

# SAFETY DATA SHEET



Quick Amp Labeling Kit, Two-Color, Part Number 5190-0444

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

<b>Product name</b>	: Quick Amp Labeling Kit, Two-Color, Part Number 5190-0444
<b>Part No. (Kit)</b>	: 5190-0444
<b>Part No.</b>	: PEG 5062-9583
	T7 Primer 5062-9572
	5X First Strand Buffer 5062-9573
	0.1 M DTT 5062-9574
	10 mM dNTP Mix 5062-9575
	RNase Inhibitor 5062-9576
	NTP Mix 5062-9579
	4X Transcription Buffer 5062-9578
	T7 RNA Polymerase 5062-9582
	MMLV-RT 5062-9577
	Inorganic 5062-9581
	Pyrophosphatase
	Cyanine 5-CTP FP1310
	Cyanine 3-CTP FP1309

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

#### Identified uses

Analytical chemistry.

PEG	0.14 ml
T7 Primer	0.03 ml
5X First Strand Buffer	0.195 ml
0.1 M DTT	0.23 ml
10 mM dNTP Mix	0.025 ml
RNase Inhibitor	0.025 ml
NTP Mix	0.175 ml
4X Transcription Buffer	0.43 ml
T7 RNA Polymerase	0.02 ml
MMLV-RT	0.025 ml (300 U/μl 25 μl)
Inorganic Pyrophosphatase	0.015 ml
Cyanine 5-CTP	0.024 ml
Cyanine 3-CTP	0.024 ml

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG  
Hewlett-Packard-Str. 8  
76337 Waldbronn  
Germany  
0800 603 1000

**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +(44)-870-8200418

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

<b>Product definition</b>	: PEG	Mixture
	T7 Primer	Mixture
	5X First Strand Buffer	Mixture
	0.1 M DTT	Mixture
	10 mM dNTP Mix	Mixture
	RNase Inhibitor	Mixture
	NTP Mix	Mixture
	4X Transcription Buffer	Mixture
	T7 RNA Polymerase	Mixture
	MMLV-RT	Mixture
	Inorganic	Mixture
	Pyrophosphatase	
	Cyanine 5-CTP	Mixture
	Cyanine 3-CTP	Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

<b>Ingredients of unknown toxicity</b>	: PEG	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
	5X First Strand Buffer	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: > 60%
		Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
	0.1 M DTT	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
	RNase Inhibitor	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
		Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
	NTP Mix	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
	4X Transcription Buffer	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
	T7 RNA Polymerase	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
	MMLV-RT	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
	Inorganic Pyrophosphatase	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
		Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
	Cyanine 5-CTP	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%

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	Cyanine 3-CTP	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
<b>Ingredients of unknown ecotoxicity</b>	: 5X First Strand Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3.9%
	NTP Mix	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4.5%
	4X Transcription Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.5%
	Inorganic Pyrophosphatase	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.1%
	Cyanine 5-CTP	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.2%
	Cyanine 3-CTP	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.2%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

<b>Signal word</b>	: PEG	No signal word.
	T7 Primer	No signal word.
	5X First Strand Buffer	No signal word.
	0.1 M DTT	No signal word.
	10 mM dNTP Mix	No signal word.
	RNase Inhibitor	No signal word.
	NTP Mix	No signal word.
	4X Transcription Buffer	No signal word.
	T7 RNA Polymerase	No signal word.
	MMLV-RT	No signal word.
	Inorganic Pyrophosphatase	No signal word.
	Cyanine 5-CTP	No signal word.
	Cyanine 3-CTP	No signal word.
<b>Hazard statements</b>	: PEG	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.
	RNase Inhibitor	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
	Cyanine 5-CTP	No known significant effects or critical hazards.
	Cyanine 3-CTP	No known significant effects or critical hazards.

### Precautionary statements

<b>Prevention</b>	: PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	T7 RNA Polymerase	Not applicable.

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	MMLV-RT	Not applicable.
	Inorganic	Not applicable.
	Pyrophosphatase	
	Cyanine 5-CTP	Not applicable.
	Cyanine 3-CTP	Not applicable.
<b>Response</b>	: PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	T7 RNA Polymerase	Not applicable.
	MMLV-RT	Not applicable.
	Inorganic	Not applicable.
	Pyrophosphatase	
	Cyanine 5-CTP	Not applicable.
	Cyanine 3-CTP	Not applicable.
<b>Storage</b>	: PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	T7 RNA Polymerase	Not applicable.
	MMLV-RT	Not applicable.
	Inorganic	Not applicable.
	Pyrophosphatase	
	Cyanine 5-CTP	Not applicable.
	Cyanine 3-CTP	Not applicable.
<b>Disposal</b>	: PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	T7 RNA Polymerase	Not applicable.
	MMLV-RT	Not applicable.
	Inorganic	Not applicable.
	Pyrophosphatase	
	Cyanine 5-CTP	Not applicable.
	Cyanine 3-CTP	Not applicable.
<b>Hazardous ingredients</b>	: 5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
<b>Supplemental label elements</b>	: PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Safety data sheet available on request.
	0.1 M DTT	Safety data sheet available on request.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Safety data sheet available on request.
	T7 RNA Polymerase	Not applicable.
	MMLV-RT	Not applicable.

