Material Safety Data Sheet

Agilent Technologies

Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Low RNA Input Linear Amplification Kit PLUS - One-color

1 . Identification of the material and supplier

Names

Product name	:	Low RNA Input Linear Amplification Kit PLUS - One-color
Part No. (Chemical Kit)	:	5188-5339
Part No.	:	PEG N/A T7 Promoter Primer N/A 5X First Strand Buffer N/A DTT 0.1M N/A 10 mM dNTP Mix N/A RNaseOUT N/A NTP Mix N/A 4X Transcription Buffer N/A T7 RNA Polymerase N/A RNAse A N/A Random Hexamers N/A MMLV-RT N/A Inorganic Pyrophosphatase N/A CTP N/A dNTP N/A Cyanine 3-CTP FP1309
ADG	:	Not regulated as Dangerous Goods according to the ADG Code

Supplier

Supplier/Manufacturer	:	Agilent Technologies Australia Pty Ltd 679 Springvale Road Mulgrave Victoria 3170, Australia 1800 802 402
Emergency telephone number	:	Chemtrec: +(61)-290372994

Uses

Area of application	:	PEG Industrial applications, Professional applications. T7 Promoter Primer Industrial applications, Professional applications. 5x First Strand Buffer Industrial applications, Professional applications. DTT 0.1M Industrial applications, Professional applications. 10 mM dNTP Mix Industrial applications, Professional applications. RNaseOUT Industrial applications, Professional applications. NTP Mix Industrial applications, Professional applications. 4X Transcription Buffer Industrial applications, Professional applications. T7 RNA Polymerase Industrial applications, Professional applications. RNAse A Industrial applications. Random Hexamers Industrial applications. MMLV-RT Industrial applications, Professional applications. Inorganic Pyrophosphatase Industrial applications, Professional applications.

1 . Identification of the material and supplier

	CTP	Industrial applications.
	dNTP	Industrial applications.
	Cyanine 3-CTP	Industrial applications, Professional applications.

Material uses : Research and Development

PEG	0.14 ml
T7 Promoter Primer	0.11 ml
5X First Strand Buffer	0.195 ml
DTT 0.1M	0.23 ml
10 mM dNTP Mix	0.025 ml
RNaseOUT	0.025 ml
NTP Mix	0.175 ml
4X Transcription Buffer	0.43 ml
T7 RNA Polymerase	0.02 ml
RNAse A	0.025 ml
Random Hexamers	0.025 ml
MMLV-RT	0.045 ml
Inorganic Pyrophosphatase	0.015 ml
CTP	0.125 ml
dNTP	0.025 ml
Cyanine 3-CTP	0.024 ml

2 . Hazards identification

Classification :

PEG	Not regulated.
T7 Promoter Primer	Not regulated.
5x First Strand Buffer	Not regulated.
DTT 0.1M	Not regulated.
10 mM dNTP Mix	Not regulated.
RNaseOUT	Not regulated.
NTP Mix	Not regulated.
4X Transcription Buffer	Not regulated.
T7 RNA Polymerase	Not regulated.
RNAse A	Not regulated.
Random Hexamers	Not regulated.
MMLV-RT	Not regulated.
Inorganic Pyrophosphatase	Not regulated.
CTP	Not regulated.
dNTP	Not regulated.
Cyanine 3-CTP	Not regulated.

Risk phrases :

PEG	Not classified.
T7 Promoter Primer	Not classified.
5x First Strand Buffer	Not classified.
DTT 0.1M	Not classified.
10 mM dNTP Mix	Not classified.
RNaseOUT	Not classified.
NTP Mix	Not classified.
4X Transcription Buffer	Not classified.
T7 RNA Polymerase	Not classified.
RNAse A	Not classified.
Random Hexamers	Not classified.
MMLV-RT	Not classified.
Inorganic Pyrophosphatase	Not classified.
CTP	Not classified.
dNTP	Not classified.
Cyanine 3-CTP	Not classified.

