SAFETY DATA SHEET

Agilent Technologies

Quick Amp Labeling Kit, Part Number 5190-0424

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

1.1 Product identifier

Product name : Quick Amp Labeling Kit, Part Number 5190-0424

Part no. (chemical kit) : 5190-0424

Part no. :

Inorganic Pyrophosphatase	5062-9581
T7 RNA Polymerase	5062-9582
PEG	5062-9583
T7 Primer	5062-9572
5X First Strand Buffer	5062-9573
0.1 M DTT	5062-9574
10 mM dNTP Mix	5062-9575
RNase Inhibitor	5062-9576
MMLV-RT	5062-9577
4X Transcription Buffer	5062-9578
NTP Mix	5062-9579

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

Identified uses : Analytical reagent.
For research use only.

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

Uses advised against : Not for use in diagnostic procedures (RUO).

1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.
5500 Lakeside Cheadle Royal Business Park,
Cheadle, Cheshire, SK8 3GR
United Kingdom
Tel: +44 (0) 345 712 5292
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Inorganic Pyrophosphatase — Mixture
T7 RNA Polymerase — Mixture
PEG — Mixture
T7 Primer — Mixture
5X First Strand Buffer — Mixture
0.1 M DTT — Mixture
10 mM dNTP Mix — Mixture
RNase Inhibitor — Mixture
MMLV-RT — Mixture
4X Transcription Buffer — Mixture
NTP Mix — Mixture

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

5X First Strand Buffer

H412	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 3

Ingredients of unknown toxicity :

Inorganic Pyrophosphatase — Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%

T7 RNA Polymerase — Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%

PEG — Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%

5X First Strand Buffer — Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: > 60%

0.1 M DTT — Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%

RNase Inhibitor — Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%

MMLV-RT — Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%

4X Transcription Buffer — Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%

NTP Mix — Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1 - 10%
Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 1 - 10%

Ingredients of unknown ecotoxicity :

5X First Strand Buffer — Contains 59% of components with unknown hazards to the aquatic environment

4X Transcription Buffer — Contains 2.4% of components with unknown hazards to the aquatic environment

NTP Mix — Contains 4% of components with unknown hazards to the aquatic environment

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

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

2.2 Label elements

Signal word : Inorganic Pyrophosphatase — No signal word.
T7 RNA Polymerase — No signal word.
PEG — No signal word.
T7 Primer — No signal word.
5X First Strand Buffer — No signal word.
0.1 M DTT — No signal word.

SECTION 2: Hazards identification

	10 mM dNTP Mix	No signal word.
	RNase Inhibitor	No signal word.
	MMLV-RT	No signal word.
	4X Transcription Buffer	No signal word.
	NTP Mix	No signal word.
Hazard statements :	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	PEG	No known significant effects or critical hazards.
	T7 Primer	No known significant effects or critical hazards.
	5X First Strand Buffer	H412 - Harmful to aquatic life with long lasting effects.
	0.1 M DTT	No known significant effects or critical hazards.
	10 mM dNTP Mix	No known significant effects or critical hazards.
	RNase Inhibitor	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
Precautionary statements		
Prevention :	Inorganic Pyrophosphatase	Not applicable.
	T7 RNA Polymerase	Not applicable.
	PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	P273 - Avoid release to the environment.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	MMLV-RT	Not applicable.
	4X Transcription Buffer	Not applicable.
	NTP Mix	Not applicable.
Response :	Inorganic Pyrophosphatase	Not applicable.
	T7 RNA Polymerase	Not applicable.
	PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	MMLV-RT	Not applicable.
	4X Transcription Buffer	Not applicable.
	NTP Mix	Not applicable.
Storage :	Inorganic Pyrophosphatase	Not applicable.
	T7 RNA Polymerase	Not applicable.
	PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	MMLV-RT	Not applicable.
	4X Transcription Buffer	Not applicable.
	NTP Mix	Not applicable.
Disposal :	Inorganic Pyrophosphatase	Not applicable.
	T7 RNA Polymerase	Not applicable.
	PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	0.1 M DTT	Not applicable.

