

# SAFETY DATA SHEET



Quick Amp Labeling Kit, Part Number 5190-0445

## Section 1. Identification

<b>Product identifier</b>	: Quick Amp Labeling Kit, Part Number 5190-0445		
<b>Part No. (Chemical Kit)</b>	: 5190-0445		
<b>Part No.</b>	:	T7 Primer	930442-51
		10 mM dNTP Mix	5062-9575
		5X First Strand Buffer	5062-9573
		0.1 M DTT	5062-9574
		RNase Inhibitor	5062-9576
		MMLV-RT	5062-9577
		4X Transcription Buffer	5062-9578
		NTP Mix	5062-9579
		Inorganic Pyrophosphatase	5062-9581
		T7 RNA Polymerase	5062-9582
		PEG	5062-9583
		Cyanine 5-CTP	FP1310

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

Analytical reagent.

T7 Primer	195 µl	
10 mM dNTP Mix	25 µl	
5X First Strand Buffer	195 µl	
0.1 M DTT	230 µl	
RNase Inhibitor	25 µl	
MMLV-RT	300 U/µl	25 µl
4X Transcription Buffer	430 µl	
NTP Mix	175 µl	
Inorganic Pyrophosphatase	15 µl	
T7 RNA Polymerase	20 µl	
PEG	140 µl	
Cyanine 5-CTP	24 µl	

**Supplier/Manufacturer** : Agilent Technologies Australia Pty Ltd  
 679 Springvale Road  
 Mulgrave  
 Victoria 3170, Australia  
 1800 802 402

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +(61)-290372994

## Section 2. Hazard(s) identification

### Classification of the substance or mixture

Not classified.

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%
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 dermal toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient(s)

## Section 2. Hazard(s) identification

MMLV-RT	of unknown inhalation toxicity: 30 - 60% Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
4X Transcription Buffer	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% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
NTP Mix	Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10% 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%
Inorganic Pyrophosphatase	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
T7 RNA Polymerase	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%
PEG	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
4X Transcription Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2.5%
NTP Mix	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4%

### GHS label elements

#### Signal word

:	T7 Primer	No signal word.
	10 mM dNTP Mix	No signal word.
	5X First Strand Buffer	No signal word.
	0.1 M DTT	No signal word.
	RNase Inhibitor	No signal word.
	MMLV-RT	No signal word.
	4X Transcription Buffer	No signal word.
	NTP Mix	No signal word.
	Inorganic Pyrophosphatase	No signal word.
	T7 RNA Polymerase	No signal word.
	PEG	No signal word.
	Cyanine 5-CTP	No signal word.

#### Hazard statements

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

#### Precautionary statements

**Section 2. Hazard(s) identification**

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

## Section 2. Hazard(s) identification

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

## Section 3. Composition and ingredient information

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

### CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
<b>RNase Inhibitor</b> Glycerol	≥30 - ≤60	56-81-5
<b>MMLV-RT</b> Glycerol	≥30 - ≤60	56-81-5
<b>Inorganic Pyrophosphatase</b> Glycerol	≥30 - ≤60	56-81-5
<b>T7 RNA Polymerase</b> Glycerol	≥30 - ≤60	56-81-5
<b>PEG</b> Polyethylene glycol	≥30 - ≤60	25322-68-3

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

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

## Section 4. First aid measures

### Description of necessary first aid measures

<b>Eye contact</b>	: 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.
	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.

## Section 4. First aid measures

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.
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.
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.
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.
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.
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.
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.
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.
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.

### Inhalation

: T7 Primer	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.
5X First Strand Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
0.1 M DTT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
RNase Inhibitor	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.
MMLV-RT	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

## Section 4. First aid measures

	4X Transcription Buffer	under medical surveillance for 48 hours. 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.
	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.
	Inorganic Pyrophosphatase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	T7 RNA Polymerase	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.
	PEG	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.
<b>Skin contact</b>	: T7 Primer	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.
	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.
	RNase Inhibitor	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.
	4X Transcription Buffer	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.
	Inorganic Pyrophosphatase	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.
	PEG	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Cyanine 5-CTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get

## Section 4. First aid measures

### Ingestion

: T7 Primer	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.
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.
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.
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.
MMLV-RT	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.
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.
Inorganic Pyrophosphatase	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

## Section 4. First aid measures

T7 RNA Polymerase	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.
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.
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.

