mixture

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

Mixture  
Mixture  
Mixture

## Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
<b>AffinityScript Multi-Temp RT</b> Glycerol	≥50 - ≤75	56-81-5
<b>10X AffinityScript RT Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride Potassium chloride	<10 ≤10	1185-53-1 7447-40-7
<b>100 mM DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	≤3	3483-12-3

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

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

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

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

<b>Eye contact</b>	: 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.
	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.
	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.
<b>Inhalation</b>	: 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 collar, tie, belt or waistband.
	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

## Section 4. First aid measures

		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 DTT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
<b>Skin contact</b>	: 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.
	10X AffinityScript RT Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	100 mM DTT	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: 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.
	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.
	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.

## Section 4. First aid measures

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

#### Potential acute health effects

<b>Eye contact</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Causes eye irritation. Causes serious eye irritation. No known significant effects or critical hazards.
<b>Inhalation</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

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

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

<b>Notes to physician</b>	: AffinityScript Multi-Temp RT  10X AffinityScript RT Buffer  100 mM DTT	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No specific treatment. No specific treatment. No specific treatment.

## Section 4. First aid measures

<b>Protection of first-aiders</b>	: AffinityScript Multi-Temp RT	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	10X AffinityScript RT Buffer	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	100 mM 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

<b>Suitable extinguishing media</b>	: AffinityScript Multi-Temp RT	Use an extinguishing agent suitable for the surrounding fire.
	10X AffinityScript RT Buffer	Use an extinguishing agent suitable for the surrounding fire.
	100 mM DTT	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: AffinityScript Multi-Temp RT	None known.
	10X AffinityScript RT Buffer	None known.
	100 mM DTT	None known.

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

<b>Specific hazards arising from the chemical</b>	: AffinityScript Multi-Temp RT	In a fire or if heated, a pressure increase will occur and the container may burst.
	10X AffinityScript RT Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	100 mM DTT	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: AffinityScript Multi-Temp RT	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	10X AffinityScript RT Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	100 mM DTT	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides

### 5.3 Advice for firefighters

## Section 5. Fire-fighting measures

<p><b>Special protective actions for fire-fighters</b></p>	<p>: AffinityScript Multi-Temp RT</p> <p>10X AffinityScript RT Buffer</p> <p>100 mM DTT</p>	<p>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.</p> <p>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.</p> <p>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.</p>
<p><b>Special protective equipment for fire-fighters</b></p>	<p>: AffinityScript Multi-Temp RT</p> <p>10X AffinityScript RT Buffer</p> <p>100 mM DTT</p>	<p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p> <p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p> <p>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</p>

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

<p><b>For non-emergency personnel</b></p>	<p>: AffinityScript Multi-Temp RT</p> <p>10X AffinityScript RT Buffer</p> <p>100 mM DTT</p>	<p>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.</p> <p>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.</p> <p>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.</p>
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## Section 6. Accidental release measures

**For emergency responders** : AffinityScript Multi-Temp RT

10X AffinityScript RT Buffer

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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**6.2 Environmental precautions** : AffinityScript Multi-Temp RT

10X AffinityScript RT Buffer

100 mM DTT

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

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

**Methods for cleaning up** : AffinityScript Multi-Temp RT

10X AffinityScript RT Buffer

100 mM 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.

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## Section 7. Handling and storage

### 7.1 Precautions for safe handling



## Section 7. Handling and storage

<b>Protective measures</b>	: AffinityScript Multi-Temp RT	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	10X AffinityScript RT Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	100 mM DTT	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	: AffinityScript Multi-Temp RT	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	10X AffinityScript RT Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	100 mM 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.
<b>7.2 Conditions for safe storage, including any incompatibilities</b>	: AffinityScript Multi-Temp RT	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
	10X AffinityScript RT Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled

## Section 7. Handling and storage

100 mM DTT

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

### 7.3 Specific end use(s)

<b>Recommendations</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not applicable. Not applicable. Not applicable.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<b>AffinityScript Multi-Temp RT</b> Glycerol	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Total dust <b>OSHA PEL (United States, 2/2013).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m <sup>3</sup> 8 hours. Form: Total dust
<b>10X AffinityScript RT Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride Potassium chloride	None. None.
<b>100 mM DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	None.

