

SAFETY DATA SHEET



LowInput QuickAmp Labeling Kit, Cy5

Section 1. Identification

1.1 Product identifier

Product name : LowInput QuickAmp Labeling Kit, Cy5

Part no. (chemical kit) : 5190-2307

Part no. :

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
Cyanine-5-CTP	5190-2330

Validation date : 5/23/2024

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

Identified uses :

- Analytical reagent.

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
Cyanine-5-CTP	8 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.

Section 2. Hazards identification

5X First Strand Buffer	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.
0.1 M 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.
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	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). 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	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 RNA Polymerase Blend	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Cyanine-5-CTP	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 RT RNase Block Mix

H320 EYE IRRITATION - Category 2B

T7 RNA Polymerase Blend

H320 EYE IRRITATION - Category 2B

5X First Strand Buffer	Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 59%
NTP Mix	Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 2.9%

2.2 GHS label elements

Signal word :

Section 2. Hazards identification

	<ul style="list-style-type: none"> ☑ 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 Cyanine-5-CTP 	<ul style="list-style-type: none"> No signal word. No signal word. No signal word. No signal word. No signal word. Warning No signal word. No signal word. Warning No signal word.
Hazard statements	<ul style="list-style-type: none"> : ☑ 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 Cyanine-5-CTP 	<ul style="list-style-type: none"> 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. No known significant effects or critical hazards. H320 - Causes eye irritation. No known significant effects or critical hazards.
Precautionary statements		
Prevention	<ul style="list-style-type: none"> : ☑ 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 Cyanine-5-CTP 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Response	<ul style="list-style-type: none"> : ☑ Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix <ul style="list-style-type: none"> NTP Mix 5X Transcription Buffer T7 RNA Polymerase Blend 	<ul style="list-style-type: none"> 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 advice or attention. 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 advice or attention.
Storage	<ul style="list-style-type: none"> Cyanine-5-CTP : ☑ 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 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.

Section 2. Hazards identification

	T7 RNA Polymerase Blend	Not applicable.
	Cyanine-5-CTP	Not applicable.
Disposal	: <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.
	Cyanine-5-CTP	Not applicable.
Supplemental label elements	: <input checked="" type="checkbox"/> 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.
	Cyanine-5-CTP	None known.
2.3 Other hazards		
Hazards not otherwise classified	: <input checked="" type="checkbox"/> 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.
	Cyanine-5-CTP	None known.

Section 3. Composition/information on ingredients

Substance/mixture	: <input checked="" type="checkbox"/> Nuclease-Free Water	Substance
	T7 Primer	Mixture
	5X First Strand Buffer	Mixture
	0.1 M DTT	Mixture
	10 mM dNTP Mix	Mixture
	AffinityScript RT RNase Block Mix	Mixture
	NTP Mix	Mixture
	5X Transcription Buffer	Mixture
	T7 RNA Polymerase Blend	Mixture
	Cyanine-5-CTP	Mixture

Ingredient name	%	CAS number
<input checked="" type="checkbox"/> Nuclease-Free Water		
water	100	7732-18-5
5X First Strand Buffer		
Potassium chloride	≤3	7447-40-7
Magnesium chloride	<0.25	7786-30-3

Section 3. Composition/information on ingredients

Polyoxyethylene octyl phenyl ether	<0.1	9002-93-1
AffinityScript RT RNase Block Mix		
Glycerol	≥50 - ≤75	56-81-5
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 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, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

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.

Cyanine-5-CTP

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.

Section 4. First aid measures

Inhalation

: Nuclease-Free Water	Check for and remove any contact lenses. Get medical attention if irritation occurs.
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. 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.
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.
Cyanine-5-CTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Section 4. First aid measures

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.
		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.
		Cyanine-5-CTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	Nuclease-Free Water	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		T7 Primer	Wash out mouth with water. 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 First Strand Buffer	Wash out mouth with water. 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. 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. If material has been swallowed and the exposed person is conscious,

Section 4. First aid measures

	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. 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. 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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
T7 RNA Polymerase Blend	Wash out mouth with water. Remove dentures if any. 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.
Cyanine-5-CTP	Wash out mouth with water. 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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