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

#### Potential acute health effects

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



## Section 4. First aid measures

<b>Ingestion</b>	: T7 Primer 10 mM dNTP Mix 5X First Strand Buffer 0.1 M DTT RNase Inhibitor MMLV-RT 4X Transcription Buffer NTP Mix Inorganic Pyrophosphatase T7 RNA Polymerase PEG Cyanine 5-CTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
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### Over-exposure signs/symptoms

<b>Eye contact</b>	: T7 Primer 10 mM dNTP Mix 5X First Strand Buffer 0.1 M DTT RNase Inhibitor MMLV-RT 4X Transcription Buffer NTP Mix Inorganic Pyrophosphatase T7 RNA Polymerase PEG Cyanine 5-CTP	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
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<b>Inhalation</b>	: T7 Primer 10 mM dNTP Mix 5X First Strand Buffer 0.1 M DTT RNase Inhibitor MMLV-RT 4X Transcription Buffer NTP Mix Inorganic Pyrophosphatase T7 RNA Polymerase PEG Cyanine 5-CTP	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
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<b>Skin contact</b>	: T7 Primer 10 mM dNTP Mix 5X First Strand Buffer 0.1 M DTT RNase Inhibitor MMLV-RT 4X Transcription Buffer NTP Mix Inorganic Pyrophosphatase T7 RNA Polymerase PEG Cyanine 5-CTP	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
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<b>Ingestion</b>	: T7 Primer 10 mM dNTP Mix 5X First Strand Buffer 0.1 M DTT RNase Inhibitor MMLV-RT 4X Transcription Buffer NTP Mix Inorganic Pyrophosphatase T7 RNA Polymerase PEG Cyanine 5-CTP	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
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## Section 4. First aid measures

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

<b>Notes to physician</b>	: T7 Primer	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.
	5X First Strand Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	0.1 M DTT	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	RNase Inhibitor	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.
	MMLV-RT	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	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.
	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.
	Inorganic Pyrophosphatase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	T7 RNA Polymerase	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.
	PEG	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.
<b>Specific treatments</b>	: T7 Primer	No specific treatment.
	10 mM dNTP Mix	No specific treatment.
	5X First Strand Buffer	No specific treatment.
	0.1 M DTT	No specific treatment.
	RNase Inhibitor	No specific treatment.
	MMLV-RT	No specific treatment.
	4X Transcription Buffer	No specific treatment.
	NTP Mix	No specific treatment.
	Inorganic Pyrophosphatase	No specific treatment.
	T7 RNA Polymerase	No specific treatment.
	PEG	No specific treatment.
	Cyanine 5-CTP	No specific treatment.
<b>Protection of first-aiders</b>	: T7 Primer	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.
	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.
	RNase Inhibitor	No action shall be taken involving any personal risk

## Section 4. First aid measures

MMLV-RT	or without suitable training. 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.
NTP Mix	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.
T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training.
PEG	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.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	: T7 Primer	Use an extinguishing agent suitable for the surrounding fire.
	10 mM dNTP Mix	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.
	RNase Inhibitor	Use an extinguishing agent suitable for the surrounding fire.
	MMLV-RT	Use an extinguishing agent suitable for the surrounding fire.
	4X Transcription Buffer	Use an extinguishing agent suitable for the surrounding fire.
	NTP Mix	Use an extinguishing agent suitable for the surrounding fire.
	Inorganic Pyrophosphatase	Use an extinguishing agent suitable for the surrounding fire.
	T7 RNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
	PEG	Use an extinguishing agent suitable for the surrounding fire.
Cyanine 5-CTP	Use an extinguishing agent suitable for the surrounding fire.	

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

## Section 5. Firefighting measures

<b>Specific hazards arising from the chemical</b>	<b>:</b> T7 Primer	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.
	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.
	RNase Inhibitor	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.
	4X Transcription Buffer	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.
	Inorganic Pyrophosphatase	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.
	PEG	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.
<b>Hazardous thermal decomposition products</b>	<b>:</b> T7 Primer	No specific data.
	10 mM dNTP Mix	No specific data.
	5X First Strand Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	0.1 M DTT	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	RNase Inhibitor	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	MMLV-RT	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
	NTP Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	Inorganic Pyrophosphatase	Decomposition products may include the following

## Section 5. Firefighting measures

		materials: carbon dioxide carbon monoxide
	T7 RNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	PEG	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Cyanine 5-CTP	No specific data.
<b>Special protective actions for fire-fighters</b>	: 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.
	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.
	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.
	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.
	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.
	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.
	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.
	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.
	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.
	PEG	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Cyanine 5-CTP	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

## Section 5. Firefighting measures

<b>Special protective equipment for fire-fighters</b>	: 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.
	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.
	5X First Strand Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	0.1 M DTT	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	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.
	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.
	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.
	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.
	Inorganic Pyrophosphatase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	T7 RNA Polymerase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	PEG	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Cyanine 5-CTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: 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.
	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

## Section 6. Accidental release measures

5X First Strand Buffer	protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through 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.
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.
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.
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.
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.
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.
T7 RNA Polymerase	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.
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.
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.