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	Inorganic	Not applicable.
	Pyrophosphatase	
	Cyanine 5-CTP	Not applicable.
	Cyanine 3-CTP	Not applicable.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	T7 RNA Polymerase	Not applicable.
	MMLV-RT	Not applicable.
	Inorganic	Not applicable.
	Pyrophosphatase	
	Cyanine 5-CTP	Not applicable.
	Cyanine 3-CTP	Not applicable.

### Special packaging requirements

<b>Tactile warning of danger</b>	: PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	T7 RNA Polymerase	Not applicable.
	MMLV-RT	Not applicable.
	Inorganic	Not applicable.
	Pyrophosphatase	
	Cyanine 5-CTP	Not applicable.
	Cyanine 3-CTP	Not applicable.

### 2.3 Other hazards

<b>Other hazards which do not result in classification</b>	: PEG	None known.
	T7 Primer	None known.
	5X First Strand Buffer	None known.
	0.1 M DTT	None known.
	10 mM dNTP Mix	None known.
	RNase Inhibitor	None known.
	NTP Mix	None known.
	4X Transcription Buffer	None known.
	T7 RNA Polymerase	None known.
	MMLV-RT	None known.
	Inorganic	None known.
	Pyrophosphatase	
	Cyanine 5-CTP	None known.
	Cyanine 3-CTP	None known.

## SECTION 3: Composition/information on ingredients

<b>3.1 Substances</b>	: PEG	Mixture
	T7 Primer	Mixture
	5X First Strand Buffer	Mixture
	0.1 M DTT	Mixture
	10 mM dNTP Mix	Mixture
	RNase Inhibitor	Mixture
	NTP Mix	Mixture
	4X Transcription Buffer	Mixture
	T7 RNA Polymerase	Mixture

Date of issue/Date of revision : 30/06/2017

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### SECTION 3: Composition/information on ingredients

MMLV-RT Mixture  
 Inorganic Pyrophosphatase Mixture  
 Cyanine 5-CTP Mixture  
 Cyanine 3-CTP Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<b>5X First Strand Buffer</b> 2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	≤5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
<b>0.1 M DTT</b> (R*,R*)-1,4-Dimercaptobutane-2, 3-diol	EC: 222-468-7 CAS: 3483-12-3	≤3	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412	[1]
<b>RNase Inhibitor</b> Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
<b>4X Transcription Buffer</b> 2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
<b>T7 RNA Polymerase</b> Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
<b>MMLV-RT</b> Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
Poly(oxy-1,2-ethanediyl), .alpha.-[ (1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	CAS: 9036-19-5	≤0.3	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411	[1] [5]
<b>Inorganic Pyrophosphatase</b> Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
			<b>See Section 16 for the full text of the H statements declared above.</b>	

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

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

<b>Eye contact</b>	: PEG	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.
RNase Inhibitor		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.
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.
4X 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		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.
MMLV-RT		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.
Inorganic Pyrophosphatase		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.
Cyanine 5-CTP		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.
Cyanine 3-CTP		Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
<b>Inhalation</b>	: PEG	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
T7 Primer		Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
5X First Strand Buffer		Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. 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.
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.
RNase Inhibitor		Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

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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.
4X 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	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
MMLV-RT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Inorganic Pyrophosphatase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Cyanine 5-CTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Cyanine 3-CTP	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.

### Skin contact

: FEG

	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.
RNase Inhibitor	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
NTP Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
4X Transcription Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
T7 RNA Polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
MMLV-RT	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Inorganic Pyrophosphatase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.



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		symptoms occur.
	Cyanine 5-CTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Cyanine 3-CTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: PEG	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	T7 Primer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	5X First Strand Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	0.1 M DTT	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	10 mM dNTP Mix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	RNase Inhibitor	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	NTP Mix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	4X Transcription Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	T7 RNA Polymerase	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	MMLV-RT	Wash out mouth with water. Remove victim to fresh air and

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Inorganic Pyrophosphatase	keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Cyanine 5-CTP	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Cyanine 3-CTP	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

**Protection of first-aiders** : PEG

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.
RNase Inhibitor	No action shall be taken involving any personal risk or without suitable training.
NTP Mix	No action shall be taken involving any personal risk or without suitable training.
4X Transcription Buffer	No action shall be taken involving any personal risk or without suitable training.
T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training.
MMLV-RT	No action shall be taken involving any personal risk or without suitable training.
Inorganic Pyrophosphatase	No action shall be taken involving any personal risk or without suitable training.
Cyanine 5-CTP	No action shall be taken involving any personal risk or without suitable training.
Cyanine 3-CTP	No action shall be taken involving any personal risk or without suitable training.

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

#### Potential acute health effects

<b>Eye contact</b>	: PEG	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.
RNase Inhibitor		No known significant effects or critical hazards.
NTP Mix		No known significant effects or critical hazards.
4X Transcription Buffer		No known significant effects or critical hazards.
T7 RNA Polymerase		No known significant effects or critical hazards.

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	MMLV-RT	No known significant effects or critical hazards.
	Inorganic	No known significant effects or critical hazards.
	Pyrophosphatase	
	Cyanine 5-CTP	No known significant effects or critical hazards.
	Cyanine 3-CTP	No known significant effects or critical hazards.
<b>Inhalation</b>	: PEG	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.
	RNase Inhibitor	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	Inorganic	No known significant effects or critical hazards.
	Pyrophosphatase	
	Cyanine 5-CTP	No known significant effects or critical hazards.
	Cyanine 3-CTP	No known significant effects or critical hazards.
<b>Skin contact</b>	: PEG	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.
	RNase Inhibitor	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	Inorganic	No known significant effects or critical hazards.
	Pyrophosphatase	
	Cyanine 5-CTP	No known significant effects or critical hazards.
	Cyanine 3-CTP	No known significant effects or critical hazards.
<b>Ingestion</b>	: PEG	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.
	RNase Inhibitor	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	Inorganic	No known significant effects or critical hazards.
	Pyrophosphatase	
	Cyanine 5-CTP	No known significant effects or critical hazards.
	Cyanine 3-CTP	No known significant effects or critical hazards.