2 . Hazards identification

Safety phrases	:	PEG	S36- Wear suitable protective clothing.
		T7 Promoter Primer	S36- Wear suitable protective clothing.
		5x First Strand Buffer	S36- Wear suitable protective clothing.
		DTT 0.1M	S36- Wear suitable protective clothing.
		10 mM dNTP Mix	S36- Wear suitable protective clothing.
		RNaseOUT	S36- Wear suitable protective clothing.
		NTP Mix	S36- Wear suitable protective clothing.
		4X Transcription Buffer	S36- Wear suitable protective clothing.
		T7 RNA Polymerase	S36- Wear suitable protective clothing.
		RNAse A	S36- Wear suitable protective clothing.
		Random Hexamers	S36- Wear suitable protective clothing.
		MMLV-RT	S36- Wear suitable protective clothing.
		Inorganic Pyrophosphatase	S36- Wear suitable protective clothing.
		CTP	S36- Wear suitable protective clothing.
		dNTP	S36- Wear suitable protective clothing.
		Cyanine 3-CTP	S36- Wear suitable protective clothing.
Statement of hazardous/ dangerous nature	:	PEG	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		T7 Promoter Primer	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		5x First Strand Buffer	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		DTT 0.1M	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		10 mM dNTP Mix	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		RNaseOUT	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		NTP Mix	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		4X Transcription Buffer	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		T7 RNA Polymerase	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		RNAse A	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		Random Hexamers	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		MMLV-RT	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		Inorganic Pyrophosphatase	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		CTP	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		dNTP	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
		Cyanine 3-CTP	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3 . Composition/information on ingredients

Mixture	:	PEG	Yes.
		T7 Promoter Primer	Yes.
		5x First Strand Buffer	Yes.
		DTT 0.1M	Yes.
		10 mM dNTP Mix	Yes.
		RNaseOUT	Yes.
		NTP Mix	Yes.
		4X Transcription Buffer	Yes.
		T7 RNA Polymerase	Yes.
		RNAse A	Yes.
		Random Hexamers	Yes.
		MMLV-RT	Yes.
		Inorganic Pyrophosphatase	Yes.

3 . Composition/information on ingredients

CTP	Yes.
dNTP	Yes.
Cyanine 3-CTP	Yes.

Ingredient name	CAS number	Concentration
PEG Polyethylene glycol	25322-68-3	30 - 60
RNaseOUT Glycerol	56-81-5	30 - 60
T7 RNA Polymerase Glycerol	56-81-5	30 - 60
MMLV-RT Glycerol	56-81-5	30 - 60
Inorganic Pyrophosphatase Glycerol	56-81-5	30 - 60

Other ingredients, determined not to be hazardous according to Safe Work Australia criteria, and not dangerous according to the ADG Code, make up the product concentration to 100%.

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.

4 . First-aid measures

Inhalation	:	PEG	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		T7 Promoter Primer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		5x First Strand Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		DTT 0.1M	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.
		RNaseOUT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		NTP Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		4X Transcription Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		T7 RNA Polymerase	Remove victim to fresh air and keep at rest in a

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			position comfortable for breathing. Get medical attention if symptoms occur.
		RNAse A	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Random Hexamers	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		MMLV-RT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Inorganic Pyrophosphatase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		CTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		dNTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Cyanine 3-CTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Ingestion	:	PEG	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		T7 Promoter Primer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		5x First Strand Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		DTT 0.1M	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

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	induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
RNaseOUT	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
NTP Mix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
4X Transcription Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
T7 RNA Polymerase	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
RNAse A	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.
Random Hexamers	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.
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

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

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			Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		CTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		dNTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Cyanine 3-CTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Eye contact	:	PEG	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		T7 Promoter Primer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		5x First Strand Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		DTT 0.1M	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.
		RNaseOUT	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		NTP Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		4X Transcription Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		T7 RNA Polymerase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		RNAse A	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.
		Random Hexamers	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		MMLV-RT	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		Inorganic Pyrophosphatase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		CTP	Immediately flush eyes with plenty of water,

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			occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		dNTP	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
		Cyanine 3-CTP	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Protection of first-aiders	:	PEG	No action shall be taken involving any personal risk or without suitable training.
		T7 Promoter Primer	No action shall be taken involving any personal risk or without suitable training.
		5x First Strand Buffer	No action shall be taken involving any personal risk or without suitable training.
		DTT 0.1M	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.
		RNaseOUT	No action shall be taken involving any personal risk or without suitable training.
		NTP Mix	No action shall be taken involving any personal risk or without suitable training.
		4X Transcription Buffer	No action shall be taken involving any personal risk or without suitable training.
		T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training.
		RNAse A	No action shall be taken involving any personal risk or without suitable training.
		Random Hexamers	No action shall be taken involving any personal risk or without suitable training.
		MMLV-RT	No action shall be taken involving any personal risk or without suitable training.
		Inorganic Pyrophosphatase	No action shall be taken involving any personal risk or without suitable training.
		CTP	No action shall be taken involving any personal risk or without suitable training.
		dNTP	No action shall be taken involving any personal risk or without suitable training.
		Cyanine 3-CTP	No action shall be taken involving any personal risk or without suitable training.
Advice to doctor	:	PEG	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		T7 Promoter Primer	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		5x First Strand Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		DTT 0.1M	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		10 mM dNTP Mix	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		RNaseOUT	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		NTP Mix	In case of inhalation of decomposition products