SECTION 2: Hazards identification

	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	MMLV-RT	Not applicable.
	4X Transcription Buffer	Not applicable.
	NTP Mix	Not applicable.
Supplemental label elements :	Inorganic Pyrophosphatase	Safety data sheet available on request.
	T7 RNA Polymerase	Safety data sheet available on request.
	PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Safety data sheet available on request.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Safety data sheet available on request.
	MMLV-RT	Safety data sheet available on request.
	4X Transcription Buffer	Not applicable.
	NTP Mix	Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles :	Inorganic Pyrophosphatase	Not applicable.
	T7 RNA Polymerase	Not applicable.
	PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	MMLV-RT	Not applicable.
	4X Transcription Buffer	Not applicable.
	NTP Mix	Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings :	Inorganic Pyrophosphatase	Not applicable.
	T7 RNA Polymerase	Not applicable.
	PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	MMLV-RT	Not applicable.
	4X Transcription Buffer	Not applicable.
	NTP Mix	Not applicable.
Tactile warning of danger :	Inorganic Pyrophosphatase	Not applicable.
	T7 RNA Polymerase	Not applicable.
	PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	MMLV-RT	Not applicable.
	4X Transcription Buffer	Not applicable.
	NTP Mix	Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

SECTION 2: Hazards identification

Inorganic Pyrophosphatase	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
T7 RNA Polymerase	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
PEG	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
T7 Primer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
5X First Strand Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
0.1 M DTT	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
10 mM dNTP Mix	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
RNase Inhibitor	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
MMLV-RT	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
4X Transcription Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
NTP Mix	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification :

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

Substances identified as having endocrine disruptor properties :

Ingredient name	Impact
5X First Strand Buffer	
Polyoxyethylene octyl phenyl ether	Environment
MMLV-RT	
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Environment

SECTION 3: Composition/information on ingredients

3.1 Substances :

Inorganic Pyrophosphatase	Mixture
T7 RNA Polymerase	Mixture
PEG	Mixture
T7 Primer	Mixture
5X First Strand Buffer	Mixture
0.1 M DTT	Mixture
10 mM dNTP Mix	Mixture
RNase Inhibitor	Mixture
MMLV-RT	Mixture
4X Transcription Buffer	Mixture
NTP Mix	Mixture

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification	Type
Inorganic Pyrophosphatase				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[1]
T7 RNA Polymerase				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[1]
5X First Strand Buffer				
Magnesium chloride	EC: 232-094-6 CAS: 7786-30-3	≤0.3	Aquatic Chronic 1, H410 (M=1)	[1]
Polyoxyethylene octyl phenyl ether	CAS: 9002-93-1	≤0.3	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1)	[1] [2]
0.1 M DTT				
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	EC: 222-468-7 CAS: 3483-12-3	≤3	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 3, H412	[1]
RNase Inhibitor				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[1]
MMLV-RT				
Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[2]
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	CAS: 9036-19-5	<0.25	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1) **See Section 16 for the full text of the H statements declared above.**	[1] [3]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

Inorganic Pyrophosphatase	[1] Substance with a workplace exposure limit
T7 RNA Polymerase	[1] Substance with a workplace exposure limit
5X First Strand Buffer	[1] Substance classified with a health or environmental hazard
	[2] Substance of equivalent concern
0.1 M DTT	[1] Substance classified with a health or environmental hazard
RNase Inhibitor	[1] Substance with a workplace exposure limit
MMLV-RT	[1] Substance classified with a health or environmental hazard
	[2] Substance with a workplace exposure limit
	[3] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: Inorganic Pyrophosphatase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	T7 RNA Polymerase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	PEG	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	T7 Primer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	5X First Strand Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	0.1 M DTT	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	10 mM dNTP Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	RNase Inhibitor	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	MMLV-RT	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	4X Transcription Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	NTP Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: Inorganic Pyrophosphatase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	T7 RNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	PEG	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	T7 Primer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	5X First Strand Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	0.1 M DTT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	10 mM dNTP Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	RNase Inhibitor	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	MMLV-RT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms

SECTION 4: First aid measures

			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.
		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.
Skin contact	:	Inorganic Pyrophosphatase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		T7 RNA Polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		PEG	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		T7 Primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		5X First Strand Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		0.1 M DTT	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		10 mM dNTP Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		RNase Inhibitor	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		MMLV-RT	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		4X Transcription Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		NTP Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	Inorganic Pyrophosphatase	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		T7 RNA Polymerase	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		PEG	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		T7 Primer	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of

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		water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	5X First Strand Buffer	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel.
	0.1 M DTT	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	10 mM dNTP Mix	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	RNase Inhibitor	Wash out mouth with water. 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. 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. 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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Protection of first-aiders :	Inorganic Pyrophosphatase	No action shall be taken involving any personal risk or without suitable training.
	T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training.
	PEG	No action shall be taken involving any personal risk or without suitable training.
	T7 Primer	No action shall be taken involving any personal risk or without suitable training.
	5X First Strand Buffer	No action shall be taken involving any personal risk or without suitable training.
	0.1 M DTT	No action shall be taken involving any personal risk or without suitable training.
	10 mM dNTP Mix	No action shall be taken involving any personal risk or without suitable training.
	RNase Inhibitor	No action shall be taken involving any personal risk or without suitable training.
	MMLV-RT	No action shall be taken involving any personal risk or without suitable training.
	4X Transcription Buffer	No action shall be taken involving any personal risk or without suitable training.
	NTP Mix	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