### Over-exposure signs/symptoms

<b>Eye contact</b>	: PEG	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.
	RNase Inhibitor	No specific data.
	NTP Mix	No specific data.
	4X Transcription Buffer	No specific data.
	T7 RNA Polymerase	No specific data.
	MMLV-RT	No specific data.
	Inorganic	No specific data.
	Pyrophosphatase	
	Cyanine 5-CTP	No specific data.

## SECTION 4: First aid measures

		Cyanine 3-CTP	No specific data.
<b>Inhalation</b>	:	PEG	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.
		RNase Inhibitor	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		MMLV-RT	No specific data.
		Inorganic	No specific data.
		Pyrophosphatase	
		Cyanine 5-CTP	No specific data.
		Cyanine 3-CTP	No specific data.
<b>Skin contact</b>	:	PEG	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.
		RNase Inhibitor	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		MMLV-RT	No specific data.
		Inorganic	No specific data.
		Pyrophosphatase	
		Cyanine 5-CTP	No specific data.
		Cyanine 3-CTP	No specific data.
<b>Ingestion</b>	:	PEG	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.
		RNase Inhibitor	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		MMLV-RT	No specific data.
		Inorganic	No specific data.
		Pyrophosphatase	
		Cyanine 5-CTP	No specific data.
		Cyanine 3-CTP	No specific data.

### 4.3 Indication of any immediate medical attention and special treatment needed

<b>Notes to physician</b>	:	PEG	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	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.
		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.
		RNase Inhibitor	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.

## SECTION 4: First aid measures

4X 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	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
MMLV-RT	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Inorganic Pyrophosphatase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Cyanine 5-CTP	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Cyanine 3-CTP	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.

### Specific treatments

: PEG	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.
RNase Inhibitor	No specific treatment.
NTP Mix	No specific treatment.
4X Transcription Buffer	No specific treatment.
T7 RNA Polymerase	No specific treatment.
MMLV-RT	No specific treatment.
Inorganic Pyrophosphatase	No specific treatment.
Cyanine 5-CTP	No specific treatment.
Cyanine 3-CTP	No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

: PEG	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.
RNase Inhibitor	Use an extinguishing agent suitable for the surrounding fire.
NTP Mix	Use an extinguishing agent suitable for the surrounding fire.
4X Transcription Buffer	Use an extinguishing agent suitable for the surrounding fire.
T7 RNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
MMLV-RT	Use an extinguishing agent suitable for the surrounding fire.
Inorganic Pyrophosphatase	Use an extinguishing agent suitable for the surrounding fire.
Cyanine 5-CTP	Use an extinguishing agent suitable for the surrounding fire.
Cyanine 3-CTP	Use an extinguishing agent suitable for the surrounding fire.

#### Unsuitable extinguishing media

: PEG	None known.
T7 Primer	None known.
5X First Strand Buffer	None known.
0.1 M DTT	None known.
10 mM dNTP Mix	None known.
RNase Inhibitor	None known.
NTP Mix	None known.
4X Transcription Buffer	None known.
T7 RNA Polymerase	None known.
MMLV-RT	None known.
Inorganic Pyrophosphatase	None known.
Cyanine 5-CTP	None known.
Cyanine 3-CTP	None known.

## SECTION 5: Firefighting measures

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

<b>Hazards from the substance or mixture</b>	: PEG	In a fire or if heated, a pressure increase will occur and the container may burst.
	T7 Primer	In a fire or if heated, a pressure increase will occur and the container may burst.
	5X First Strand Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	0.1 M DTT	In a fire or if heated, a pressure increase will occur and the container may burst.
	10 mM dNTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	RNase Inhibitor	In a fire or if heated, a pressure increase will occur and the container may burst.
	NTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	4X Transcription Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	T7 RNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
	MMLV-RT	In a fire or if heated, a pressure increase will occur and the container may burst.
	Inorganic Pyrophosphatase	In a fire or if heated, a pressure increase will occur and the container may burst.
	Cyanine 5-CTP	In a fire or if heated, a pressure increase will occur and the container may burst.
	Cyanine 3-CTP	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous combustion products</b>	: PEG	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	T7 Primer	No specific data.
	5X First Strand Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	0.1 M DTT	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	10 mM dNTP Mix	No specific data.
	RNase Inhibitor	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	NTP Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	4X Transcription Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	T7 RNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	MMLV-RT	Decomposition products may include the following materials:

## SECTION 5: Firefighting measures

Inorganic Pyrophosphatase	carbon dioxide carbon monoxide Decomposition products may include the following materials:
Cyanine 5-CTP	carbon dioxide carbon monoxide phosphorus oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide phosphorus oxides
Cyanine 3-CTP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides phosphorus oxides

### 5.3 Advice for firefighters

#### Special precautions for fire-fighters

: PEG

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.
RNase Inhibitor	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.
4X 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	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.
MMLV-RT	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.
Inorganic Pyrophosphatase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
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.
Cyanine 3-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: Firefighting measures