## Section 6. Accidental release measures

<b>For emergency responders</b> :	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".
	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".
	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".
	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".
	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-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".
	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".
	Inorganic Pyrophosphatase	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".
	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".
	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".

<b>Environmental precautions</b> :	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).
	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).
	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,



## Section 6. Accidental release measures

0.1 M DTT	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).
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).
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).
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).
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).
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).
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).
PEG	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 (sewers, waterways, soil or air).

### Methods and material for containment and cleaning up

**Methods for cleaning up** : T7 Primer

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.
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

## Section 6. Accidental release measures

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

## Section 7. Handling and storage

### Precautions for safe handling

<b>Protective measures</b>	: T7 Primer	Put on appropriate personal protective equipment (see Section 8).
	10 mM dNTP Mix	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).
	RNase Inhibitor	Put on appropriate personal protective equipment (see Section 8).
	MMLV-RT	Put on appropriate personal protective equipment (see Section 8).
	4X Transcription Buffer	Put on appropriate personal protective equipment (see Section 8).
	NTP Mix	Put on appropriate personal protective equipment (see Section 8).
	Inorganic Pyrophosphatase	Put on appropriate personal protective equipment (see Section 8).
	T7 RNA Polymerase	Put on appropriate personal protective equipment (see Section 8).
	PEG	Put on appropriate personal protective equipment (see Section 8).
	Cyanine 5-CTP	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	: 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.
	10 mM dNTP Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	5X First Strand Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	0.1 M DTT	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	RNase Inhibitor	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.
	MMLV-RT	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and

## Section 7. Handling and storage

4X Transcription Buffer	processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
NTP Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Inorganic Pyrophosphatase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
T7 RNA Polymerase	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.
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.
Cyanine 5-CTP	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.

**Conditions for safe storage, including any incompatibilities** : T7 Primer

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.
	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

## Section 7. Handling and storage

5X First Strand Buffer	<p>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.</p> <p>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.</p>
0.1 M DTT	<p>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.</p>
RNase Inhibitor	<p>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.</p>
MMLV-RT	<p>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.</p>
4X Transcription Buffer	<p>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.</p>
NTP Mix	<p>Store in accordance with local regulations. Store in</p>

## Section 7. Handling and storage

	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.
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.
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.
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.

## Section 8. Exposure controls and personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<b>RNase Inhibitor</b> Glycerol	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.
<b>MMLV-RT</b> Glycerol	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.
<b>Inorganic Pyrophosphatase</b> Glycerol	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.
<b>T7 RNA Polymerase</b> Glycerol	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.
<b>PEG</b> Polyethylene glycol	<b>DFG MAC-values list (Germany, 7/2015).</b> PEAK: 8000 mg/m <sup>3</sup> , 4 times per shift, 15 minutes. Form: Inhalable fraction TWA: 1000 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: 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.

## Section 8. Exposure controls and personal protection

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

## Section 9. Physical and chemical properties

### Appearance

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



## Section 9. Physical and chemical properties

	T7 Primer	Not available.
	10 mM dNTP Mix	Not available.
	5X First Strand Buffer	8.3
	0.1 M DTT	Not available.
	RNase Inhibitor	Not available.
	MMLV-RT	Not available.
	4X Transcription Buffer	8
	NTP Mix	Not available.
	Inorganic Pyrophosphatase	7.5
	T7 RNA Polymerase	Not available.
	PEG	Not available.
	Cyanine 5-CTP	7.6
<b>Melting point</b>	: T7 Primer	0°C (32°F)
	10 mM dNTP Mix	0°C (32°F)
	5X First Strand Buffer	Not available.
	0.1 M DTT	0°C (32°F)
	RNase Inhibitor	Not available.
	MMLV-RT	17.8°C (64°F)
	4X Transcription Buffer	0°C (32°F)
	NTP Mix	0°C (32°F)
	Inorganic Pyrophosphatase	Not available.
	T7 RNA Polymerase	Not available.
	PEG	Not available.
	Cyanine 5-CTP	0°C (32°F)
<b>Boiling point</b>	: T7 Primer	100°C (212°F)
	10 mM dNTP Mix	100°C (212°F)
	5X First Strand Buffer	Not available.
	0.1 M DTT	100°C (212°F)
	RNase Inhibitor	Not available.
	MMLV-RT	289.7°C (553.5°F)
	4X Transcription Buffer	100°C (212°F)
	NTP Mix	100°C (212°F)
	Inorganic Pyrophosphatase	Not available.
	T7 RNA Polymerase	Not available.
	PEG	Not available.
	Cyanine 5-CTP	100°C (212°F)
<b>Flash point</b>	: T7 Primer	Not available.
	10 mM dNTP Mix	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	RNase Inhibitor	Not available.
	MMLV-RT	Not available.
	4X Transcription Buffer	Not available.
	NTP Mix	Not available.
	Inorganic Pyrophosphatase	Not available.
	T7 RNA Polymerase	Not available.
	PEG	Not available.
	Cyanine 5-CTP	Not available.
<b>Evaporation rate</b>	: T7 Primer	Not available.
	10 mM dNTP Mix	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	RNase Inhibitor	Not available.
	MMLV-RT	Not available.
	4X Transcription Buffer	Not available.
	NTP Mix	Not available.
	Inorganic Pyrophosphatase	Not available.
	T7 RNA Polymerase	Not available.
	PEG	Not available.
	Cyanine 5-CTP	Not available.