SECTION 4: First aid measures

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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	Inorganic Pyrophosphatase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		T7 RNA Polymerase	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
		PEG	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		T7 Primer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		5X First Strand Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		0.1 M DTT	Treat symptomatically. Contact poison treatment specialist

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		immediately if large quantities have been ingested or inhaled.
	10 mM dNTP Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	RNase Inhibitor	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	MMLV-RT	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	4X Transcription Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	NTP Mix	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments :	Inorganic Pyrophosphatase	No specific treatment.
	T7 RNA Polymerase	No specific treatment.
	PEG	No specific treatment.
	T7 Primer	No specific treatment.
	5X First Strand Buffer	No specific treatment.
	0.1 M DTT	No specific treatment.
	10 mM dNTP Mix	No specific treatment.
	RNase Inhibitor	No specific treatment.
	MMLV-RT	No specific treatment.
	4X Transcription Buffer	No specific treatment.
	NTP Mix	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media :	Inorganic Pyrophosphatase	Use an extinguishing agent suitable for the surrounding fire.
	T7 RNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
	PEG	Use an extinguishing agent suitable for the surrounding fire.
	T7 Primer	Use an extinguishing agent suitable for the surrounding fire.
	5X First Strand Buffer	Use an extinguishing agent suitable for the surrounding fire.
	0.1 M DTT	Use an extinguishing agent suitable for the surrounding fire.
	10 mM dNTP Mix	Use an extinguishing agent suitable for the surrounding fire.
	RNase Inhibitor	Use an extinguishing agent suitable for the surrounding fire.
	MMLV-RT	Use an extinguishing agent suitable for the surrounding fire.
	4X Transcription Buffer	Use an extinguishing agent suitable for the surrounding fire.
	NTP Mix	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media :	Inorganic Pyrophosphatase	None known.
	T7 RNA Polymerase	None known.
	PEG	None known.
	T7 Primer	None known.
	5X First Strand Buffer	None known.
	0.1 M DTT	None known.
	10 mM dNTP Mix	None known.
	RNase Inhibitor	None known.
	MMLV-RT	None known.
	4X Transcription Buffer	None known.
	NTP Mix	None known.

5.2 Special hazards arising from the substance or mixture

SECTION 5: Firefighting measures

Hazards from the substance or mixture	: Inorganic Pyrophosphatase	In a fire or if heated, a pressure increase will occur and the container may burst.
	T7 RNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
	PEG	In a fire or if heated, a pressure increase will occur and the container may burst.
	T7 Primer	In a fire or if heated, a pressure increase will occur and the container may burst.
	5X First Strand Buffer	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	0.1 M DTT	In a fire or if heated, a pressure increase will occur and the container may burst.
	10 mM dNTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	RNase Inhibitor	In a fire or if heated, a pressure increase will occur and the container may burst.
	MMLV-RT	In a fire or if heated, a pressure increase will occur and the container may burst.
	4X Transcription Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	NTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	: Inorganic Pyrophosphatase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	T7 RNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	PEG	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	T7 Primer	No specific data.
	5X First Strand Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	0.1 M DTT	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	10 mM dNTP Mix	No specific data.
	RNase Inhibitor	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	MMLV-RT	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	4X Transcription Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides

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	NTP Mix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters	:	Inorganic Pyrophosphatase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		T7 RNA Polymerase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		PEG	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		T7 Primer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		5X First Strand Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		0.1 M DTT	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		10 mM dNTP Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		RNase Inhibitor	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		MMLV-RT	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		4X Transcription Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
		NTP Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	Inorganic Pyrophosphatase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		T7 RNA Polymerase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		PEG	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		T7 Primer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		5X First Strand Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		0.1 M DTT	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		10 mM dNTP Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
		RNase Inhibitor	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full

SECTION 5: Firefighting measures

	face-piece operated in positive pressure mode.
MMLV-RT	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
4X Transcription Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
NTP Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel :

Inorganic Pyrophosphatase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
PEG	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
T7 Primer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
5X First Strand Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
0.1 M DTT	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
10 mM dNTP Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
RNase Inhibitor	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
MMLV-RT	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
4X Transcription Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