### Special protective equipment for fire-fighters

: PEG

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

RNase Inhibitor

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

4X 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

T7 RNA Polymerase

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

MMLV-RT

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Inorganic Pyrophosphatase

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full



## SECTION 5: Firefighting measures

Cyanine 5-CTP	face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
Cyanine 3-CTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

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

<b>For non-emergency personnel</b>	: PEG	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
T7 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 spilt material. Put on appropriate personal protective equipment.
5X First Strand Buffer		No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
0.1 M DTT		No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt 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 spilt material. Put on appropriate personal protective equipment.
RNase Inhibitor		No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
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 spilt material. Put on appropriate personal protective equipment.
4X Transcription Buffer		No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
T7 RNA Polymerase		No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas.

## SECTION 6: Accidental release measures

		Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	MMLV-RT	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Inorganic Pyrophosphatase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	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 spilt material. Put on appropriate personal protective equipment.
	Cyanine 3-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 spilt material. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: PEG	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	T7 Primer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	5X First Strand Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	0.1 M DTT	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	10 mM dNTP Mix	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	RNase Inhibitor	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	NTP Mix	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	4X Transcription Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	T7 RNA Polymerase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	MMLV-RT	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-

## SECTION 6: Accidental release measures

Inorganic Pyrophosphatase	emergency personnel". If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Cyanine 5-CTP	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Cyanine 3-CTP	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>6.2 Environmental precautions</b>	<b>: PEG</b> Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
T7 Primer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
5X First Strand Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
0.1 M DTT	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
10 mM dNTP Mix	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
RNase Inhibitor	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
NTP Mix	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
4X Transcription Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
T7 RNA Polymerase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
MMLV-RT	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Inorganic Pyrophosphatase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Cyanine 5-CTP	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution

## SECTION 6: Accidental release measures

Cyanine 3-CTP	(sewers, waterways, soil or air). Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
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### 6.3 Methods and material for containment and cleaning up

#### Methods for cleaning up : PEG

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.
RNase Inhibitor	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.
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.
4X 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	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.
MMLV-RT	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.
Inorganic Pyrophosphatase	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

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## SECTION 6: Accidental release measures

Cyanine 5-CTP	of via a licensed waste disposal contractor. Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Cyanine 3-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.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: PEG	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).
RNase Inhibitor		Put on appropriate personal protective equipment (see Section 8).
NTP Mix		Put on appropriate personal protective equipment (see Section 8).
4X Transcription Buffer		Put on appropriate personal protective equipment (see Section 8).
T7 RNA Polymerase		Put on appropriate personal protective equipment (see Section 8).
MMLV-RT		Put on appropriate personal protective equipment (see Section 8).
Inorganic Pyrophosphatase		Put on appropriate personal protective equipment (see Section 8).
Cyanine 5-CTP		Put on appropriate personal protective equipment (see Section 8).
Cyanine 3-CTP		Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	: PEG	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

## SECTION 7: Handling and storage

0.1 M DTT	<p>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.</p>
10 mM dNTP Mix	<p>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.</p>
RNase Inhibitor	<p>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.</p>
NTP Mix	<p>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.</p>
4X Transcription Buffer	<p>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.</p>
T7 RNA Polymerase	<p>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.</p>
MMLV-RT	<p>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.</p>
Inorganic Pyrophosphatase	<p>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.</p>
Cyanine 5-CTP	<p>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.</p>
Cyanine 3-CTP	<p>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.</p>

## SECTION 7: Handling and storage

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

#### Storage

: PEG

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

RNase Inhibitor

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

## SECTION 7: Handling and storage

NTP Mix	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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
4X 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
T7 RNA Polymerase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
MMLV-RT	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Inorganic Pyrophosphatase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Cyanine 3-CTP	Store in accordance with local regulations. Store in original



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## SECTION 7: Handling and storage

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

### 7.3 Specific end use(s)

#### Recommendations

: <b>PEG</b>	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.
RNase Inhibitor	Industrial applications, Professional applications.
NTP Mix	Industrial applications, Professional applications.
4X Transcription Buffer	Industrial applications, Professional applications.
T7 RNA Polymerase	Industrial applications, Professional applications.
MMLV-RT	Industrial applications, Professional applications.
Inorganic Pyrophosphatase	Industrial applications, Professional applications.
Cyanine 5-CTP	Industrial applications, Professional applications.
Cyanine 3-CTP	Industrial applications, Professional applications.

#### Industrial sector specific solutions

: <b>PEG</b>	Not applicable.
T7 Primer	Not applicable.
5X First Strand Buffer	Not applicable.
0.1 M DTT	Not applicable.
10 mM dNTP Mix	Not applicable.
RNase Inhibitor	Not applicable.
NTP Mix	Not applicable.
4X Transcription Buffer	Not applicable.
T7 RNA Polymerase	Not applicable.
MMLV-RT	Not applicable.
Inorganic Pyrophosphatase	Not applicable.
Cyanine 5-CTP	Not applicable.
Cyanine 3-CTP	Not applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
<b>RNase Inhibitor</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
<b>T7 RNA Polymerase</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
<b>MMLV-RT</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
<b>Inorganic Pyrophosphatase</b> Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b>

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## SECTION 8: Exposure controls/personal protection

TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Mist

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### DNELs/DMELs

No DNELs/DMELs available.