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		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.
	T7 RNA Polymerase	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	RNAse A	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Random Hexamers	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	MMLV-RT	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Inorganic Pyrophosphatase	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	CTP	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	dNTP	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Cyanine 3-CTP	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Extinguishing media

Suitable	:	PEG	Use an extinguishing agent suitable for the surrounding fire.
		T7 Promoter Primer	Use an extinguishing agent suitable for the surrounding fire.
		5x First Strand Buffer	Use an extinguishing agent suitable for the surrounding fire.
		DTT 0.1M	Use an extinguishing agent suitable for the surrounding fire.
		10 mM dNTP Mix	Use an extinguishing agent suitable for the surrounding fire.
		RNaseOUT	Use an extinguishing agent suitable for the surrounding fire.
		NTP Mix	Use an extinguishing agent suitable for the surrounding fire.
		4X Transcription Buffer	Use an extinguishing agent suitable for the surrounding fire.
		T7 RNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
		RNAse A	Use an extinguishing agent suitable for the surrounding fire.
		Random Hexamers	Use an extinguishing agent suitable for the surrounding fire.
		MMLV-RT	Use an extinguishing agent suitable for the surrounding fire.
		Inorganic Pyrophosphatase	Use an extinguishing agent suitable for the surrounding fire.
		CTP	Use an extinguishing agent suitable for the surrounding fire.

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		dNTP	Use an extinguishing agent suitable for the surrounding fire.
		Cyanine 3-CTP	Use an extinguishing agent suitable for the surrounding fire.
Not suitable	:	PEG	None known.
		T7 Promoter Primer	None known.
		5x First Strand Buffer	None known.
		DTT 0.1M	None known.
		10 mM dNTP Mix	None known.
		RNaseOUT	None known.
		NTP Mix	None known.
		4X Transcription Buffer	None known.
		T7 RNA Polymerase	None known.
		RNAse A	None known.
		Random Hexamers	None known.
		MMLV-RT	None known.
		Inorganic Pyrophosphatase	None known.
		CTP	None known.
		dNTP	None known.
		Cyanine 3-CTP	None known.
Special exposure hazards	:	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.
		T7 Promoter Primer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		5x First Strand Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		DTT 0.1M	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.
		RNaseOUT	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		NTP Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		4X Transcription Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		T7 RNA Polymerase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		RNAse A	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.
		Random Hexamers	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

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		personal risk or without suitable training.
	MMLV-RT	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Inorganic Pyrophosphatase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	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.
	dNTP	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Cyanine 3-CTP	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	PEG	In a fire or if heated, a pressure increase will occur and the container may burst.
	T7 Promoter Primer	In a fire or if heated, a pressure increase will occur and the container may burst.
	5x First Strand Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	DTT 0.1M	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.
	RNaseOUT	In a fire or if heated, a pressure increase will occur and the container may burst.
	NTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	4X Transcription Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	T7 RNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
	RNAse A	In a fire or if heated, a pressure increase will occur and the container may burst.
	Random Hexamers	In a fire or if heated, a pressure increase will occur and the container may burst.
	MMLV-RT	In a fire or if heated, a pressure increase will occur and the container may burst.
	Inorganic Pyrophosphatase	In a fire or if heated, a pressure increase will occur and the container may burst.
	CTP	In a fire or if heated, a pressure increase will occur and the container may burst.
	dNTP	In a fire or if heated, a pressure increase will occur and the container may burst.
	Cyanine 3-CTP	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products :	PEG	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	T7 Promoter Primer	No specific data.
	5x First Strand Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides

5 . Fire-fighting measures

	halogenated compounds metal oxide/oxides
DTT 0.1M	No specific data.
10 mM dNTP Mix	No specific data.
RNaseOUT	Decomposition products may include the following materials: carbon dioxide carbon monoxide
NTP Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
4X Transcription Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
T7 RNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
RNAse A	No specific data.
Random Hexamers	No specific data.
MMLV-RT	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Inorganic Pyrophosphatase	Decomposition products may include the following materials: carbon dioxide carbon monoxide phosphorus oxides
CTP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
dNTP	No specific data.
Cyanine 3-CTP	No specific data.