SECTION 6: Accidental release measures

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

SECTION 6: Accidental release measures

	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). Water polluting material. May be harmful to the environment if released in large quantities.
0.1 M DTT	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
10 mM dNTP Mix	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
RNase Inhibitor	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
MMLV-RT	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
4X Transcription Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
NTP Mix	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up :	Inorganic Pyrophosphatase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	T7 RNA Polymerase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	PEG	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	T7 Primer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	5X First Strand Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. May be harmful to the environment if released. Dispose of spillages under controlled conditions.
	0.1 M DTT	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively,

SECTION 6: Accidental release measures

	or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
10 mM dNTP Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
RNase Inhibitor	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
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. May be harmful to the environment if released. Dispose of spillages under controlled conditions.
4X Transcription Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
NTP Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures :

Inorganic Pyrophosphatase	Put on appropriate personal protective equipment (see Section 8).
T7 RNA Polymerase	Put on appropriate personal protective equipment (see Section 8).
PEG	Put on appropriate personal protective equipment (see Section 8).
T7 Primer	Put on appropriate personal protective equipment (see Section 8).
5X First Strand Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
0.1 M DTT	Put on appropriate personal protective equipment (see Section 8).
10 mM dNTP Mix	Put on appropriate personal protective equipment (see Section 8).
RNase Inhibitor	Put on appropriate personal protective equipment (see Section 8).
MMLV-RT	Put on appropriate personal protective equipment (see Section 8).
4X Transcription Buffer	Put on appropriate personal protective equipment (see Section 8).
NTP Mix	Put on appropriate personal protective equipment (see

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Section 8).

Advice on general occupational hygiene :

Inorganic Pyrophosphatase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
T7 RNA Polymerase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
PEG	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
T7 Primer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
5X First Strand Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
0.1 M DTT	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
10 mM dNTP Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
RNase Inhibitor	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
MMLV-RT	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
4X Transcription Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
NTP Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking

SECTION 7: Handling and storage

and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage	:	Inorganic Pyrophosphatase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
		T7 RNA Polymerase	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
		PEG	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
		T7 Primer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
		5X First Strand Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
		0.1 M DTT	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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

7.3 Specific end use(s)

Recommendations	:	Inorganic Pyrophosphatase	Industrial applications, Professional applications.
		T7 RNA Polymerase	Industrial applications, Professional applications.
		PEG	Industrial applications, Professional applications.
		T7 Primer	Industrial applications, Professional applications.
		5X First Strand Buffer	Industrial applications, Professional applications.
		0.1 M DTT	Industrial applications, Professional applications.
		10 mM dNTP Mix	Industrial applications, Professional applications.

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	RNase Inhibitor	Industrial applications, Professional applications.
	MMLV-RT	Industrial applications, Professional applications.
	4X Transcription Buffer	Industrial applications, Professional applications.
	NTP Mix	Industrial applications, Professional applications.
Industrial sector specific solutions :	Inorganic Pyrophosphatase	Not available.
	T7 RNA Polymerase	Not available.
	PEG	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	RNase Inhibitor	Not available.
	MMLV-RT	Not available.
	4X Transcription Buffer	Not available.
	NTP Mix	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Inorganic Pyrophosphatase	
Glycerol	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** TWA: 10 mg/m³ 8 hours. Form: Mist
T7 RNA Polymerase	
Glycerol	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** TWA: 10 mg/m³ 8 hours. Form: Mist
RNase Inhibitor	
Glycerol	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** TWA: 10 mg/m³ 8 hours. Form: Mist
MMLV-RT	
Glycerol	**EH40/2005 WELs (United Kingdom (UK), 1/2020).** TWA: 10 mg/m³ 8 hours. Form: Mist

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : 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.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Inorganic Pyrophosphatase					
Glycerol	DNEL	Long term Inhalation	33 mg/m³	General population	Local
	DNEL	Long term Inhalation	56 mg/m³	Workers	Local
	DNEL	Long term Oral	229 mg/kg bw/day	General population	Systemic
T7 RNA Polymerase					
Glycerol	DNEL	Long term Inhalation	33 mg/m³	General population	Local
	DNEL	Long term Inhalation	56 mg/m³	Workers	Local
	DNEL	Long term Oral	229 mg/kg bw/day	General population	Systemic

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5X First Strand Buffer					
Magnesium chloride	DNEL	Long term Oral	7 mg/kg bw/day	General population	Systemic
RNase Inhibitor					
Glycerol	DNEL	Long term Inhalation	33 mg/m³	General population	Local
	DNEL	Long term Inhalation	56 mg/m³	Workers	Local
	DNEL	Long term Oral	229 mg/kg bw/day	General population	Systemic
MMLV-RT					
Glycerol	DNEL	Long term Inhalation	33 mg/m³	General population	Local
	DNEL	Long term Inhalation	56 mg/m³	Workers	Local
	DNEL	Long term Oral	229 mg/kg bw/day	General population	Systemic