Eye contact	: 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 Cyanine-5-CTP	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. No known significant effects or critical hazards. Causes eye irritation. No known significant effects or critical hazards.
Inhalation	: 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 Cyanine-5-CTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: 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 Cyanine-5-CTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: 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 Cyanine-5-CTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: 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 Cyanine-5-CTP	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. No specific data. Adverse symptoms may include the following: irritation watering redness No specific data.
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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.
		Cyanine-5-CTP	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.
		Cyanine-5-CTP	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.
		Cyanine-5-CTP	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 ingested or inhaled.
		10 mM dNTP Mix	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

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Specific treatments

Cyanine-5-CTP		specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<input checked="" type="checkbox"/> 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.
Cyanine-5-CTP		No specific treatment.

Protection of first-aiders

<input checked="" type="checkbox"/> 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.
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.
Cyanine-5-CTP		No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

<input checked="" type="checkbox"/> 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.

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	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.
	Cyanine-5-CTP	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	<ul style="list-style-type: none"> ☑ 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 Cyanine-5-CTP 	<ul style="list-style-type: none"> None known. None known. None known. None known. None known. None known. None known. None known. None known. None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	<ul style="list-style-type: none"> ☑ 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 Cyanine-5-CTP 	<ul style="list-style-type: none"> In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	<ul style="list-style-type: none"> ☑ Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 10 mM dNTP Mix AffinityScript RT RNase Block Mix NTP Mix 	<ul style="list-style-type: none"> No specific data. No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides No specific data. No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides metal oxide/oxides

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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
Cyanine-5-CTP	No specific data.

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 without suitable training.
Cyanine-5-CTP	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire-fighting measures

Special protective equipment for fire-fighters	: Nuclease-Free Water	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	T7 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.
	Cyanine-5-CTP	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


Section 6. Accidental release measures

0.1 M DTT	touch or walk through spilled material. Put on appropriate personal protective equipment. 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. 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.
Cyanine-5-CTP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders : 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

Section 6. Accidental release measures

0.1 M DTT	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".
10 mM dNTP 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".
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".
Cyanine-5-CTP	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,

Section 6. Accidental release measures

NTP Mix	waterways, soil or air). 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 contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
T7 RNA Polymerase Blend	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).
Cyanine-5-CTP	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).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Nuclease-Free Water

T7 Primer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
5X First Strand Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
0.1 M DTT	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
10 mM dNTP Mix	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.
AffinityScript RT RNase Block Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

NTP Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
5X Transcription Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
T7 RNA Polymerase Blend	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.
Cyanine-5-CTP	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).
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.
Cyanine-5-CTP	Put on appropriate personal protective equipment (see Section 8).

Section 7. Handling and storage

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 before entering eating areas. See also Section 8 for additional information on hygiene measures.

5X First Strand 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.

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

Section 7. Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

Cyanine-5-CTP

contaminated clothing and protective equipment 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.

: 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. See Section 10 for incompatible materials before handling or use.

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. See Section 10 for incompatible materials before handling or use.

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. See Section 10 for incompatible materials before handling or use.

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. See Section 10 for incompatible materials before handling or use.

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

Section 7. Handling and storage

AffinityScript RT RNase Block Mix

until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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

NTP 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. See Section 10 for incompatible materials before handling or use.

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. See Section 10 for incompatible materials before handling or use.

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. See Section 10 for incompatible materials before handling or use.

Cyanine-5-CTP

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

Section 7. Handling and storage

incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations

• 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.
Cyanine-5-CTP	Industrial applications, Professional applications.

Industrial sector specific solutions

• 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.
Cyanine-5-CTP	Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Nuclease-Free Water water	None.
5X First Strand Buffer Potassium chloride Magnesium chloride Polyoxyethylene octyl phenyl ether	None. None. None.
AffinityScript RT RNase Block Mix 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, 5/2018). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust CAL OSHA PEL (United States, 5/2018). TWA: 5 mg/m ³ 8 hours. Form: respirable fraction TWA: 10 mg/m ³ 8 hours. Form: total dust
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, 5/2018).