### PNECs

No PNECs available

## 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

### 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: safety glasses with side-shields.

### 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.

**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.

**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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	:	PEG	Liquid.
		T7 Primer	Liquid.
		5X First Strand Buffer	Liquid.
		0.1 M DTT	Liquid.
		10 mM dNTP Mix	Liquid.
		RNase Inhibitor	Liquid.
		NTP Mix	Liquid.
		4X Transcription Buffer	Liquid.
		T7 RNA Polymerase	Liquid.
		MMLV-RT	Liquid.
		Inorganic Pyrophosphatase	Liquid.
		Cyanine 5-CTP	Liquid.
		Cyanine 3-CTP	Liquid.
<b>Colour</b>	:	PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		MMLV-RT	Clear.
		Inorganic Pyrophosphatase	Not available.
		Cyanine 5-CTP	Not available.
		Cyanine 3-CTP	Not available.
<b>Odour</b>	:	PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		Cyanine 5-CTP	Not available.
		Cyanine 3-CTP	Not available.
<b>Odour threshold</b>	:	PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		Cyanine 5-CTP	Not available.
		Cyanine 3-CTP	Not available.

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<b>pH</b>	:	PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	8.3
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	8
		T7 RNA Polymerase	Not available.
		MMLV-RT	Not available.
		Inorganic	7.5
		Pyrophosphatase	
		Cyanine 5-CTP	7.6
		Cyanine 3-CTP	7.6
<b>Melting point/freezing point</b>	:	PEG	Not available.
		T7 Primer	0°C
		5X First Strand Buffer	Not available.
		0.1 M DTT	0°C
		10 mM dNTP Mix	0°C
		RNase Inhibitor	Not available.
		NTP Mix	0°C
		4X Transcription Buffer	0°C
		T7 RNA Polymerase	Not available.
		MMLV-RT	17.8°C
		Inorganic	Not available.
		Pyrophosphatase	
		Cyanine 5-CTP	0°C
		Cyanine 3-CTP	0°C
<b>Initial boiling point and boiling range</b>	:	PEG	Not available.
		T7 Primer	100°C
		5X First Strand Buffer	Not available.
		0.1 M DTT	100°C
		10 mM dNTP Mix	100°C
		RNase Inhibitor	Not available.
		NTP Mix	100°C
		4X Transcription Buffer	100°C
		T7 RNA Polymerase	Not available.
		MMLV-RT	289.7°C
		Inorganic	Not available.
		Pyrophosphatase	
		Cyanine 5-CTP	100°C
		Cyanine 3-CTP	100°C
<b>Flash point</b>	:	PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		MMLV-RT	Not available.
		Inorganic	Not available.
		Pyrophosphatase	
		Cyanine 5-CTP	Not available.
		Cyanine 3-CTP	Not available.

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## SECTION 9: Physical and chemical properties

<b>Evaporation rate</b>	:	☑EG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		MMLV-RT	Not available.
		Inorganic	Not available.
		Pyrophosphatase	
		Cyanine 5-CTP	Not available.
		Cyanine 3-CTP	Not available.
<b>Flammability (solid, gas)</b>	:	☑EG	Not applicable.
		T7 Primer	Not applicable.
		5X First Strand Buffer	Not applicable.
		0.1 M DTT	Not applicable.
		10 mM dNTP Mix	Not applicable.
		RNase Inhibitor	Not applicable.
		NTP Mix	Not applicable.
		4X Transcription Buffer	Not applicable.
		T7 RNA Polymerase	Not applicable.
		MMLV-RT	Not applicable.
		Inorganic	Not applicable.
		Pyrophosphatase	
		Cyanine 5-CTP	Not applicable.
		Cyanine 3-CTP	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	:	☑EG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		MMLV-RT	Not available.
		Inorganic	Not available.
		Pyrophosphatase	
		Cyanine 5-CTP	Not available.
		Cyanine 3-CTP	Not available.
<b>Vapour pressure</b>	:	☑EG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		MMLV-RT	Not available.
		Inorganic	Not available.
		Pyrophosphatase	
		Cyanine 5-CTP	Not available.
		Cyanine 3-CTP	Not available.

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## SECTION 9: Physical and chemical properties

<b>Vapour density</b>	: <b>PEG</b>	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	RNase Inhibitor	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	T7 RNA Polymerase	Not available.
	MMLV-RT	Not available.
	Inorganic	Not available.
	Pyrophosphatase	
	Cyanine 5-CTP	Not available.
	Cyanine 3-CTP	Not available.
<b>Relative density</b>	: <b>PEG</b>	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	RNase Inhibitor	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	T7 RNA Polymerase	Not available.
	MMLV-RT	Not available.
	Inorganic	Not available.
	Pyrophosphatase	
	Cyanine 5-CTP	Not available.
	Cyanine 3-CTP	Not available.
<b>Solubility(ies)</b>	: <b>PEG</b>	Soluble in the following materials: cold water and hot water.
	T7 Primer	Easily soluble in the following materials: cold water and hot water.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Easily soluble in the following materials: cold water and hot water.
	10 mM dNTP Mix	Easily soluble in the following materials: cold water and hot water.
	RNase Inhibitor	Soluble in the following materials: cold water and hot water.
	NTP Mix	Easily soluble in the following materials: cold water and hot water.
	4X Transcription Buffer	Easily soluble in the following materials: cold water and hot water.
	T7 RNA Polymerase	Soluble in the following materials: cold water and hot water.
	MMLV-RT	Soluble in the following materials: cold water and hot water.
	Inorganic	Soluble in the following materials: cold water and hot water.
	Pyrophosphatase	
	Cyanine 5-CTP	Easily soluble in the following materials: cold water and hot water.
	Cyanine 3-CTP	Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: <b>PEG</b>	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	RNase Inhibitor	Not available.
	4X Transcription Buffer	Not available.