PNECs

No PNECs available

8.2 Exposure controls

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

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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

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

SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Inorganic Pyrophosphatase	Liquid.
		T7 RNA Polymerase	Liquid.
		PEG	Liquid.
		T7 Primer	Liquid.
		5X First Strand Buffer	Liquid.
		0.1 M DTT	Liquid.
		10 mM dNTP Mix	Liquid.
		RNase Inhibitor	Liquid.
		MMLV-RT	Liquid.
		4X Transcription Buffer	Liquid.
		NTP Mix	Liquid.
Colour	:	Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Clear.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
Odour	:	Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
Odour threshold	:	Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
Melting point/freezing point	:	Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
		T7 Primer	0°C
		5X First Strand Buffer	Not available.
		0.1 M DTT	0°C
		10 mM dNTP Mix	0°C
		RNase Inhibitor	Not available.

SECTION 9: Physical and chemical properties

	MMLV-RT	17.8°C
	4X Transcription Buffer	0°C
	NTP Mix	0°C
Initial boiling point and boiling range :	Inorganic Pyrophosphatase	Not available.
	T7 RNA Polymerase	Not available.
	PEG	Not available.
	T7 Primer	100°C
	5X First Strand Buffer	Not available.
	0.1 M DTT	100°C
	10 mM dNTP Mix	100°C
	RNase Inhibitor	Not available.
	MMLV-RT	289.7°C
	4X Transcription Buffer	100°C
	NTP Mix	100°C
Flammability :	Inorganic Pyrophosphatase	Not applicable.
	T7 RNA Polymerase	Not applicable.
	PEG	Not applicable.
	T7 Primer	Not applicable.
	5X First Strand Buffer	Not applicable.
	0.1 M DTT	Not applicable.
	10 mM dNTP Mix	Not applicable.
	RNase Inhibitor	Not applicable.
	MMLV-RT	Not applicable.
	4X Transcription Buffer	Not applicable.
	NTP Mix	Not applicable.
Upper/lower flammability or explosive limits :	Inorganic Pyrophosphatase	Not available.
	T7 RNA Polymerase	Not available.
	PEG	Not available.
	T7 Primer	Not available.
	5X First Strand Buffer	Not available.
	0.1 M DTT	Not available.
	10 mM dNTP Mix	Not available.
	RNase Inhibitor	Not available.
	MMLV-RT	Not available.
	4X Transcription Buffer	Not available.
	NTP Mix	Not available.

Flash point :

Ingredient name	Closed cup °C	Closed cup Method	Open cup °C	Open cup Method
Inorganic Pyrophosphatase				
Glycerol			177	
T7 RNA Polymerase				
Glycerol			177	
PEG				
Polyethylene glycol	171 to 235		199 to 238	
0.1 M DTT				
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	>110			

SECTION 9: Physical and chemical properties

RNase Inhibitor				
Glycerol			177	
MMLV-RT				
Glycerol			177	

Auto-ignition temperature :

Ingredient name	°C	Method
Inorganic Pyrophosphatase		
Glycerol	370	
T7 RNA Polymerase		
Glycerol	370	
PEG		
Polyethylene glycol	360	
RNase Inhibitor		
Glycerol	370	
MMLV-RT		
Glycerol	370	

Decomposition temperature :

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

pH :

Inorganic Pyrophosphatase	7.5
T7 RNA Polymerase	Not available.
PEG	Not available.
T7 Primer	Not available.
5X First Strand Buffer	8.3
0.1 M DTT	Not available.
10 mM dNTP Mix	Not available.
RNase Inhibitor	Not available.
MMLV-RT	Not available.
4X Transcription Buffer	8
NTP Mix	Not available.

SECTION 9: Physical and chemical properties

Viscosity :

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

Solubility(ies) :

Media	Result
Inorganic Pyrophosphatase	
water	Soluble
T7 RNA Polymerase	
water	Soluble
PEG	
water	Soluble
T7 Primer	
water	Soluble
5X First Strand Buffer	
water	Soluble
0.1 M DTT	
water	Soluble
10 mM dNTP Mix	
water	Soluble
RNase Inhibitor	
water	Soluble
MMLV-RT	
water	Soluble
4X Transcription Buffer	
water	Soluble
NTP Mix	
water	Soluble

Partition coefficient: n-octanol/water :

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

Vapour pressure :

Ingredient name	Vapour Pressure at 20˚C			Vapour pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Inorganic Pyrophosphatase						
water	23.8	3.2		92.258	12.3	
Glycerol	0.000075	0.00001		0.0025	0.00033	
T7 RNA Polymerase						

