

SAFETY DATA SHEET



LowInput QuickAmp Labeling Kit - No Dye, Part Number 5190-2308

Section 1. Identification

1.1 Product identifier

Product name	: LowInput QuickAmp Labeling Kit - No Dye, Part Number 5190-2308	
Part No. (Chemical Kit)	: 5190-2308	
Part No.	:	
	<input checked="" type="checkbox"/> Nuclease-Free Water	5190-2328
	T7 Primer	5190-2320
	5X First Strand Buffer	5190-2321
	0.1 M DTT	5190-2322
	10 mM dNTP Mix	5190-2323
	AffinityScript RT RNase Block Mix	5190-2324
	NTP Mix	5190-2326
	5x Transcription Buffer	5190-2325
	T7 RNA Polymerase Blend	5190-2327

Validation date : 2/23/2016

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

Material uses	:	Analytical reagent.
	<input checked="" type="checkbox"/>	Nuclease-Free Water 250 µl
		T7 Primer 24 µl
		5X First Strand Buffer 100 µl
		0.1 M DTT 70 µl
		10 mM dNTP Mix 20 µl
		AffinityScript RT RNase Block Mix 36 µl
		NTP Mix 35 µl
		5x Transcription Buffer 160 µl
		T7 RNA Polymerase Blend 10 µl

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	:	<input checked="" type="checkbox"/> Nuclease-Free Water	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.
		T7 Primer	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.
		5X First Strand Buffer	While this material is not considered hazardous by the

Section 2. Hazards identification

0.1 M DTT	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.
10 mM dNTP Mix	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.
AffinityScript RT RNase Block Mix NTP Mix	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.
5x Transcription Buffer	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
T7 RNA Polymerase Blend	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

AffinityScript RT RNase Block Mix
H320

EYE IRRITATION - Category 2B

5x Transcription Buffer
H319

EYE IRRITATION - Category 2A

T7 RNA Polymerase Blend
H320

EYE IRRITATION - Category 2B

Ingredients of unknown toxicity

: Nuclease-Free Water	Not applicable.
T7 Primer	Not applicable.
5X First Strand Buffer	Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 59%
0.1 M DTT	Not applicable.
10 mM dNTP Mix	Not applicable.
AffinityScript RT RNase Block Mix NTP Mix	Not applicable.
5x Transcription Buffer	Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 4%
T7 RNA Polymerase Blend	Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 1.7%
	Not applicable.

2.2 GHS label elements

Section 2. Hazards identification

Hazard pictograms



Signal word

: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No signal word. No signal word. No signal word. No signal word. No signal word. Warning No signal word. Warning Warning
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Hazard statements

: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. H320 - Causes eye irritation. No known significant effects or critical hazards. GHS SYMBOL - Exclamation mark - H319 - Causes serious eye irritation. H320 - Causes eye irritation.
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Precautionary statements

Prevention

: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. P264 - Wash hands thoroughly after handling. Not applicable. P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling. P264 - Wash hands thoroughly after handling.
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Response

: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention. Not applicable. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. 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
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Section 2. Hazards identification

Storage	: Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	attention. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Disposal	: Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Supplemental label elements	: Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	None known. None known. None known. None known. None known. None known. None known. None known. None known.
 2.3 Other hazards		
Hazards not otherwise classified	: Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	None known. None known. None known. None known. None known. None known. None known. None known. None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	Mixture Mixture Mixture Mixture Mixture Mixture Mixture Mixture Mixture
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Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
Nuclease-Free Water Water	100	7732-18-5
5X First Strand Buffer Potassium chloride	≤3	7447-40-7
AffinityScript RT RNase Block Mix Glycerol	≥50 - ≤75	56-81-5
NTP Mix rATP	≤3	-
5x Transcription Buffer Polyethylene glycol	≥10 - ≤25	25322-68-3
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	≤3	1185-53-1
T7 RNA Polymerase Blend Glycerol	≥50 - ≤75	56-81-5

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	:	Nuclease-Free 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 Primer	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 First Strand 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.
		0.1 M 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.
		10 mM dNTP Mix	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.
		AffinityScript RT RNase Block Mix	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.
		NTP Mix	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 Transcription Buffer	Immediately flush eyes with plenty of water,

Section 4. First aid measures

Inhalation

		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.
	T7 RNA Polymerase Blend	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.
	: Nuclease-Free Water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	T7 Primer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	5X First Strand Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	0.1 M DTT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	10 mM dNTP Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	AffinityScript RT RNase Block Mix	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.
	NTP Mix	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.
	5x Transcription 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.