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

6 . Accidental release measures

Personal precautions	: 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 (see Section 8).
	T7 Promoter 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 (see Section 8).

6 . Accidental release measures

5x First Strand Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment (see Section 8).
DTT 0.1M	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 (see Section 8).
10 mM dNTP Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment (see Section 8).
RNaseOUT	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 (see Section 8).
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 (see Section 8).
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 (see Section 8).
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 (see Section 8).
RNAse A	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 (see Section 8).
Random Hexamers	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 (see Section 8).
MMLV-RT	No action shall be taken involving any personal

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			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 (see Section 8).
		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 (see Section 8).
		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 (see Section 8).
		dNTP	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 (see Section 8).
		Cyanine 3-CTP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment (see Section 8).
Environmental precautions	:	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).
		T7 Promoter Primer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
		5x First Strand Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
		DTT 0.1M	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).
		RNaseOUT	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

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	NTP Mix	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	4X Transcription Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	T7 RNA Polymerase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	RNAse A	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).
	Random Hexamers	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	MMLV-RT	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Inorganic Pyrophosphatase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	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).
	dNTP	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 3-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 for cleaning up :	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.
	T7 Promoter Primer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	5x First Strand Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-

6 . Accidental release measures

	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.
DTT 0.1M	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
10 mM dNTP Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
RNaseOUT	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
NTP Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
4X Transcription Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
T7 RNA Polymerase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
RNAse A	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.
Random Hexamers	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
MMLV-RT	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Inorganic Pyrophosphatase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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

7 . Handling and storage

Handling	:	PEG	Put on appropriate personal protective equipment (see Section 8). 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.
		T7 Promoter Primer	Put on appropriate personal protective equipment (see Section 8). 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.
		5x First Strand Buffer	Put on appropriate personal protective equipment (see Section 8). 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.
		DTT 0.1M	Put on appropriate personal protective equipment (see Section 8). 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.
		10 mM dNTP Mix	Put on appropriate personal protective equipment (see Section 8). 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.
		RNaseOUT	Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where

7 . Handling and storage

	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.
NTP Mix	Put on appropriate personal protective equipment (see Section 8). 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.
4X Transcription Buffer	Put on appropriate personal protective equipment (see Section 8). 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.
T7 RNA Polymerase	Put on appropriate personal protective equipment (see Section 8). 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.
RNAse A	Put on appropriate personal protective equipment (see Section 8). 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.
Random Hexamers	Put on appropriate personal protective equipment (see Section 8). 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.
MMLV-RT	Put on appropriate personal protective equipment (see Section 8). 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.
Inorganic Pyrophosphatase	Put on appropriate personal protective equipment (see Section 8). 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.
CTP	Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where

7 . Handling and storage

			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.
		dNTP	Put on appropriate personal protective equipment (see Section 8). 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.
		Cyanine 3-CTP	Put on appropriate personal protective equipment (see Section 8). 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.
Storage	:	PEG	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
		T7 Promoter Primer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
		5x First Strand Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
		DTT 0.1M	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

7 . Handling and storage

	environmental contamination.
10 mM dNTP Mix	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
RNaseOUT	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.
NTP Mix	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
4X Transcription Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
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.
RNAse A	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

7 . Handling and storage

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

7 . Handling and storage

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.

8 . Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Exposure limits
PEG Polyethylene glycol	**TRGS900 AGW (Germany, 8/2010).** PEAK: 8000 mg/m³ 15 minutes. Form: inhalable fraction TWA: 1000 mg/m³ 8 hours. Form: inhalable fraction
RNaseOUT Glycerol	**Safe Work Australia (Australia, 7/2012).** TWA: 10 mg/m³ 8 hours.
T7 RNA Polymerase Glycerol	**Safe Work Australia (Australia, 7/2012).** TWA: 10 mg/m³ 8 hours.
MMLV-RT Glycerol	**Safe Work Australia (Australia, 7/2012).** TWA: 10 mg/m³ 8 hours.
Inorganic Pyrophosphatase Glycerol	**Safe Work Australia (Australia, 7/2012).** TWA: 10 mg/m³ 8 hours.

No additional exposure standard allocated for other ingredients/components covered by the MSDS other than those listed in the table above.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Exposure controls

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

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.

Eyes : 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 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.

Hands : 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.

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

8 . Exposure controls/personal protection

Skin : 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.

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.