SECTION 9: Physical and chemical properties

water	23.8	3.2		92.258	12.3
Glycerol	0.000075	0.00001		0.0025	0.00033
PEG					
water	23.8	3.2		92.258	12.3
Polyethylene glycol	0	0			
T7 Primer					
water	23.8	3.2		92.258	12.3
5X First Strand Buffer					
water	23.8	3.2		92.258	12.3
0.1 M DTT					
water	23.8	3.2		92.258	12.3
10 mM dNTP Mix					
water	23.8	3.2		92.258	12.3
RNase Inhibitor					
water	23.8	3.2		92.258	12.3
Glycerol	0.000075	0.00001		0.0025	0.00033
MMLV-RT					
water	23.8	3.2		92.258	12.3
Glycerol	0.000075	0.00001		0.0025	0.00033
4X Transcription Buffer					
water	23.8	3.2		92.258	12.3
2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	0.000027	0.0000036		0.000007501	0.000001
NTP Mix					
water	23.8	3.2		92.258	12.3

SECTION 9: Physical and chemical properties

Evaporation rate	:	Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
Relative density	:	Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
Vapour density	:	Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
Explosive properties	:	Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.
Oxidising properties	:	Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Not available.
		PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Not available.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Not available.
		MMLV-RT	Not available.
		4X Transcription Buffer	Not available.
		NTP Mix	Not available.

Particle characteristics

SECTION 9: Physical and chemical properties

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

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	Inorganic Pyrophosphatase	No specific test data related to reactivity available for this product or its ingredients.
		T7 RNA Polymerase	No specific test data related to reactivity available for this product or its ingredients.
		PEG	No specific test data related to reactivity available for this product or its ingredients.
		T7 Primer	No specific test data related to reactivity available for this product or its ingredients.
		5X First Strand Buffer	No specific test data related to reactivity available for this product or its ingredients.
		0.1 M DTT	No specific test data related to reactivity available for this product or its ingredients.
		10 mM dNTP Mix	No specific test data related to reactivity available for this product or its ingredients.
		RNase Inhibitor	No specific test data related to reactivity available for this product or its ingredients.
		MMLV-RT	No specific test data related to reactivity available for this product or its ingredients.
		4X Transcription Buffer	No specific test data related to reactivity available for this product or its ingredients.
		NTP Mix	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	:	Inorganic Pyrophosphatase	The product is stable.
		T7 RNA Polymerase	The product is stable.
		PEG	The product is stable.
		T7 Primer	The product is stable.
		5X First Strand Buffer	The product is stable.
		0.1 M DTT	The product is stable.
		10 mM dNTP Mix	The product is stable.
		RNase Inhibitor	The product is stable.
		MMLV-RT	The product is stable.
		4X Transcription Buffer	The product is stable.
		NTP Mix	The product is stable.
10.3 Possibility of hazardous reactions	:	Inorganic Pyrophosphatase	Under normal conditions of storage and use, hazardous reactions will not occur.
		T7 RNA Polymerase	Under normal conditions of storage and use, hazardous reactions will not occur.
		PEG	Under normal conditions of storage and use, hazardous reactions will not occur.
		T7 Primer	Under normal conditions of storage and use, hazardous reactions will not occur.
		5X First Strand Buffer	Under normal conditions of storage and use, hazardous

SECTION 10: Stability and reactivity

		reactions will not occur.
	0.1 M DTT	Under normal conditions of storage and use, hazardous reactions will not occur.
	10 mM dNTP Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
	RNase Inhibitor	Under normal conditions of storage and use, hazardous reactions will not occur.
	MMLV-RT	Under normal conditions of storage and use, hazardous reactions will not occur.
	4X Transcription Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	NTP Mix	Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid :

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

10.5 Incompatible materials :

Inorganic Pyrophosphatase	May react or be incompatible with oxidising materials.
T7 RNA Polymerase	May react or be incompatible with oxidising materials.
PEG	May react or be incompatible with oxidising materials.
T7 Primer	May react or be incompatible with oxidising materials.
5X First Strand Buffer	May react or be incompatible with oxidising materials.
0.1 M DTT	May react or be incompatible with oxidising materials.
10 mM dNTP Mix	May react or be incompatible with oxidising materials.
RNase Inhibitor	May react or be incompatible with oxidising materials.
MMLV-RT	May react or be incompatible with oxidising materials.
4X Transcription Buffer	May react or be incompatible with oxidising materials.
NTP Mix	May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products :