Section 4. First aid measures

	T7 RNA Polymerase Blend	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.
Skin contact	: Nuclease-Free Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	T7 Primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	5X First Strand Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	0.1 M DTT	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	10 mM dNTP Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	AffinityScript RT RNase Block Mix	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.
	NTP Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	5x Transcription 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.
	T7 RNA Polymerase Blend	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.
	Ingestion	: Nuclease-Free Water
T7 Primer		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

5X First Strand 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.
0.1 M 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.
10 mM dNTP Mix	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.
AffinityScript RT RNase Block Mix	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.
NTP Mix	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 Transcription 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,

Section 4. First aid measures

T7 RNA Polymerase Blend

belt or waistband.

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. Causes eye irritation. No known significant effects or critical hazards. Causes serious eye irritation. Causes eye irritation.
Inhalation	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact	:	☑ Nuclease-Free Water	No specific data.
		T7 Primer	No specific data.
		5X First Strand Buffer	No specific data.
		0.1 M DTT	No specific data.
		10 mM dNTP Mix	No specific data.
		AffinityScript RT RNase Block Mix	Adverse symptoms may include the following: irritation watering redness
		NTP Mix	No specific data.
		5x Transcription Buffer	Adverse symptoms may include the following: pain or irritation watering redness
		T7 RNA Polymerase Blend	Adverse symptoms may include the following: irritation watering redness
Inhalation	:	☑ Nuclease-Free Water	No specific data.
		T7 Primer	No specific data.
		5X First Strand Buffer	No specific data.
		0.1 M DTT	No specific data.
		10 mM dNTP Mix	No specific data.
		AffinityScript RT RNase Block Mix	No specific data.
		NTP Mix	No specific data.
5x Transcription Buffer	No specific data.		
		T7 RNA Polymerase Blend	No specific data.
Skin contact	:	☑ Nuclease-Free Water	No specific data.
		T7 Primer	No specific data.
		5X First Strand Buffer	No specific data.
		0.1 M DTT	No specific data.
		10 mM dNTP Mix	No specific data.
		AffinityScript RT RNase Block Mix	No specific data.
		NTP Mix	No specific data.
5x Transcription Buffer	No specific data.		
		T7 RNA Polymerase Blend	No specific data.
Ingestion	:	☑ Nuclease-Free Water	No specific data.
		T7 Primer	No specific data.
		5X First Strand Buffer	No specific data.
		0.1 M DTT	No specific data.
		10 mM dNTP Mix	No specific data.
		AffinityScript RT RNase Block Mix	No specific data.
		NTP Mix	No specific data.
5x Transcription Buffer	No specific data.		
		T7 RNA Polymerase Blend	No specific data.

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

Notes to physician	:	☑ Nuclease-Free Water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		T7 Primer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		5X First Strand Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		0.1 M DTT	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been