9 . Physical and chemical properties

Physical state	: PEG	Liquid.
	T7 Promoter Primer	Liquid.
	5x First Strand Buffer	Liquid.
	DTT 0.1M	Liquid.
	10 mM dNTP Mix	Liquid.
	RNaseOUT	Liquid.
	NTP Mix	Liquid.
	4X Transcription Buffer	Liquid.
	T7 RNA Polymerase	Liquid.
	RNAse A	Liquid.
	Random Hexamers	Liquid.
	MMLV-RT	Liquid.
	Inorganic Pyrophosphatase	Liquid.
	CTP	Liquid.
	dNTP	Liquid.
	Cyanine 3-CTP	Liquid.
Colour	: PEG	Not available.
	T7 Promoter Primer	Not available.
	5x First Strand Buffer	Not available.
	DTT 0.1M	Not available.
	10 mM dNTP Mix	Not available.
	RNaseOUT	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	T7 RNA Polymerase	Not available.
	RNAse A	Not available.
	Random Hexamers	Not available.
	MMLV-RT	Clear.
	Inorganic Pyrophosphatase	Not available.
	CTP	Not available.
	dNTP	Not available.
	Cyanine 3-CTP	Not available.
Odour	: PEG	Not available.
	T7 Promoter Primer	Not available.
	5x First Strand Buffer	Not available.
	DTT 0.1M	Not available.
	10 mM dNTP Mix	Not available.
	RNaseOUT	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	T7 RNA Polymerase	Not available.
	RNAse A	Not available.
	Random Hexamers	Not available.
	MMLV-RT	Not available.
	Inorganic Pyrophosphatase	Not available.
	CTP	Not available.
	dNTP	Not available.
	Cyanine 3-CTP	Not available.

9 . Physical and chemical properties

Odour threshold	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Not available.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		dNTP	Not available.
		Cyanine 3-CTP	Not available.
Boiling point	:	PEG	Not available.
		T7 Promoter Primer	100°C (212°F)
		5x First Strand Buffer	Not available.
		DTT 0.1M	100°C (212°F)
		10 mM dNTP Mix	100°C (212°F)
		RNaseOUT	Not available.
		NTP Mix	100°C (212°F)
		4X Transcription Buffer	100°C (212°F)
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	100°C (212°F)
		MMLV-RT	289.7°C (553.5°F)
		Inorganic Pyrophosphatase	Not available.
		CTP	100°C (212°F)
		dNTP	100°C (212°F)
		Cyanine 3-CTP	100°C (212°F)
Melting point	:	PEG	Not available.
		T7 Promoter Primer	0°C (32°F)
		5x First Strand Buffer	Not available.
		DTT 0.1M	0°C (32°F)
		10 mM dNTP Mix	0°C (32°F)
		RNaseOUT	Not available.
		NTP Mix	0°C (32°F)
		4X Transcription Buffer	0°C (32°F)
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	0°C (32°F)
		MMLV-RT	17.8°C (64°F)
		Inorganic Pyrophosphatase	Not available.
		CTP	0°C (32°F)
		dNTP	0°C (32°F)
		Cyanine 3-CTP	0°C (32°F)
Vapour pressure	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Not available.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		dNTP	Not available.

9 . Physical and chemical properties

		Cyanine 3-CTP	Not available.
Relative density	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Not available.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		dNTP	Not available.
		Cyanine 3-CTP	Not available.
Flash point	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Not available.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		dNTP	Not available.
		Cyanine 3-CTP	Not available.
Flammable limits	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Not available.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		dNTP	Not available.
		Cyanine 3-CTP	Not available.
Vapour density	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Not available.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.

9 . Physical and chemical properties

		dNTP	Not available.
		Cyanine 3-CTP	Not available.
pH	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	8.3
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	8
		NTP Mix	Not available.
		4X Transcription Buffer	8
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		dNTP	Not available.
		Cyanine 3-CTP	7.6
Viscosity	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Not available.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		dNTP	Not available.
		Cyanine 3-CTP	Not available.
Auto-ignition temperature	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Not available.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		dNTP	Not available.
		Cyanine 3-CTP	Not available.
Evaporation rate	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Not available.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.