Inorganic Pyrophosphatase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
T7 RNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
PEG	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
T7 Primer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
5X First Strand Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
0.1 M DTT	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
10 mM dNTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
RNase Inhibitor	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
MMLV-RT	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
4X Transcription Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
NTP Mix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Inorganic Pyrophosphatase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
T7 RNA Polymerase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
5X First Strand Buffer				
Magnesium chloride	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2800 mg/kg	-
Polyoxyethylene octyl phenyl ether	LD50 Oral	Rat	1800 mg/kg	-
RNase Inhibitor				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
MMLV-RT				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	LD50 Oral	Rat	2800 mg/kg	-

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Inorganic Pyrophosphatase					
Glycerol	12600	N/A	N/A	N/A	N/A
T7 RNA Polymerase					
Glycerol	12600	N/A	N/A	N/A	N/A
5X First Strand Buffer					
Magnesium chloride	2800	N/A	N/A	N/A	N/A
Polyoxyethylene octyl phenyl ether	1800	N/A	N/A	N/A	N/A
0.1 M DTT					
0.1 M DTT	32467.5	N/A	N/A	N/A	N/A
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	500	N/A	N/A	N/A	N/A
RNase Inhibitor					
RNase Inhibitor	273000.0	N/A	N/A	N/A	N/A
Glycerol	12600	N/A	N/A	N/A	N/A
MMLV-RT					
Glycerol	12600	N/A	N/A	N/A	N/A
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	500	N/A	N/A	N/A	N/A

Irritation/Corrosion

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Inorganic Pyrophosphatase					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
T7 RNA Polymerase					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
5X First Strand Buffer					
Polyoxyethylene octyl phenyl ether	Skin - Mild irritant	Rabbit	-	24 hours 500 uL	-
RNase Inhibitor					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
MMLV-RT					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Eyes - Severe irritant	Rabbit	-	1 %	-

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
0.1 M DTT (R*,R*)-1,4-Dimercaptobutane-2,3-diol	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

SECTION 11: Toxicological information

Information on likely routes of exposure :

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

Potential acute health effects

Inhalation :

Inorganic Pyrophosphatase	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
PEG	No known significant effects or critical hazards.
T7 Primer	No known significant effects or critical hazards.
5X First Strand Buffer	No known significant effects or critical hazards.
0.1 M DTT	No known significant effects or critical hazards.
10 mM dNTP Mix	No known significant effects or critical hazards.
RNase Inhibitor	No known significant effects or critical hazards.
MMLV-RT	No known significant effects or critical hazards.
4X Transcription Buffer	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.

Ingestion :

Inorganic Pyrophosphatase	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
PEG	No known significant effects or critical hazards.
T7 Primer	No known significant effects or critical hazards.
5X First Strand Buffer	No known significant effects or critical hazards.
0.1 M DTT	No known significant effects or critical hazards.
10 mM dNTP Mix	No known significant effects or critical hazards.
RNase Inhibitor	No known significant effects or critical hazards.
MMLV-RT	No known significant effects or critical hazards.
4X Transcription Buffer	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.

Skin contact :

Inorganic Pyrophosphatase	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
PEG	No known significant effects or critical hazards.
T7 Primer	No known significant effects or critical hazards.
5X First Strand Buffer	No known significant effects or critical hazards.
0.1 M DTT	No known significant effects or critical hazards.
10 mM dNTP Mix	No known significant effects or critical hazards.
RNase Inhibitor	No known significant effects or critical hazards.
MMLV-RT	No known significant effects or critical hazards.
4X Transcription Buffer	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.

Eye contact :

Inorganic Pyrophosphatase	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
PEG	No known significant effects or critical hazards.
T7 Primer	No known significant effects or critical hazards.
5X First Strand Buffer	No known significant effects or critical hazards.
0.1 M DTT	No known significant effects or critical hazards.
10 mM dNTP Mix	No known significant effects or critical hazards.
RNase Inhibitor	No known significant effects or critical hazards.
MMLV-RT	No known significant effects or critical hazards.
4X Transcription Buffer	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