Section 4. First aid measures

	10 mM dNTP Mix	ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	AffinityScript RT RNase Block Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	NTP Mix	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.
	5x 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.
	T7 RNA Polymerase Blend	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Nuclease-Free Water	No specific treatment.
	T7 Primer	No specific treatment.
	5X First Strand Buffer	No specific treatment.
	0.1 M DTT	No specific treatment.
	10 mM dNTP Mix	No specific treatment.
	AffinityScript RT RNase Block Mix	No specific treatment.
	NTP Mix	No specific treatment.
	5x Transcription Buffer	No specific treatment.
	T7 RNA Polymerase Blend	No specific treatment.
Protection of first-aiders	: Nuclease-Free Water	No action shall be taken involving any personal risk or without suitable training.
	T7 Primer	No action shall be taken involving any personal risk or without suitable training.
	5X First Strand Buffer	No action shall be taken involving any personal risk or without suitable training.
	0.1 M DTT	No action shall be taken involving any personal risk or without suitable training.
	10 mM dNTP Mix	No action shall be taken involving any personal risk or without suitable training.
	AffinityScript RT RNase Block Mix	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.
	NTP Mix	No action shall be taken involving any personal risk or without suitable training.
	5x Transcription 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.
	T7 RNA Polymerase Blend	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	☑ Nuclease-Free Water	Use an extinguishing agent suitable for the surrounding fire.
		T7 Primer	Use an extinguishing agent suitable for the surrounding fire.
		5X First Strand Buffer	Use an extinguishing agent suitable for the surrounding fire.
		0.1 M DTT	Use an extinguishing agent suitable for the surrounding fire.
		10 mM dNTP Mix	Use an extinguishing agent suitable for the surrounding fire.
		AffinityScript RT RNase Block Mix	Use an extinguishing agent suitable for the surrounding fire.
		NTP Mix	Use an extinguishing agent suitable for the surrounding fire.
		5x Transcription Buffer	Use an extinguishing agent suitable for the surrounding fire.
		T7 RNA Polymerase Blend	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	☑ Nuclease-Free Water	None known.
		T7 Primer	None known.
		5X First Strand Buffer	None known.
		0.1 M DTT	None known.
		10 mM dNTP Mix	None known.
		AffinityScript RT RNase Block Mix	None known.
		NTP Mix	None known.
		5x Transcription Buffer	None known.
		T7 RNA Polymerase Blend	None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	:	☑ Nuclease-Free Water	In a fire or if heated, a pressure increase will occur and the container may burst.
		T7 Primer	In a fire or if heated, a pressure increase will occur and the container may burst.
		5X First Strand Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
		0.1 M DTT	In a fire or if heated, a pressure increase will occur and the container may burst.
		10 mM dNTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
		AffinityScript RT RNase Block Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
		NTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
		5x Transcription Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
		T7 RNA Polymerase Blend	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	:	☑ Nuclease-Free Water	No specific data.
		T7 Primer	No specific data.
		5X First Strand Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
		0.1 M DTT	No specific data.

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10 mM dNTP Mix	No specific data.
AffinityScript RT RNase Block Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide
NTP Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
5x Transcription Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds
T7 RNA Polymerase Blend	Decomposition products may include the following materials: carbon dioxide carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters

☑ Nuclease-Free 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 Primer	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 First Strand 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.
0.1 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.
10 mM dNTP Mix	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.
AffinityScript RT RNase Block Mix	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.
NTP Mix	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 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.
T7 RNA Polymerase Blend	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

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters

: Nuclease-Free Water

without suitable training.

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

T7 Primer

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

5X First Strand Buffer

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

0.1 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.

10 mM dNTP Mix

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

AffinityScript RT RNase Block Mix

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

NTP Mix

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

5x 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.

T7 RNA Polymerase Blend

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

: Nuclease-Free 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 spilled material. Put on appropriate personal protective equipment.


T7 Primer

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.

5X First Strand 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. Put on appropriate personal protective equipment.


Section 6. Accidental release measures

0.1 M DTT	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
10 mM dNTP Mix	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.
AffinityScript RT RNase Block Mix	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.
NTP Mix	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.
5x 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
T7 RNA Polymerase Blend	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders :  Nuclease-Free Water	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".
T7 Primer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
5X First Strand 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".
0.1 M DTT	If specialized clothing is required to deal with the spillage, take note of any information in Section 8

Section 6. Accidental release measures

10 mM dNTP Mix	on suitable and unsuitable materials. See also the information in "For non-emergency personnel". If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
AffinityScript RT RNase Block Mix	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".
NTP Mix	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
5x Transcription Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
T7 RNA Polymerase Blend	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".