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## SECTION 9: Physical and chemical properties

	T7 RNA Polymerase	Not available.
	MMLV-RT	Not available.
	Inorganic	Not available.
	Pyrophosphatase	
	Cyanine 5-CTP	Not available.
	Cyanine 3-CTP	Not available.
<b>Auto-ignition temperature</b>	: <b>PEG</b>	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	RNase Inhibitor	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	T7 RNA Polymerase	Not available.
	MMLV-RT	Not available.
	Inorganic	Not available.
	Pyrophosphatase	
	Cyanine 5-CTP	Not available.
	Cyanine 3-CTP	Not available.
<b>Decomposition temperature</b>	: <b>PEG</b>	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	RNase Inhibitor	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	T7 RNA Polymerase	Not available.
	MMLV-RT	Not available.
	Inorganic	Not available.
	Pyrophosphatase	
	Cyanine 5-CTP	Not available.
	Cyanine 3-CTP	Not available.
<b>Viscosity</b>	: <b>PEG</b>	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	RNase Inhibitor	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	T7 RNA Polymerase	Not available.
	MMLV-RT	Not available.
	Inorganic	Not available.
	Pyrophosphatase	
	Cyanine 5-CTP	Not available.
	Cyanine 3-CTP	Not available.
<b>Explosive properties</b>	: <b>PEG</b>	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	RNase Inhibitor	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	T7 RNA Polymerase	Not available.
	MMLV-RT	Not available.
	Inorganic	Not available.
	Pyrophosphatase	
	Cyanine 5-CTP	Not available.

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## SECTION 9: Physical and chemical properties

<b>Oxidising properties</b>	Cyanine 3-CTP	Not available.
	: PEG	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	RNase Inhibitor	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	T7 RNA Polymerase	Not available.
	MMLV-RT	Not available.
	Inorganic Pyrophosphatase	Not available.
	Cyanine 5-CTP	Not available.
	Cyanine 3-CTP	Not available.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: PEG	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.
	RNase Inhibitor	No specific test data related to reactivity available for this product or its ingredients.
	NTP Mix	No specific test data related to reactivity available for this product or its ingredients.
	4X Transcription Buffer	No specific test data related to reactivity available for this product or its ingredients.
	T7 RNA Polymerase	No specific test data related to reactivity available for this product or its ingredients.
	MMLV-RT	No specific test data related to reactivity available for this product or its ingredients.
	Inorganic Pyrophosphatase	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.
	Cyanine 3-CTP	No specific test data related to reactivity available for this product or its ingredients.
	<b>10.2 Chemical stability</b>	: PEG
T7 Primer		The product is stable.
5X First Strand Buffer		The product is stable.
0.1 M DTT		The product is stable.
10 mM dNTP Mix		The product is stable.
RNase Inhibitor		The product is stable.
NTP Mix		The product is stable.
4X Transcription Buffer		The product is stable.
T7 RNA Polymerase		The product is stable.
MMLV-RT		The product is stable.
Inorganic Pyrophosphatase		The product is stable.
Cyanine 5-CTP	The product is stable.	

Date of issue/Date of revision : 30/06/2017



## SECTION 10: Stability and reactivity

Cyanine 3-CTP                      The product is stable.

### 10.3 Possibility of hazardous reactions

: PEG

T7 Primer                      Under normal conditions of storage and use, hazardous reactions will not occur.

5X First Strand Buffer                      Under normal conditions of storage and use, hazardous reactions will not occur.

0.1 M DTT                      Under normal conditions of storage and use, hazardous reactions will not occur.

10 mM dNTP Mix                      Under normal conditions of storage and use, hazardous reactions will not occur.

RNase Inhibitor                      Under normal conditions of storage and use, hazardous reactions will not occur.

NTP Mix                      Under normal conditions of storage and use, hazardous reactions will not occur.

4X Transcription Buffer                      Under normal conditions of storage and use, hazardous reactions will not occur.

T7 RNA Polymerase                      Under normal conditions of storage and use, hazardous reactions will not occur.

MMLV-RT                      Under normal conditions of storage and use, hazardous reactions will not occur.

Inorganic Pyrophosphatase                      Under normal conditions of storage and use, hazardous reactions will not occur.

Cyanine 5-CTP                      Under normal conditions of storage and use, hazardous reactions will not occur.

Cyanine 3-CTP                      Under normal conditions of storage and use, hazardous reactions will not occur.

### 10.4 Conditions to avoid

: PEG

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.

RNase Inhibitor                      No specific data.

NTP Mix                      No specific data.

4X Transcription Buffer                      No specific data.

T7 RNA Polymerase                      No specific data.

MMLV-RT                      No specific data.

Inorganic Pyrophosphatase                      No specific data.

Cyanine 5-CTP                      No specific data.

Cyanine 3-CTP                      No specific data.

### 10.5 Incompatible materials

: PEG

T7 Primer                      May react or be incompatible with oxidising materials.