Section 8. Exposure controls/personal protection

TWA: 5 mg/m³ 8 hours. Form: Respirable fraction
 TWA: 15 mg/m³ 8 hours. Form: Total dust
CAL OSHA PEL (United States, 5/2018).
 TWA: 5 mg/m³ 8 hours. Form: respirable fraction
 TWA: 10 mg/m³ 8 hours. Form: total dust

Biological exposure indices

No exposure indices known.

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

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 and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	:	☑ 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.
		T7 RNA Polymerase Blend	Liquid.
	Cyanine-5-CTP	Liquid.	
Color	:	☑ Nuclease-Free Water	Colorless.
		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.
	Cyanine-5-CTP	Not available.	
Odor	:	☑ Nuclease-Free Water	Odorless.
		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.
	Cyanine-5-CTP	Not available.	
Odor threshold	:	☑ 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.
	Cyanine-5-CTP	Not available.	
pH	:	☑ Nuclease-Free Water	7
		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.
	Cyanine-5-CTP	7.6	

Section 9. Physical and chemical properties and safety characteristics

Melting point/freezing point :

☑ 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.
T7 RNA Polymerase Blend	Not available.
Cyanine-5-CTP	0°C (32°F)

Boiling point, initial boiling point, and boiling range :

☑ 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.
T7 RNA Polymerase Blend	Not available.
Cyanine-5-CTP	100°C (212°F)

Flash point :

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
☑ AffinityScript RT RNase Block Mix						
Glycerol	-	-	-	177	350.6	-
☑ T7 RNA Polymerase Blend						
Glycerol	-	-	-	177	350.6	-

Evaporation rate :

☑ 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.
Cyanine-5-CTP	Not available.

Flammability :

☑ 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.
Cyanine-5-CTP	Not applicable.

Section 9. Physical and chemical properties and safety characteristics

Lower and upper explosion limit/flammability limit : 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.
 Cyanine-5-CTP Not available.

Vapor pressure : Nuclease-Free Water 2.3 kPa (17.5 mm Hg) [room temperature]
 12.3 kPa (92.258 mm Hg) [50°C (122°F)]

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
T7 Primer						
water	17.5	2.3	-	92.258	12.3	-
5X First Strand Buffer						
water	17.5	2.3	-	92.258	12.3	-
0.1 M DTT						
water	17.5	2.3	-	92.258	12.3	-
10 mM dNTP Mix						
water	17.5	2.3	-	92.258	12.3	-
AffinityScript RT RNase Block Mix						
water	17.5	2.3	-	92.258	12.3	-
Glycerol	0.000075	0.00001	-	0.0025	0.00033	-
NTP Mix						
water	17.5	2.3	-	92.258	12.3	-
5X Transcription Buffer						
water	17.5	2.3	-	92.258	12.3	-
T7 RNA Polymerase Blend						
water	17.5	2.3	-	92.258	12.3	-

Section 9. Physical and chemical properties and safety characteristics

Glycerol	0.000075	0.00001	-	0.0025	0.00033	-
Cyanine-5-CTP						
water	17.5	2.3	-	92.258	12.3	-

Relative vapor density :

- Nuclease-Free Water 0.62 [Air = 1]
- 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.
- Cyanine-5-CTP Not available.

Relative density :

- Nuclease-Free Water 1
- 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.
- Cyanine-5-CTP Not available.

Solubility(ies) :

Media	Result
<input checked="" type="checkbox"/> Nuclease-Free Water	
water	Soluble
T7 Primer	
water	Soluble
5X First Strand Buffer	
water	Soluble
0.1 M DTT	
water	Soluble
10 mM dNTP Mix	
water	Soluble
AffinityScript RT RNase Block Mix	
water	Soluble
NTP Mix	
water	Soluble
5X Transcription Buffer	
water	Soluble
T7 RNA Polymerase Blend	
water	Soluble
Cyanine-5-CTP	
water	Soluble

Partition coefficient: n-octanol/water :

- Nuclease-Free Water -1.38
- 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.
- Cyanine-5-CTP Not applicable.

Section 9. Physical and chemical properties and safety characteristics

Auto-ignition temperature : Nuclease-Free Water Not applicable.

Ingredient name	°C	°F	Method
AffinityScript RT RNase Block Mix			
Glycerol	370	698	-
T7 RNA Polymerase Blend			
Glycerol	370	698	-

Decomposition temperature : 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.
 Cyanine-5-CTP Not available.