6.2 Environmental precautions

:  Nuclease-Free Water	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
T7 Primer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
5X First Strand Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
0.1 M DTT	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
10 mM dNTP Mix	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).
AffinityScript RT RNase Block Mix	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).
NTP Mix	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
5x Transcription Buffer	Avoid dispersal of spilled material and runoff and

Section 6. Accidental release measures

T7 RNA Polymerase Blend	<p>contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</p> <p>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).</p>
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6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Nuclease-Free Water

T7 Primer	<p>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.</p> <p>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.</p>
5X First Strand Buffer	<p>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.</p>
0.1 M DTT	<p>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.</p>
10 mM dNTP Mix	<p>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.</p>
AffinityScript RT RNase Block Mix	<p>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.</p>
NTP Mix	<p>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.</p>
5x Transcription Buffer	<p>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.</p>

Section 6. Accidental release measures

T7 RNA Polymerase Blend

disposal contractor.

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

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures

: Nuclease-Free Water

Put on appropriate personal protective equipment (see Section 8).

T7 Primer

Put on appropriate personal protective equipment (see Section 8).

5X First Strand Buffer

Put on appropriate personal protective equipment (see Section 8).

0.1 M DTT

Put on appropriate personal protective equipment (see Section 8).

10 mM dNTP Mix

Put on appropriate personal protective equipment (see Section 8).

AffinityScript RT RNase Block Mix

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.

NTP Mix

Put on appropriate personal protective equipment (see Section 8).

5x Transcription 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.

T7 RNA Polymerase Blend

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.

Advice on general occupational hygiene

: Nuclease-Free 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 Primer

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

Section 7. Handling and storage

5X First Strand Buffer	before entering eating areas. See also Section 8 for additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
0.1 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.
10 mM dNTP Mix	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.
AffinityScript RT RNase Block Mix	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.
NTP Mix	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 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.
T7 RNA Polymerase Blend	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

7.2 Conditions for safe storage, including any incompatibilities

: Nuclease-Free 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

T7 Primer

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

5X First Strand Buffer

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

0.1 M DTT

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

10 mM dNTP Mix

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.

AffinityScript RT RNase Block Mix

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

Section 7. Handling and storage

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

7.3 Specific end use(s)

Recommendations

: <input checked="" type="checkbox"/> Nuclease-Free Water	Industrial applications, Professional applications.
T7 Primer	Industrial applications, Professional applications.
5X First Strand Buffer	Industrial applications, Professional applications.
0.1 M DTT	Industrial applications, Professional applications.
10 mM dNTP Mix	Industrial applications, Professional applications.
AffinityScript RT RNase Block Mix	Industrial applications, Professional applications.
NTP Mix	Industrial applications, Professional applications.
5x Transcription Buffer	Industrial applications, Professional applications.
T7 RNA Polymerase Blend	Industrial applications, Professional applications.

Industrial sector specific solutions

: <input checked="" type="checkbox"/> Nuclease-Free Water	Not applicable.
T7 Primer	Not applicable.
5X First Strand Buffer	Not applicable.
0.1 M DTT	Not applicable.
10 mM dNTP Mix	Not applicable.
AffinityScript RT RNase Block Mix	Not applicable.
NTP Mix	Not applicable.
5x Transcription Buffer	Not applicable.
T7 RNA Polymerase Blend	Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
5X First Strand Buffer Potassium chloride	None.
AffinityScript RT RNase Block Mix Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction
NTP Mix rATP	TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 2/2013). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust
5x Transcription Buffer Polyethylene glycol	None.
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	AIHA WEEL (United States, 5/2010). TWA: 10 mg/m ³ 8 hours. Form: Aerosol None.
T7 RNA Polymerase Blend Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 2/2013). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust

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

Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: <input checked="" type="checkbox"/> Nuclease-Free Water	Liquid.
	T7 Primer	Liquid.
	5X First Strand Buffer	Liquid.
	0.1 M DTT	Liquid.
	10 mM dNTP Mix	Liquid.
	AffinityScript RT RNase Block Mix	Liquid.
	NTP Mix	Liquid.
	5x Transcription Buffer	Liquid.
Color	: <input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	AffinityScript RT RNase Block Mix	Not available.
	NTP Mix	Not available.
	5x Transcription Buffer	Not available.
Odor	: <input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	AffinityScript RT RNase Block Mix	Not available.
	NTP Mix	Not available.
	5x Transcription Buffer	Not available.
Odor threshold	: <input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	AffinityScript RT RNase Block Mix	Not available.
	NTP Mix	Not available.
	5x Transcription Buffer	Not available.