9 . Physical and chemical properties

		CTP	Not available.
		dNTP	Not available.
		Cyanine 3-CTP	Not available.
Solubility	:	PEG	Soluble in the following materials: cold water and hot water.
		T7 Promoter Primer	Easily soluble in the following materials: cold water and hot water.
		5x First Strand Buffer	Not available.
		DTT 0.1M	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.
		RNaseOUT	Soluble in the following materials: cold water and hot water.
		NTP Mix	Easily soluble in the following materials: cold water and hot water.
		4X Transcription Buffer	Easily soluble in the following materials: cold water and hot water.
		T7 RNA Polymerase	Soluble in the following materials: cold water and hot water.
		RNAse A	Not available.
		Random Hexamers	Easily soluble in the following materials: cold water and hot water.
		MMLV-RT	Soluble in the following materials: cold water and hot water.
		Inorganic Pyrophosphatase	Soluble in the following materials: cold water and hot water.
		CTP	Not available.
		dNTP	Easily soluble in the following materials: cold water and hot water.
		Cyanine 3-CTP	Easily soluble in the following materials: cold water and hot water.

10 . Stability and reactivity

Chemical stability	:	PEG	The product is stable.
		T7 Promoter Primer	The product is stable.
		5x First Strand Buffer	The product is stable.
		DTT 0.1M	The product is stable.
		10 mM dNTP Mix	The product is stable.
		RNaseOUT	The product is stable.
		NTP Mix	The product is stable.
		4X Transcription Buffer	The product is stable.
		T7 RNA Polymerase	The product is stable.
		RNAse A	The product is stable.
		Random Hexamers	The product is stable.
		MMLV-RT	The product is stable.
		Inorganic Pyrophosphatase	The product is stable.
		CTP	The product is stable.
		dNTP	The product is stable.
		Cyanine 3-CTP	The product is stable.
Possibility of hazardous reactions	:	PEG	Under normal conditions of storage and use, hazardous reactions will not occur.
		T7 Promoter Primer	Under normal conditions of storage and use, hazardous reactions will not occur.
		5x First Strand Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		DTT 0.1M	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.
		RNaseOUT	Under normal conditions of storage and use, hazardous reactions will not occur.
		NTP Mix	Under normal conditions of storage and use,

10 . Stability and reactivity

			hazardous reactions will not occur.
		4X Transcription Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
		T7 RNA Polymerase	Under normal conditions of storage and use, hazardous reactions will not occur.
		RNAse A	Under normal conditions of storage and use, hazardous reactions will not occur.
		Random Hexamers	Under normal conditions of storage and use, hazardous reactions will not occur.
		MMLV-RT	Under normal conditions of storage and use, hazardous reactions will not occur.
		Inorganic Pyrophosphatase	Under normal conditions of storage and use, hazardous reactions will not occur.
		CTP	Under normal conditions of storage and use, hazardous reactions will not occur.
		dNTP	Under normal conditions of storage and use, hazardous reactions will not occur.
		Cyanine 3-CTP	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	PEG	No specific data.
		T7 Promoter Primer	No specific data.
		5x First Strand Buffer	No specific data.
		DTT 0.1M	No specific data.
		10 mM dNTP Mix	No specific data.
		RNaseOUT	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		RNAse A	No specific data.
		Random Hexamers	No specific data.
		MMLV-RT	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		CTP	No specific data.
		dNTP	No specific data.
		Cyanine 3-CTP	No specific data.
Materials to avoid	:	PEG	No specific data.
		T7 Promoter Primer	No specific data.
		5x First Strand Buffer	No specific data.
		DTT 0.1M	No specific data.
		10 mM dNTP Mix	No specific data.
		RNaseOUT	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		RNAse A	No specific data.
		Random Hexamers	No specific data.
		MMLV-RT	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		CTP	No specific data.
		dNTP	No specific data.
		Cyanine 3-CTP	No specific data.
Hazardous decomposition products	:	PEG	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		T7 Promoter Primer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		5x First Strand Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		DTT 0.1M	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

10 . Stability and reactivity

10 mM dNTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
RNaseOUT	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
NTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
4X Transcription Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
T7 RNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
RNAse A	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Random Hexamers	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
MMLV-RT	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Inorganic Pyrophosphatase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
CTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
dNTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Cyanine 3-CTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Potential acute health effects

Inhalation :

PEG	No known significant effects or critical hazards.
T7 Promoter Primer	No known significant effects or critical hazards.
5x First Strand Buffer	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
DTT 0.1M	No known significant effects or critical hazards.
10 mM dNTP Mix	No known significant effects or critical hazards.
RNaseOUT	No known significant effects or critical hazards.
NTP Mix	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
4X Transcription Buffer	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
T7 RNA Polymerase	No known significant effects or critical hazards.
RNAse A	No known significant effects or critical hazards.
Random Hexamers	No known significant effects or critical hazards.
MMLV-RT	No known significant effects or critical hazards.
Inorganic Pyrophosphatase	No known significant effects or critical hazards.
CTP	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
dNTP	No known significant effects or critical hazards.
Cyanine 3-CTP	No known significant effects or critical hazards.