### 8.2 Exposure controls

<b>Appropriate engineering controls</b>	: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
<b>Environmental exposure controls</b>	: 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

## Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : ✓ Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: ✓ AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Liquid. Liquid. Liquid.
<b>Color</b>	: ✓ AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Odor</b>	: ✓ AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Odor threshold</b>	: ✓ AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>pH</b>	: ✓ AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	8 8.3 Not available.
<b>Melting point</b>	: ✓ AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. 0°C (32°F)
<b>Boiling point</b>	: ✓ AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. 100°C (212°F)

## Section 9. Physical and chemical properties

<b>Flash point</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Evaporation rate</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Flammability (solid, gas)</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not applicable. Not applicable. Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Vapor pressure</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Vapor density</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Relative density</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Solubility</b>	: AffinityScript Multi-Temp RT  10X AffinityScript RT Buffer  100 mM DTT	Soluble in the following materials: cold water and hot water.  Easily soluble in the following materials: cold water and hot water.  Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Auto-ignition temperature</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Decomposition temperature</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.
<b>Viscosity</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Not available. Not available. Not available.

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: AffinityScript Multi-Temp RT  10X AffinityScript RT Buffer  100 mM DTT	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	The product is stable. The product is stable. The product is stable.

## Section 10. Stability and reactivity

<b>10.3 Possibility of hazardous reactions</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No specific data. No specific data. No specific data.
<b>10.5 Incompatible materials</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.
<b>10.6 Hazardous decomposition products</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
AffinityScript Multi-Temp RT Glycerol	LD50 Oral	Rat	12600 mg/kg	-
10X AffinityScript RT Buffer Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
AffinityScript Multi-Temp RT Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-		24 hours 500 milligrams
10X AffinityScript RT Buffer Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

#### Sensitization

Not available.

## Section 11. Toxicological information

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
<b>10X AffinityScript RT Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
<b>100 mM DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

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

Routes of entry anticipated: Oral, Dermal, Inhalation.  
Routes of entry anticipated: Oral, Dermal, Inhalation.  
Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

#### Eye contact

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

Causes eye irritation.  
Causes serious eye irritation.  
No known significant effects or critical hazards.

#### Inhalation

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

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

#### Skin contact

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

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

#### Ingestion

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

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

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

## Section 11. Toxicological information

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

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

<b>General</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Mutagenicity</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: AffinityScript Multi-Temp RT 10X AffinityScript RT Buffer 100 mM DTT	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Route	ATE value
<b>10X AffinityScript RT Buffer</b> Oral	46428.6 mg/kg
<b>100 mM DTT</b> Oral	33333.3 mg/kg

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>AffinityScript Multi-Temp RT</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>10X AffinityScript RT Buffer</b> Potassium chloride	Acute EC50 1337000 µg/l Fresh water Acute EC50 9.24 g/L Fresh water	Algae - Navicula seminulum Algae - Desmodesmus subspicatus	96 hours 72 hours
<b>100 mM DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	Acute EC50 141460 µg/l Fresh water Acute LC50 880000 µg/l Fresh water  Acute LC50 27000 to 30000 µg/l Fresh water	Daphnia - Daphnia magna Fish - Pimephales promelas  Daphnia - Daphnia magna	48 hours 96 hours  48 hours

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>AffinityScript Multi-Temp RT</b> Glycerol	-1.76	-	low
<b>10X AffinityScript RT Buffer</b> Potassium chloride	-0.46	-	low

### 12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

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



## Section 13. Disposal considerations

### 13.1 Waste treatment methods

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

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

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

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

## Section 14. Transport information

### Regulatory information

**DOT / IMDG / IATA** : Not regulated.

## Section 15. Regulatory information

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

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

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

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

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

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

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

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

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

## Section 15. Regulatory information

### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
<b>AffinityScript Multi-Temp RT</b> Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
<b>10X AffinityScript RT Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	<10	No.	No.	No.	Yes.	No.
Potassium chloride	≤10	No.	No.	No.	Yes.	No.
<b>100 mM DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	≤3	No.	No.	No.	Yes.	No.

### State regulations

- Massachusetts** : The following components are listed: GLYCERINE MIST
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: GLYCERIN; 1,2,3-PROPANETRIOL
- Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL
- California Prop. 65**

No products were found.

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

### International regulations

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

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

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

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

## Section 16. Other information

### History

**Date of issue** : 07/29/2016  
**Date of previous issue** : 07/25/2013.  
**Version** : 2

✓ Indicates information that has changed from previously issued version.

### Notice to reader

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