## Section 9. Physical and chemical properties

<b>Flammability (solid, gas)</b>	:	T7 Primer	Not applicable.
		10 mM dNTP Mix	Not applicable.
		5X First Strand Buffer	Not applicable.
		0.1 M DTT	Not applicable.
		RNase Inhibitor	Not applicable.
		MMLV-RT	Not applicable.
		4X Transcription Buffer	Not applicable.
		NTP Mix	Not applicable.
		Inorganic Pyrophosphatase	Not applicable.
		T7 RNA Polymerase	Not applicable.
		PEG	Not applicable.
	Cyanine 5-CTP	Not applicable.	
<b>Lower and upper explosive (flammable) limits</b>	:	T7 Primer	Not available.
		10 mM dNTP Mix	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
		Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
	Cyanine 5-CTP	Not available.	
<b>Vapour pressure</b>	:	T7 Primer	Not available.
		10 mM dNTP Mix	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
		Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
	Cyanine 5-CTP	Not available.	
<b>Vapour density</b>	:	T7 Primer	Not available.
		10 mM dNTP Mix	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
		Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
	Cyanine 5-CTP	Not available.	
<b>Relative density</b>	:	T7 Primer	Not available.
		10 mM dNTP Mix	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
		Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
	Cyanine 5-CTP	Not available.	

## Section 9. Physical and chemical properties

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

## Section 9. Physical and chemical properties

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

## Section 10. Stability and reactivity

<b>Reactivity</b>	:	T7 Primer	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.
		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.
		RNase Inhibitor	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.
		4X Transcription Buffer	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.
		Inorganic Pyrophosphatase	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.
		PEG	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.

<b>Chemical stability</b>	:	T7 Primer	The product is stable.
		10 mM dNTP Mix	The product is stable.
		5X First Strand Buffer	The product is stable.
		0.1 M DTT	The product is stable.
		RNase Inhibitor	The product is stable.
		MMLV-RT	The product is stable.
		4X Transcription Buffer	The product is stable.
		NTP Mix	The product is stable.
		Inorganic Pyrophosphatase	The product is stable.
		T7 RNA Polymerase	The product is stable.
		PEG	The product is stable.
		Cyanine 5-CTP	The product is stable.

<b>Possibility of hazardous reactions</b>	:	T7 Primer	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.
		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.
		RNase Inhibitor	Under normal conditions of storage and use, hazardous reactions will not occur.

## Section 10. Stability and reactivity

MMLV-RT	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.
NTP Mix	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.
T7 RNA Polymerase	Under normal conditions of storage and use, hazardous reactions will not occur.
PEG	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.

<b>Conditions to avoid</b>	:	T7 Primer	No specific data.
		10 mM dNTP Mix	No specific data.
		5X First Strand Buffer	No specific data.
		0.1 M DTT	No specific data.
		RNase Inhibitor	No specific data.
		MMLV-RT	No specific data.
		4X Transcription Buffer	No specific data.
		NTP Mix	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		T7 RNA Polymerase	No specific data.
		PEG	No specific data.
		Cyanine 5-CTP	No specific data.

<b>Incompatible materials</b>	:	T7 Primer	May react or be incompatible with oxidising materials.
		10 mM dNTP Mix	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.
		RNase Inhibitor	May react or be incompatible with oxidising materials.
		MMLV-RT	May react or be incompatible with oxidising materials.
		4X Transcription Buffer	May react or be incompatible with oxidising materials.
		NTP Mix	May react or be incompatible with oxidising materials.
		Inorganic Pyrophosphatase	May react or be incompatible with oxidising materials.
		T7 RNA Polymerase	May react or be incompatible with oxidising materials.
		PEG	May react or be incompatible with oxidising materials.
		Cyanine 5-CTP	May react or be incompatible with oxidising materials.