5X First Strand Buffer                      May react or be incompatible with oxidising materials.

0.1 M DTT                      May react or be incompatible with oxidising materials.

10 mM dNTP Mix                      May react or be incompatible with oxidising materials.

RNase Inhibitor                      May react or be incompatible with oxidising materials.

NTP Mix                      May react or be incompatible with oxidising materials.

4X Transcription Buffer                      May react or be incompatible with oxidising materials.

T7 RNA Polymerase                      May react or be incompatible with oxidising materials.

MMLV-RT                      May react or be incompatible with oxidising materials.

Inorganic Pyrophosphatase                      May react or be incompatible with oxidising materials.

Cyanine 5-CTP                      May react or be incompatible with oxidising materials.

Cyanine 3-CTP                      May react or be incompatible with oxidising materials.

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## SECTION 10: Stability and reactivity

<b>10.6 Hazardous decomposition products</b>	: PEG	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.
	RNase Inhibitor	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.
	4X Transcription Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	T7 RNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	MMLV-RT	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Inorganic Pyrophosphatase	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.
	Cyanine 3-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
MMLV-RT Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3, 3-tetramethylbutyl)phenyl]-. omega.-hydroxy-	LD50 Oral	Rat	2800 mg/kg	-

#### Acute toxicity estimates

Route	ATE value
0.1 M DTT Oral	32467.5 mg/kg

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
MMLV-RT Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3, 3-tetramethylbutyl)phenyl]-. omega.-hydroxy-	Eyes - Severe irritant	Rabbit	-	1%	-

#### Sensitiser

**Conclusion/Summary** : Not available.

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

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## SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
<b>5X First Strand Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
<b>0.1 M DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	Category 3	Not applicable.	Respiratory tract irritation
<b>4X Transcription Buffer</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on likely routes of exposure

: PEG	Routes of entry anticipated: Oral, Dermal, Inhalation.
T7 Primer	Not available.
5X First Strand Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
0.1 M DTT	Routes of entry anticipated: Oral, Dermal, Inhalation.
10 mM dNTP Mix	Not available.
RNase Inhibitor	Routes of entry anticipated: Oral, Dermal, Inhalation.
NTP Mix	Not available.
4X Transcription Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
T7 RNA Polymerase	Routes of entry anticipated: Oral, Dermal, Inhalation.
MMLV-RT	Routes of entry anticipated: Oral, Dermal, Inhalation.
Inorganic	Routes of entry anticipated: Oral, Dermal, Inhalation.
Pyrophosphatase	
Cyanine 5-CTP	Not available.
Cyanine 3-CTP	Not available.

### Potential acute health effects

#### Inhalation

: PEG	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.
RNase Inhibitor	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.
4X Transcription Buffer	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
MMLV-RT	No known significant effects or critical hazards.
Inorganic	No known significant effects or critical hazards.
Pyrophosphatase	
Cyanine 5-CTP	No known significant effects or critical hazards.
Cyanine 3-CTP	No known significant effects or critical hazards.

#### Ingestion

: PEG	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.
RNase Inhibitor	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.
4X Transcription Buffer	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
MMLV-RT	No known significant effects or critical hazards.
Inorganic	No known significant effects or critical hazards.

## SECTION 11: Toxicological information

	Pyrophosphatase	
	Cyanine 5-CTP	No known significant effects or critical hazards.
	Cyanine 3-CTP	No known significant effects or critical hazards.
<b>Skin contact</b>	: PEG	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.
	RNase Inhibitor	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	Inorganic	No known significant effects or critical hazards.
	Pyrophosphatase	
	Cyanine 5-CTP	No known significant effects or critical hazards.
	Cyanine 3-CTP	No known significant effects or critical hazards.
<b>Eye contact</b>	: PEG	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.
	RNase Inhibitor	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	Inorganic	No known significant effects or critical hazards.
	Pyrophosphatase	
	Cyanine 5-CTP	No known significant effects or critical hazards.
	Cyanine 3-CTP	No known significant effects or critical hazards.

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

<b>Inhalation</b>	: PEG	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.
	RNase Inhibitor	No specific data.
	NTP Mix	No specific data.
	4X Transcription Buffer	No specific data.
	T7 RNA Polymerase	No specific data.
	MMLV-RT	No specific data.
	Inorganic	No specific data.
	Pyrophosphatase	
	Cyanine 5-CTP	No specific data.
	Cyanine 3-CTP	No specific data.
<b>Ingestion</b>	: PEG	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.
	RNase Inhibitor	No specific data.
	NTP Mix	No specific data.
	4X Transcription Buffer	No specific data.
	T7 RNA Polymerase	No specific data.
	MMLV-RT	No specific data.
	Inorganic	No specific data.
	Pyrophosphatase	
	Cyanine 5-CTP	No specific data.
	Cyanine 3-CTP	No specific data.

## SECTION 11: Toxicological information

<b>Skin contact</b>	:	PEG	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.
		RNase Inhibitor	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		MMLV-RT	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		Cyanine 5-CTP	No specific data.
		Cyanine 3-CTP	No specific data.
	<b>Eye contact</b>	:	PEG
		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.
		RNase Inhibitor	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		MMLV-RT	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		Cyanine 5-CTP	No specific data.
		Cyanine 3-CTP	No specific data.

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

<b>General</b>	:	PEG	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.
		RNase Inhibitor	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		Cyanine 5-CTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.