Section 9. Physical and chemical properties

pH	:	T7 RNA Polymerase Blend	Not available.
	:	<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		AffinityScript RT RNase Block Mix	Not available.
		NTP Mix	Not available.
		5x Transcription Buffer	Not available.
Melting point	:	T7 RNA Polymerase Blend	Not available.
	:	<input checked="" type="checkbox"/> Nuclease-Free Water	0°C (32°F)
		T7 Primer	0°C (32°F)
		5X First Strand Buffer	Not available.
		0.1 M DTT	0°C (32°F)
		10 mM dNTP Mix	0°C (32°F)
		AffinityScript RT RNase Block Mix	Not available.
		NTP Mix	0°C (32°F)
		5x Transcription Buffer	Not available.
Boiling point	:	T7 RNA Polymerase Blend	Not available.
	:	<input checked="" type="checkbox"/> Nuclease-Free Water	100°C (212°F)
		T7 Primer	100°C (212°F)
		5X First Strand Buffer	Not available.
		0.1 M DTT	100°C (212°F)
		10 mM dNTP Mix	100°C (212°F)
		AffinityScript RT RNase Block Mix	Not available.
		NTP Mix	100°C (212°F)
		5x Transcription Buffer	Not available.
Flash point	:	T7 RNA Polymerase Blend	Not available.
	:	<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		AffinityScript RT RNase Block Mix	Not available.
		NTP Mix	Not available.
		5x Transcription Buffer	Not available.
Evaporation rate	:	T7 RNA Polymerase Blend	Not available.
	:	<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		AffinityScript RT RNase Block Mix	Not available.
		NTP Mix	Not available.
		5x Transcription Buffer	Not available.
Flammability (solid, gas)	:	T7 RNA Polymerase Blend	Not available.
	:	<input checked="" type="checkbox"/> Nuclease-Free Water	Not applicable.
		T7 Primer	Not applicable.
		5X First Strand Buffer	Not applicable.
		0.1 M DTT	Not applicable.
		10 mM dNTP Mix	Not applicable.
		AffinityScript RT RNase Block Mix	Not applicable.
		NTP Mix	Not applicable.
		5x Transcription Buffer	Not applicable.
	T7 RNA Polymerase Blend	Not applicable.	

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits	:	☑ Nuclease-Free Water	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		AffinityScript RT RNase Block Mix	Not available.
		NTP Mix	Not available.
		5x Transcription Buffer	Not available.
		T7 RNA Polymerase Blend	Not available.
Vapor pressure	:	☑ Nuclease-Free Water	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		AffinityScript RT RNase Block Mix	Not available.
		NTP Mix	Not available.
		5x Transcription Buffer	Not available.
		T7 RNA Polymerase Blend	Not available.
Vapor density	:	☑ Nuclease-Free Water	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		AffinityScript RT RNase Block Mix	Not available.
		NTP Mix	Not available.
		5x Transcription Buffer	Not available.
		T7 RNA Polymerase Blend	Not available.
Relative density	:	☑ Nuclease-Free Water	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		AffinityScript RT RNase Block Mix	Not available.
		NTP Mix	Not available.
		5x Transcription Buffer	Not available.
		T7 RNA Polymerase Blend	Not available.
Solubility	:	☑ Nuclease-Free Water	Easily soluble in the following materials: cold water and hot water.
		T7 Primer	Easily soluble in the following materials: cold water and hot water.
		5X First Strand Buffer	Soluble in the following materials: cold water and hot water.
		0.1 M DTT	Easily soluble in the following materials: cold water and hot water.
		10 mM dNTP Mix	Easily soluble in the following materials: cold water and hot water.
		AffinityScript RT RNase Block Mix	Soluble in the following materials: cold water and hot water.
		NTP Mix	Easily soluble in the following materials: cold water and hot water.
		5x Transcription Buffer	Easily soluble in the following materials: cold water and hot water.
		T7 RNA Polymerase Blend	Soluble in the following materials: cold water and hot water.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water	<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	AffinityScript RT RNase Block Mix	Not available.
	NTP Mix	Not available.
	5x Transcription Buffer	Not available.
Auto-ignition temperature	<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	AffinityScript RT RNase Block Mix	Not available.
	NTP Mix	Not available.
	5x Transcription Buffer	Not available.
Decomposition temperature	<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	AffinityScript RT RNase Block Mix	Not available.
	NTP Mix	Not available.
	5x Transcription Buffer	Not available.
Viscosity	<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	AffinityScript RT RNase Block Mix	Not available.
	NTP Mix	Not available.
	5x Transcription Buffer	Not available.
T7 RNA Polymerase Blend	Not available.	