11 . Toxicological information

Ingestion	:	PEG	No known significant effects or critical hazards.
		T7 Promoter Primer	No known significant effects or critical hazards.
		5x First Strand Buffer	No known significant effects or critical hazards.
		DTT 0.1M	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNaseOUT	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		RNAse A	No known significant effects or critical hazards.
		Random Hexamers	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		CTP	No known significant effects or critical hazards.
		dNTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.
Skin contact	:	PEG	No known significant effects or critical hazards.
		T7 Promoter Primer	No known significant effects or critical hazards.
		5x First Strand Buffer	No known significant effects or critical hazards.
		DTT 0.1M	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNaseOUT	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		RNAse A	No known significant effects or critical hazards.
		Random Hexamers	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		CTP	No known significant effects or critical hazards.
		dNTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.
Eye contact	:	PEG	No known significant effects or critical hazards.
		T7 Promoter Primer	No known significant effects or critical hazards.
		5x First Strand Buffer	No known significant effects or critical hazards.
		DTT 0.1M	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNaseOUT	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		RNAse A	No known significant effects or critical hazards.
		Random Hexamers	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		CTP	No known significant effects or critical hazards.
		dNTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
RNaseOUT				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
T7 RNA Polymerase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
MMLV-RT				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Inorganic Pyrophosphatase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-

11 . Toxicological information

Conclusion/Summary : Not available.

Potential chronic health effects

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
PEG					
Polyethylene glycol	Eyes - Mild irritant	Rabbit	-	-	-
	Skin - Mild irritant	Rabbit	-	-	-
RNaseOUT					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
T7 RNA Polymerase					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
MMLV-RT					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Inorganic Pyrophosphatase					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

Chronic effects :

PEG	No known significant effects or critical hazards.
T7 Promoter Primer	No known significant effects or critical hazards.
5x First Strand Buffer	No known significant effects or critical hazards.
DTT 0.1M	No known significant effects or critical hazards.
10 mM dNTP Mix	No known significant effects or critical hazards.
RNaseOUT	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.
4X Transcription Buffer	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
RNAse A	No known significant effects or critical hazards.
Random Hexamers	No known significant effects or critical hazards.
MMLV-RT	No known significant effects or critical hazards.
Inorganic Pyrophosphatase	No known significant effects or critical hazards.
CTP	No known significant effects or critical hazards.
dNTP	No known significant effects or critical hazards.
Cyanine 3-CTP	No known significant effects or critical hazards.

Carcinogenicity :

PEG	No known significant effects or critical hazards.
T7 Promoter Primer	No known significant effects or critical hazards.
5x First Strand Buffer	No known significant effects or critical hazards.
DTT 0.1M	No known significant effects or critical hazards.
10 mM dNTP Mix	No known significant effects or critical hazards.
RNaseOUT	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.

11 . Toxicological information

		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		RNAse A	No known significant effects or critical hazards.
		Random Hexamers	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		CTP	No known significant effects or critical hazards.
		dNTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.
Mutagenicity	:	PEG	No known significant effects or critical hazards.
		T7 Promoter Primer	No known significant effects or critical hazards.
		5x First Strand Buffer	No known significant effects or critical hazards.
		DTT 0.1M	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNaseOUT	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		RNAse A	No known significant effects or critical hazards.
		Random Hexamers	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		CTP	No known significant effects or critical hazards.
		dNTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.
Teratogenicity	:	PEG	No known significant effects or critical hazards.
		T7 Promoter Primer	No known significant effects or critical hazards.
		5x First Strand Buffer	No known significant effects or critical hazards.
		DTT 0.1M	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNaseOUT	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		RNAse A	No known significant effects or critical hazards.
		Random Hexamers	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		CTP	No known significant effects or critical hazards.
		dNTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.
Developmental effects	:	PEG	No known significant effects or critical hazards.
		T7 Promoter Primer	No known significant effects or critical hazards.
		5x First Strand Buffer	No known significant effects or critical hazards.
		DTT 0.1M	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNaseOUT	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		RNAse A	No known significant effects or critical hazards.
		Random Hexamers	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		CTP	No known significant effects or critical hazards.
		dNTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.