SECTION 11: Toxicological information

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

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

SECTION 11: Toxicological information

Potential chronic health effects

General	:	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		PEG	No known significant effects or critical hazards.
		T7 Primer	No known significant effects or critical hazards.
		5X First Strand Buffer	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNase Inhibitor	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
Carcinogenicity	:	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		PEG	No known significant effects or critical hazards.
		T7 Primer	No known significant effects or critical hazards.
		5X First Strand Buffer	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNase Inhibitor	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
Mutagenicity	:	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		PEG	No known significant effects or critical hazards.
		T7 Primer	No known significant effects or critical hazards.
		5X First Strand Buffer	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNase Inhibitor	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
Reproductive toxicity	:	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
		T7 RNA Polymerase	No known significant effects or critical hazards.
		PEG	No known significant effects or critical hazards.
		T7 Primer	No known significant effects or critical hazards.
		5X First Strand Buffer	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		10 mM dNTP Mix	No known significant effects or critical hazards.
		RNase Inhibitor	No known significant effects or critical hazards.
		MMLV-RT	No known significant effects or critical hazards.
		4X Transcription Buffer	No known significant effects or critical hazards.
		NTP Mix	No known significant effects or critical hazards.
Other information	:	Inorganic Pyrophosphatase	Not available.
		T7 RNA Polymerase	Adverse symptoms may include the following: May cause skin sensitisation.
		PEG	Not available.
		T7 Primer	Not available.
		5X First Strand Buffer	Not available.
		0.1 M DTT	Adverse symptoms may include the following: May cause skin sensitisation.
		10 mM dNTP Mix	Not available.
		RNase Inhibitor	Adverse symptoms may include the following: May cause skin sensitisation.
		MMLV-RT	Adverse symptoms may include the following: May cause

SECTION 11: Toxicological information

	skin sensitisation.
4X Transcription Buffer	Adverse symptoms may include the following: May cause skin sensitisation.
NTP Mix	Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Inorganic Pyrophosphatase			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - Oncorhynchus mykiss	96 hours
T7 RNA Polymerase			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - Oncorhynchus mykiss	96 hours
5X First Strand Buffer			
Magnesium chloride	Acute EC50 >100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 180000 µg/l Fresh water	Crustaceans - Calanoid copepod - Eudiaptomus padanus ssp. padanus - Adult	48 hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - Lesser Duckweed - Lemna aequinoctialis	96 hours
	Acute LC50 32000 µg/l Fresh water	Daphnia - Water flea - Daphnia hyalina - Adult	48 hours
	Acute LC50 2120 mg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Chronic NOEC 0.1 mg/l Fresh water	Fish - common carp - Cyprinus carpio	35 days
Polyoxyethylene octyl phenyl ether	Acute LC50 5.85 mg/l Fresh water	Crustaceans - Water flea - Ceriodaphnia rigaudi - Neonate	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	Acute LC50 4500 µg/l Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
0.1 M DTT			
(R*,R*) -1,4-Dimercaptobutane-2,3-diol	Acute LC50 27000 µg/l Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
RNase Inhibitor			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - Oncorhynchus mykiss	96 hours
MMLV-RT			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - Oncorhynchus mykiss	96 hours
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Acute EC50 210 µg/l Fresh water	Algae - Green algae - Selenastrum sp.	96 hours
	Acute LC50 10800 µg/l Marine water	Crustaceans - Aesop shrimp - Pandalus montagui - Adult	48 hours
	Acute LC50 8600 µg/l Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	Acute LC50 7200 µg/l Fresh water	Fish - Rainbow trout,donaldson	96 hours

SECTION 12: Ecological information

		trout - Oncorhynchus mykiss	

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Inorganic Pyrophosphatase				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
T7 RNA Polymerase				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
RNase Inhibitor				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
MMLV-RT				
Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
5X First Strand Buffer			
Polyoxyethylene octyl phenyl ether	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Inorganic Pyrophosphatase			
Glycerol	-1.76	-	low
T7 RNA Polymerase			
Glycerol	-1.76	-	low
5X First Strand Buffer			
Polyoxyethylene octyl phenyl ether	4.86	-	high
RNase Inhibitor			
Glycerol	-1.76	-	low
MMLV-RT			
Glycerol	-1.76	-	low
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	2.7	78.67	low

12.4 Mobility in soil

SECTION 12: Ecological information

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : Dispose of material(s) and residues under controlled conditions. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

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

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
5X First Strand Buffer Substance of equivalent concern for environment	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues	Listed	42	1/1/2021

Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
5X First Strand Buffer Substance of equivalent concern for environment	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues	Candidate	-	12/19/2012
MMLV-RT Substance of equivalent concern for environment	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated covering well-defined substances and UVCB substances, polymers and homologues	Candidate	-	12/19/2012

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

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

Not listed.

Label :

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

Seveso Directive

This product is not controlled under the Seveso Directive.

EU regulations

SECTION 15: Regulatory information

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Eurasian Economic Union : **Russian Federation inventory**: Not determined.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : Not determined.

Thailand : Not determined.

Turkey : Not determined.

United States : At least one component is inactive.

Viet Nam : Not determined.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
N/A = Not available
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

SECTION 16: Other information

Classification	Justification
5X First Strand Buffer Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

5X First Strand Buffer

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

0.1 M DTT

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

MMLV-RT

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of classifications

5X First Strand Buffer

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2

0.1 M DTT

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

MMLV-RT

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2

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