Viscosity : 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.
 Cyanine-5-CTP Not available.

Particle characteristics

Median particle size : 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.
 Cyanine-5-CTP Not applicable.

Section 10. Stability and reactivity

10.1 Reactivity : 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

Section 10. Stability and reactivity

	5X Transcription Buffer	for this product or its ingredients. 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.
	Cyanine-5-CTP	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	<ul style="list-style-type: none"> ☑ 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 Cyanine-5-CTP 	<p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p>
10.3 Possibility of hazardous reactions	<ul style="list-style-type: none"> ☑ 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 Cyanine-5-CTP 	<p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p>
10.4 Conditions to avoid	<ul style="list-style-type: none"> ☑ 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 Cyanine-5-CTP 	<p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p>
10.5 Incompatible materials	<ul style="list-style-type: none"> ☑ Nuclease-Free Water T7 Primer 5X First Strand Buffer 0.1 M DTT 	<p>May react or be incompatible with oxidizing materials.</p> <p>May react or be incompatible with oxidizing materials.</p> <p>May react or be incompatible with oxidizing materials.</p> <p>May react or be incompatible with oxidizing materials.</p>

Section 10. Stability and reactivity

10 mM dNTP Mix	materials. May react or be incompatible with oxidizing materials.
AffinityScript RT RNase Block Mix	May react or be incompatible with oxidizing materials.
NTP Mix	May react or be incompatible with oxidizing materials.
5X Transcription Buffer	May react or be incompatible with oxidizing materials.
T7 RNA Polymerase Blend	May react or be incompatible with oxidizing materials.
Cyanine-5-CTP	May react or be incompatible with oxidizing materials.

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.
Cyanine-5-CTP	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 Magnesium chloride	LD50 Oral	Rat	2600 mg/kg	-
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
Polyoxyethylene octyl phenyl ether	LD50 Oral	Rat	2800 mg/kg	-
	LD50 Oral	Rat	1800 mg/kg	-
AffinityScript RT RNase				

Section 11. Toxicological information

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 mg	-
Polyoxyethylene octyl phenyl ether	Skin - Mild irritant	Rabbit	-	24 hours 500 uL	-
AffinityScript RT RNase Block Mix Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
T7 RNA Polymerase Blend Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

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 <input type="checkbox"/> T7 Primer <input type="checkbox"/> 5X First Strand Buffer <input type="checkbox"/> 0.1 M DTT <input type="checkbox"/> 10 mM dNTP Mix <input type="checkbox"/> AffinityScript RT RNase Block Mix <input type="checkbox"/> NTP Mix	Not available. Not available. Not available. Not available. Not available. Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
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Section 11. Toxicological information

	5X Transcription Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	T7 RNA Polymerase Blend	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	Cyanine-5-CTP	Not available.
Potential acute health effects		
Eye contact	: 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	Causes eye irritation.
	NTP Mix	No known significant effects or critical hazards.
	5X Transcription Buffer	No known significant effects or critical hazards.
	T7 RNA Polymerase Blend	Causes eye irritation.
	Cyanine-5-CTP	No known significant effects or critical hazards.
Inhalation	: 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.
	T7 RNA Polymerase Blend	No known significant effects or critical hazards.
	Cyanine-5-CTP	No known significant effects or critical hazards.
Skin contact	: 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.
	T7 RNA Polymerase Blend	No known significant effects or critical hazards.
	Cyanine-5-CTP	No known significant effects or critical hazards.
Ingestion	: 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.
	T7 RNA Polymerase Blend	No known significant effects or critical hazards.
	Cyanine-5-CTP	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

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	No specific data.

Section 11. Toxicological information

	T7 RNA Polymerase Blend	Adverse symptoms may include the following: irritation watering redness
Inhalation	Cyanine-5-CTP	No specific data.
	: 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	Cyanine-5-CTP	No specific data.
	: 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	Cyanine-5-CTP	No specific data.
	: 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.
Cyanine-5-CTP	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.
	T7 RNA Polymerase Blend	No known significant effects or critical hazards.
	Cyanine-5-CTP	No known significant effects or critical hazards.