Section 10. Stability and reactivity

10.1 Reactivity	<input checked="" type="checkbox"/> Nuclease-Free Water	No specific test data related to reactivity available for this product or its ingredients.
	T7 Primer	No specific test data related to reactivity available for this product or its ingredients.
	5X First Strand Buffer	No specific test data related to reactivity available for this product or its ingredients.
	0.1 M DTT	No specific test data related to reactivity available for this product or its ingredients.
	10 mM dNTP Mix	No specific test data related to reactivity available for this product or its ingredients.
	AffinityScript RT RNase Block Mix	No specific test data related to reactivity available for this product or its ingredients.
	NTP Mix	No specific test data related to reactivity available for this product or its ingredients.
	5x Transcription Buffer	No specific test data related to reactivity available for this product or its ingredients.
	T7 RNA Polymerase Blend	No specific test data related to reactivity available for this product or its ingredients.

Section 10. Stability and reactivity

10.2 Chemical stability	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
10.5 Incompatible materials	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.

Section 10. Stability and reactivity

10.6 Hazardous decomposition products	: Nuclease-Free Water	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	T7 Primer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	5X First Strand Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	0.1 M DTT	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	10 mM dNTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	AffinityScript RT RNase Block Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	NTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	5x Transcription Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	T7 RNA Polymerase Blend	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
5X First Strand Buffer Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
AffinityScript RT RNase Block Mix Glycerol	LD50 Oral	Rat	12600 mg/kg	-
T7 RNA Polymerase Blend Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
5X First Strand Buffer Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
AffinityScript RT RNase Block Mix Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Section 11. Toxicological information

5x Transcription Buffer Polyethylene glycol	Eyes - Mild irritant	Rabbit	-	-	-
	Skin - Mild irritant	Rabbit	-	-	-
T7 RNA Polymerase Blend Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
5x Transcription Buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	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

<input checked="" type="checkbox"/> Nuclease-Free Water	Not available.
T7 Primer	Not available.
5X First Strand Buffer	Not available.
0.1 M DTT	Not available.
10 mM dNTP Mix	Not available.
AffinityScript RT RNase Block Mix	Routes of entry anticipated: Oral, Dermal, Inhalation.
NTP Mix	Not available.
5x Transcription Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
T7 RNA Polymerase Blend	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Section 11. Toxicological information

Eye contact	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. Causes eye irritation. No known significant effects or critical hazards. Causes serious eye irritation. Causes eye irritation.
Inhalation	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: <input checked="" type="checkbox"/> Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No specific data. No specific data. No specific data. No specific data. No specific data. Adverse symptoms may include the following: irritation watering redness No specific data. Adverse symptoms may include the following: pain or irritation watering redness Adverse symptoms may include the following: irritation watering redness
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Section 11. Toxicological information