<b>Hazardous decomposition products</b>	:	T7 Primer	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.
		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.
		RNase Inhibitor	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.
		4X Transcription Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 10. Stability and reactivity

NTP Mix	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.
T7 RNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
PEG	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Cyanine 5-CTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>RNase Inhibitor</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>MMLV-RT</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>Inorganic Pyrophosphatase</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>T7 RNA Polymerase</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>RNase Inhibitor</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>MMLV-RT</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>Inorganic Pyrophosphatase</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>T7 RNA Polymerase</b> Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
<b>PEG</b>					

**Section 11. Toxicological information**

Polyethylene glycol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-

**Sensitisation**

Not available.

**Mutagenicity**

Not available.

**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

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

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

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

**Potential acute health effects**

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

## Section 11. Toxicological information

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

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

<b>Eye contact</b>	: T7 Primer 10 mM dNTP Mix 5X First Strand Buffer 0.1 M DTT RNase Inhibitor MMLV-RT 4X Transcription Buffer NTP Mix Inorganic Pyrophosphatase T7 RNA Polymerase PEG Cyanine 5-CTP	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
<b>Inhalation</b>	: T7 Primer 10 mM dNTP Mix 5X First Strand Buffer 0.1 M DTT RNase Inhibitor MMLV-RT 4X Transcription Buffer NTP Mix Inorganic Pyrophosphatase T7 RNA Polymerase PEG Cyanine 5-CTP	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.



## Section 11. Toxicological information

<b>Skin contact</b>	:	T7 Primer	No specific data.
		10 mM dNTP Mix	No specific data.
		5X First Strand Buffer	No specific data.
		0.1 M DTT	No specific data.
		RNase Inhibitor	No specific data.
		MMLV-RT	No specific data.
		4X Transcription Buffer	No specific data.
		NTP Mix	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		T7 RNA Polymerase	No specific data.
		PEG	No specific data.
<b>Ingestion</b>	:	T7 Primer	No specific data.
		10 mM dNTP Mix	No specific data.
		5X First Strand Buffer	No specific data.
		0.1 M DTT	No specific data.
		RNase Inhibitor	No specific data.
		MMLV-RT	No specific data.
		4X Transcription Buffer	No specific data.
		NTP Mix	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		T7 RNA Polymerase	No specific data.
		PEG	No specific data.
	Cyanine 5-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

Not available.

<b>General</b>	:	T7 Primer	No known significant effects or critical hazards.
		10 mM dNTP Mix	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.
		RNase Inhibitor	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		PEG	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	:	T7 Primer	No known significant effects or critical hazards.
		10 mM dNTP Mix	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.
		RNase Inhibitor	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		PEG	No known significant effects or critical hazards.

## Section 11. Toxicological information

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

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
0.1 M DTT Oral	32467.5 mg/kg

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
<b>RNase Inhibitor</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>MMLV-RT</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>Inorganic Pyrophosphatase</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>T7 RNA Polymerase</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>PEG</b> Polyethylene glycol	Acute LC50 >1000000 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>RNase Inhibitor</b> Glycerol	-1.76	-	low
<b>MMLV-RT</b> Glycerol	-1.76	-	low
<b>Inorganic Pyrophosphatase</b> Glycerol	-1.76	-	low
<b>T7 RNA Polymerase</b> Glycerol	-1.76	-	low
<b>PEG</b> Polyethylene glycol	-	3.2	low

### Mobility in soil

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

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

## Section 13. Disposal considerations

**Disposal methods** : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and

## Section 13. Disposal considerations

contact with soil, waterways, drains and sewers.

## Section 14. Transport information

**ADG / IMDG / IATA** : Not regulated as Dangerous Goods according to the ADG Code .

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

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

## Section 15. Regulatory information

### Standard Uniform Schedule of Medicine and Poisons

5

### Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

### 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>	: 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>	: Not determined.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

## Section 16. Any other relevant information

### History

**Date of issue/Date of revision** : 02/08/2017

**Date of previous issue** : No previous validation.

**Version** : 1

### Key to abbreviations

: ADG = Australian Dangerous Goods  
 ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 NOHSC = National Occupational Health and Safety Commission  
 SUSMP = Standard Uniform Schedule of Medicine and Poisons  
 UN = United Nations

### Procedure used to derive the classification

Classification	Justification
Not classified.	

**References** : Not available.

✔ Indicates information that has changed from previously issued version.

### Notice to reader

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