## SECTION 11: Toxicological information

<b>Carcinogenicity</b>	:	PEG	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.
		RNase Inhibitor	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic	No known significant effects or critical hazards.
		Pyrophosphatase	
		Cyanine 5-CTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.
<b>Mutagenicity</b>	:	PEG	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.
		RNase Inhibitor	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic	No known significant effects or critical hazards.
		Pyrophosphatase	
		Cyanine 5-CTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.
<b>Teratogenicity</b>	:	PEG	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.
		RNase Inhibitor	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic	No known significant effects or critical hazards.
		Pyrophosphatase	
		Cyanine 5-CTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.
<b>Developmental effects</b>	:	PEG	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.
		RNase Inhibitor	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic	No known significant effects or critical hazards.
		Pyrophosphatase	
		Cyanine 5-CTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.

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## SECTION 11: Toxicological information

<b>Fertility effects</b>	: PEG	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.
	RNase Inhibitor	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
	Cyanine 5-CTP	No known significant effects or critical hazards.
	Cyanine 3-CTP	No known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>0.1 M DTT</b> (R*,R*)-1,4-Dimercaptobutane-2,3-diol	Acute LC50 27000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
<b>MMLV-RT</b> Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Acute EC50 210 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 10800 µg/l Marine water	Crustaceans - Pandalus montagui - Adult	48 hours
	Acute LC50 8600 to 9800 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 7200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>MMLV-RT</b> Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	3.77	78.67	low

### 12.4 Mobility in soil

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

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

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

**Date of issue/Date of revision** : 30/06/2017

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.
- Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

#### Packaging

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

ADR/RID / IMDG / IATA : Not regulated.

**14.6 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.

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

## SECTION 15: Regulatory information

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

#### EU Regulation (EC) No. 1907/2006 (REACH)

##### Annex XIV - List of substances subject to authorisation

#### Annex XIV

None of the components are listed.

#### Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
MMLV-RT Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Substance of equivalent concern for environment	Recommended	ED/169/2012	2/10/2014

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** :

PEG	Not applicable.
T7 Primer	Not applicable.
5X First Strand Buffer	Not applicable.
0.1 M DTT	Not applicable.
10 mM dNTP Mix	Not applicable.
RNase Inhibitor	Not applicable.
NTP Mix	Not applicable.
4X Transcription Buffer	Not applicable.
T7 RNA Polymerase	Not applicable.
MMLV-RT	Not applicable.
Inorganic Pyrophosphatase	Not applicable.
Cyanine 5-CTP	Not applicable.

Date of issue/Date of revision : 30/06/2017



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## SECTION 15: Regulatory information

Cyanine 3-CTP

Not applicable.

### Other EU regulations

#### Ozone depleting substances (1005/2009/EU)

Not listed.

#### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

#### Seveso Directive

This product is not controlled under the Seveso Directive.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: Not determined.
<b>Europe</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Japan</b>	: <b>Japan inventory (ENCS):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Thailand</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: <input checked="" type="checkbox"/> Not determined.

### **15.2 Chemical safety assessment**

: This product contains substances for which Chemical Safety Assessments might still be required.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

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## SECTION 16: Other information

### Abbreviations and acronyms

: ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

### Full text of abbreviated H statements

<p><b>5X First Strand Buffer</b>                      H315                      H319                      H335</p> <p><b>0.1 M DTT</b>                      H302                      H315                      H319                      H335                      H412</p> <p><b>4X Transcription Buffer</b>                      H315                      H319                      H335</p> <p><b>MMLV-RT</b>                      H315                      H318                      H411</p>	<p>Causes skin irritation.                      Causes serious eye irritation.                      May cause respiratory irritation.</p> <p>Harmful if swallowed.                      Causes skin irritation.                      Causes serious eye irritation.                      May cause respiratory irritation.                      Harmful to aquatic life with long lasting effects.</p> <p>Causes skin irritation.                      Causes serious eye irritation.                      May cause respiratory irritation.</p> <p>Causes skin irritation.                      Causes serious eye damage.                      Toxic to aquatic life with long lasting effects.</p>
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### Full text of classifications [CLP/GHS]

<p><b>5X First Strand Buffer</b>                      Eye Irrit. 2, H319                      Skin Irrit. 2, H315                      STOT SE 3, H335</p> <p><b>0.1 M DTT</b>                      Acute Tox. 4, H302                      Aquatic Chronic 3, H412                      Eye Irrit. 2, H319                      Skin Irrit. 2, H315                      STOT SE 3, H335</p> <p><b>4X Transcription Buffer</b>                      Eye Irrit. 2, H319                      Skin Irrit. 2, H315                      STOT SE 3, H335</p> <p><b>MMLV-RT</b>                      Aquatic Chronic 2, H411                      Eye Dam. 1, H318                      Skin Irrit. 2, H315</p>	<p>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2                      SKIN CORROSION/IRRITATION - Category 2                      SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p> <p>ACUTE TOXICITY (oral) - Category 4                      LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3                      SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2                      SKIN CORROSION/IRRITATION - Category 2                      SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p> <p>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2                      SKIN CORROSION/IRRITATION - Category 2                      SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p> <p>LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2                      SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1                      SKIN CORROSION/IRRITATION - Category 2</p>
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## **SECTION 16: Other information**

**Date of issue/ Date of revision** : 30/06/2017

**Date of previous issue** : 05/02/2016.

**Version** : 2

### Notice to reader

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