Section 11. Toxicological information

Carcinogenicity	: 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 Cyanine-5-CTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: 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 Cyanine-5-CTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Reproductive toxicity	: 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 Cyanine-5-CTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
5X First Strand Buffer					
5X First Strand Buffer	92526.7	N/A	N/A	N/A	N/A
Potassium chloride	2600	N/A	N/A	N/A	N/A
Magnesium chloride	2800	2500	N/A	N/A	N/A
Polyoxyethylene octyl phenyl ether	1800	N/A	N/A	N/A	N/A
AffinityScript RT RNase Block Mix					
Glycerol	12600	N/A	N/A	N/A	N/A
T7 RNA Polymerase Blend					
Glycerol	12600	N/A	N/A	N/A	N/A

Other information	: 5X Transcription Buffer T7 RNA Polymerase Blend	Adverse symptoms may include the following: May cause skin sensitization. Adverse symptoms may include the following: May cause skin sensitization.
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Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
5X First Strand Buffer Potassium chloride	Acute EC50 9.24 g/L Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	Acute EC50 1337000 µg/l Fresh water	Algae - <i>Navicula seminulum</i>	96 hours
	Acute LC50 9.68 mg/l Fresh water	Crustaceans - <i>Pseudosida ramosa</i> - Neonate	48 hours
	Acute LC50 93000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 509.65 mg/l Fresh water	Fish - <i>Danio rerio</i>	96 hours
Magnesium chloride	Acute EC50 >100 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
	Acute EC50 180000 µg/l Fresh water	Crustaceans - <i>Eudiaptomus padanus ssp. padanus</i> - Adult	48 hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - <i>Lemna equinoctialis</i>	96 hours
	Acute LC50 32000 µg/l Fresh water	Daphnia - <i>Daphnia hyalina</i> - Adult	48 hours
	Acute LC50 2120 mg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae - <i>Desmodesmus subspicatus</i>	72 hours
Polyoxyethylene octyl phenyl ether	Chronic NOEC 0.1 mg/l Fresh water	Fish - <i>Cyprinus carpio</i>	35 days
	Acute LC50 5.85 mg/l Fresh water	Crustaceans - <i>Ceriodaphnia rigaudi</i> - Neonate	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
	Acute LC50 4500 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Chronic NOEC 0.004 mg/l Fresh water	Fish - <i>Gambusia holbrooki</i>	28 days
AffinityScript RT RNase Block Mix Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours
T7 RNA Polymerase Blend Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
AffinityScript RT RNase Block Mix Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
T7 RNA Polymerase Blend Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Section 12. Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Nuclease-Free Water water	-	-	Readily
5X First Strand Buffer Potassium chloride	-	-	Readily
Polyoxyethylene octyl phenyl ether	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Nuclease-Free Water water	-1.38	-	Low
5X First Strand Buffer Potassium chloride	-0.46	-	Low
Polyoxyethylene octyl phenyl ether	4.86	-	High
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.

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.

Section 13. Disposal considerations

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

Section 14. Transport information

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

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

Transport in bulk according to IMO instruments : Not available.

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:** Polyoxyethylene octyl phenyl ether; Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-
TSCA 8(a) CDR Exempt/Partial exemption: 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	<ul style="list-style-type: none"> ☑ 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 Cyanine-5-CTP 	<ul style="list-style-type: none"> Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. EYE IRRITATION - Category 2B Not applicable. Not applicable. EYE IRRITATION - Category 2B Not applicable.
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Composition/information on ingredients

Section 15. Regulatory information

Name	%	Classification
5X First Strand Buffer Potassium chloride	≤3	EYE IRRITATION - Category 2B
AffinityScript RT RNase Block Mix Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2B
T7 RNA Polymerase Blend Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2B

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
- Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL
- California Prop. 65**

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

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

Section 16. Other information

[Procedure used to derive the classification](#)

Classification	Justification
AffinityScript RT RNase Block Mix EYE IRRITATION - Category 2B	Calculation method
T7 RNA Polymerase Blend EYE IRRITATION - Category 2B	Calculation method

[History](#)

Date of issue/Date of revision : 05/23/2024

Date of previous issue : 05/24/2021

Version : 7

[Key to abbreviations](#)

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 UN = United Nations

Indicates information that has changed from previously issued version.

[Notice to reader](#)

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