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Fertility effects	:	PEG	No known significant effects or critical hazards.
		T7 Promoter Primer	No known significant effects or critical hazards.
		5x First Strand Buffer	No known significant effects or critical hazards.
		DTT 0.1M	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNaseOUT	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		RNAse A	No known significant effects or critical hazards.
		Random Hexamers	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		CTP	No known significant effects or critical hazards.
		dNTP	No known significant effects or critical hazards.
		Cyanine 3-CTP	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation	:	PEG	No specific data.
		T7 Promoter Primer	No specific data.
		5x First Strand Buffer	No specific data.
		DTT 0.1M	No specific data.
		10 mM dNTP Mix	No specific data.
		RNaseOUT	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		RNAse A	No specific data.
		Random Hexamers	No specific data.
		MMLV-RT	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		CTP	No specific data.
		dNTP	No specific data.
		Cyanine 3-CTP	No specific data.
Ingestion	:	PEG	No specific data.
		T7 Promoter Primer	No specific data.
		5x First Strand Buffer	No specific data.
		DTT 0.1M	No specific data.
		10 mM dNTP Mix	No specific data.
		RNaseOUT	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		RNAse A	No specific data.
		Random Hexamers	No specific data.
		MMLV-RT	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		CTP	No specific data.
		dNTP	No specific data.
		Cyanine 3-CTP	No specific data.
Skin	:	PEG	No specific data.
		T7 Promoter Primer	No specific data.
		5x First Strand Buffer	No specific data.
		DTT 0.1M	No specific data.
		10 mM dNTP Mix	No specific data.
		RNaseOUT	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		RNAse A	No specific data.
		Random Hexamers	No specific data.
		MMLV-RT	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		CTP	No specific data.

11 . Toxicological information

		dNTP	No specific data.
		Cyanine 3-CTP	No specific data.
Eyes	:	PEG	No specific data.
		T7 Promoter Primer	No specific data.
		5x First Strand Buffer	No specific data.
		DTT 0.1M	No specific data.
		10 mM dNTP Mix	No specific data.
		RNaseOUT	No specific data.
		NTP Mix	No specific data.
		4X Transcription Buffer	No specific data.
		T7 RNA Polymerase	No specific data.
		RNAse A	No specific data.
		Random Hexamers	No specific data.
		MMLV-RT	No specific data.
		Inorganic Pyrophosphatase	No specific data.
		CTP	No specific data.
		dNTP	No specific data.
		Cyanine 3-CTP	No specific data.
Other adverse symptoms	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Not available.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		T7 RNA Polymerase	Not available.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		dNTP	Not available.
		Cyanine 3-CTP	Not available.
Target organs	:	PEG	Not available.
		T7 Promoter Primer	Not available.
		5x First Strand Buffer	Contains material which may cause damage to the following organs: gastrointestinal tract, upper respiratory tract, skin, eye, lens or cornea.
		DTT 0.1M	Not available.
		10 mM dNTP Mix	Not available.
		RNaseOUT	Contains material which may cause damage to the following organs: kidneys, upper respiratory tract, skin, eye, lens or cornea.
		NTP Mix	Not available.
		4X Transcription Buffer	Contains material which may cause damage to the following organs: upper respiratory tract, skin, eyes.
		T7 RNA Polymerase	Contains material which may cause damage to the following organs: kidneys, upper respiratory tract, skin, eye, lens or cornea.
		RNAse A	Not available.
		Random Hexamers	Not available.
		MMLV-RT	Contains material which may cause damage to the following organs: kidneys, upper respiratory tract, skin, eye, lens or cornea.
		Inorganic Pyrophosphatase	Contains material which may cause damage to the following organs: kidneys, upper respiratory tract, skin, eye, lens or cornea.
		CTP	Not available.
		dNTP	Not available.
		Cyanine 3-CTP	Not available.

12 . Ecological information

Ecotoxicity : May cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
PEG Polyethylene glycol	Acute LC50 >1000000 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours

Other ecological information

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
RNaseOUT Glycerol	-1.76	-	low
T7 RNA Polymerase Glycerol	-1.76	-	low
MMLV-RT Glycerol	-1.76	-	low
Inorganic Pyrophosphatase Glycerol	-1.76	-	low

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

13 . Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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 contact with soil, waterways, drains and sewers.

14 . Transport information

Regulatory information

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

15 . Regulatory information

Standard Uniform Schedule of Medicine and Poisons

6, 5

Control of Scheduled Carcinogenic Substances

Ingredient name	Schedule
No listed substance	

Australia inventory (AICS) : At least one component is not listed.

16 . Other information

Remarks :

Date of issue : 18/03/2013

Date of previous issue : No previous validation.

Indicates information that has changed from previously issued version.

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