Inhalation	:	☑ Nuclease-Free Water	No specific data.
		T7 Primer	No specific data.
		5X First Strand Buffer	No specific data.
		0.1 M DTT	No specific data.
		10 mM dNTP Mix	No specific data.
		AffinityScript RT RNase Block Mix	No specific data.
		NTP Mix	No specific data.
		5x Transcription Buffer	No specific data.
Skin contact	:	☑ Nuclease-Free Water	No specific data.
		T7 Primer	No specific data.
		5X First Strand Buffer	No specific data.
		0.1 M DTT	No specific data.
		10 mM dNTP Mix	No specific data.
		AffinityScript RT RNase Block Mix	No specific data.
		NTP Mix	No specific data.
		5x Transcription Buffer	No specific data.
Ingestion	:	☑ Nuclease-Free Water	No specific data.
		T7 Primer	No specific data.
		5X First Strand Buffer	No specific data.
		0.1 M DTT	No specific data.
		10 mM dNTP Mix	No specific data.
		AffinityScript RT RNase Block Mix	No specific data.
		NTP Mix	No specific data.
		5x Transcription Buffer	No specific data.
	T7 RNA Polymerase Blend	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

General	:	☑ Nuclease-Free Water	No known significant effects or critical hazards.
		T7 Primer	No known significant effects or critical hazards.
		5X First Strand Buffer	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		AffinityScript RT RNase Block Mix	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		5x Transcription Buffer	No known significant effects or critical hazards.
Carcinogenicity	:	☑ Nuclease-Free Water	No known significant effects or critical hazards.
		T7 Primer	No known significant effects or critical hazards.
		5X First Strand Buffer	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		AffinityScript RT RNase Block Mix	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		5x Transcription Buffer	No known significant effects or critical hazards.

Section 11. Toxicological information

Mutagenicity	: T7 RNA Polymerase Blend Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: T7 RNA Polymerase Blend Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: T7 RNA Polymerase Blend Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: T7 RNA Polymerase Blend Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 5x Transcription Buffer T7 RNA Polymerase Blend	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
5X First Strand Buffer Oral	37935.9 mg/kg

Section 12. Ecological information

12.1 Toxicity

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
5X First Strand Buffer 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
AffinityScript RT RNase Block Mix Glycerol	Acute EC50 141460 µg/l Fresh water Acute LC50 880000 µg/l Fresh water	Daphnia - Daphnia magna Fish - Pimephales promelas	48 hours 96 hours
5x Transcription Buffer Polyethylene glycol	Acute LC50 >1000000 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
T7 RNA Polymerase Blend Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Salmo salar - Parr	96 hours
		Fish - Oncorhynchus mykiss	96 hours

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
5X First Strand Buffer Potassium chloride	-0.46	-	low
AffinityScript RT RNase Block Mix Glycerol	-1.76	-	low
T7 RNA Polymerase Blend Glycerol	-1.76	-	low

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.

Section 13. Disposal considerations

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

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

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

Section 14. Transport information

Regulatory information

DOT / IMDG / IATA : Not regulated.

Section 15. Regulatory information

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

U.S. Federal regulations : **TSCA 8(a) PAIR**: Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-; Polyoxyethylene octyl phenyl ether
 United States inventory (TSCA 8b): Not determined.
Clean Water Act (CWA) 311: Edetic acid

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

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard

Section 15. Regulatory information

5X First Strand Buffer Potassium chloride	≤3	No.	No.	No.	Yes.	No.
AffinityScript RT RNase Block Mix Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
NTP Mix rATP	≤3	No.	No.	No.	Yes.	No.
5x Transcription Buffer Polyethylene glycol	≥10 - ≤25	Yes.	No.	No.	Yes.	No.
2-Amino-2-(hydroxymethyl)propane-1, 3-diol hydrochloride	≤3	No.	No.	No.	Yes.	No.
T7 RNA Polymerase Blend Glycerol	≥50 - ≤75	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** : Not determined.

International regulations

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

- Chemical Weapons** : Not listed

Convention List Schedule I Chemicals

- Chemical Weapons** : Not listed

Convention List Schedule II Chemicals

- Chemical Weapons** : Not listed

Convention List Schedule III Chemicals

Section 16. Other information

History

Date of issue : 02/23/2016

Date of previous issue : 01/13/2014.

Version : 4

✔ Indicates information that has changed from previously issued version.

Notice to reader

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