

SAFETY DATA SHEET

Low RNA Input Linear Amplification Kit Agilent PN 5184-3523

1. Identification of the substance/preparation and company/undertaking

Identification of the substance or preparation

Product name	: Low RNA Input Linear Amplification Kit Agilent PN 5184-3523	
Part No.	: RNAse A	Not assigned.
	dNTP Mix	Not assigned.
	Random Hexamers	Not assigned.
	PEG 50%	Not assigned.
	T7 RNA Polymerase	Not assigned.
	Inorganic	Not assigned.
	Pyrophosphatase	
	CTP	Not assigned.
	NTP Mix	Not assigned.
	4X Transcription Buffer	Not assigned.
	MMLV-RT	Not assigned.
	RNAseOUT	Not assigned.
	dNTP 10 mM	Not assigned.
	DTT 0.1M	Not assigned.
	5x First Strand Reaction Buffer	Not assigned.
	T7 Promoter Primer	Not assigned.

Company/undertaking identification

Manufacturer / Supplier	: Agilent Technologies Manufacturing GmbH & Co. KG Hewlett-Packard-Str. 8 76337 Waldbronn Germany
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Emergency telephone number : Contact your local Poison Center

2. Composition/information on ingredients

Substance/preparation	: RNAse A	Substance
	dNTP Mix	Substance
	Random Hexamers	Substance
	PEG 50%	Preparation
	T7 RNA Polymerase	Substance
	Inorganic	Substance
	Pyrophosphatase	
	CTP	Substance
	NTP Mix	Substance
	4X Transcription Buffer	Preparation
	MMLV-RT	Substance
	RNAseOUT	Substance
	dNTP 10 mM	Substance
	DTT 0.1M	Preparation
	5x First Strand Reaction Buffer	Preparation
	T7 Promoter Primer	Substance

Ingredient name	CAS number	%	EC number	Classification
RNAse A Non-hazardous proprietary ingredients		0 - 100		Not classified.
dNTP Mix Non-hazardous proprietary ingredients		0 - 100		Not classified.
Random Hexamers Non-hazardous proprietary ingredients		0 - 100		Not classified.

2. Composition/information on ingredients

PEG 50%				
Water	7732-18-5	50	231-791-2	Not classified.
poly(oxy-1,2-ethanediyl), .alpha.-hydro- .omega.-hydroxy-	25322-68-3	50	500-038-2	Xn; R22
T7 RNA Polymerase				
Non-hazardous proprietary ingredients		0 - 100		Not classified.
Inorganic Pyrophosphatase				
Non-hazardous proprietary ingredients		0 - 100		Not classified.
CTP				
Non-hazardous proprietary ingredients		0 - 100		Not classified.
NTP Mix				
Non-hazardous proprietary ingredients		0 - 100		Not classified.
4X Transcription Buffer				
sodium chloride	7647-14-5	0 - 100	231-598-3	Not classified.
1,3-propanediol, 2-amino- 2-(hydroxymethyl)-	77-86-1	0 - 100	201-064-4	Not classified.
magnesium chloride	7786-30-3	0 - 100	232-094-6	Not classified.
Proprietary Ingredients		0 - 100		Not classified.
MMLV-RT				
MMLV-RT		100		Not classified.
RNaseOUT				
Non-hazardous proprietary ingredients		0 - 100		Not classified.
dNTP 10 mM				
Non-hazardous proprietary ingredients		0 - 100		Not classified.
DTT 0.1M				
Water	7732-18-5	98.457	231-791-2	Not classified.
DTT		1.543		Not classified.
5x First Strand Reaction Buffer				
potassium chloride	7447-40-7	0 - 100	231-211-8	Not classified.
1,3-propanediol, 2-amino- 2-(hydroxymethyl)-	77-86-1	0 - 100	201-064-4	Not classified.
Proprietary Ingredients		0 - 100		Not classified.
T7 Promoter Primer				
Non-hazardous proprietary ingredients		0 - 100		Not classified.
See section 16 for the full text of the R-phrases declared above				

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

Use of the substance/preparation	: RNAse A	1.5 mL tubes
	dNTP Mix	1.5 mL tubes
	Random Hexamers	1.5 mL tubes
	PEG 50%	1.5 mL tubes
	T7 RNA Polymerase	1.5 mL tubes
	Inorganic Pyrophosphatase	1.5 mL tubes
	CTP	1.5 mL tubes
	NTP Mix	1.5 mL tubes
	4X Transcription Buffer	1.5 mL tubes
	MMLV-RT	1.5 mL tubes
	RNaseOUT	1.5 mL tubes
	dNTP 10 mM	1.5 mL tubes
	DTT 0.1M	1.5 mL tubes
	5x First Strand Reaction Buffer	1.5 mL tubes
	T7 Promoter Primer	1.5 mL tubes

2. Composition/information on ingredients

Use of the substance/preparation

: Analytical Use

Chemical family

: RNase A Not available.
 dNTP Mix Not available.
 Random Hexamers Not available.
 PEG 50% Not available.
 T7 RNA Polymerase Not available.
 Inorganic Pyrophosphatase Not available.
 CTP Not available.
 NTP Mix Not available.
 4X Transcription Buffer Not available.
 MMLV-RT Not available.
 RNaseOUT Not available.
 dNTP 10 mM Not available.
 DTT 0.1M Not available.
 5x First Strand Reaction Buffer Not available.
 T7 Promoter Primer Not available.

Synonyms

: RNase A
 dNTP Mix
 Random Hexamers
 PEG 50% poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-.
 T7 RNA Polymerase
 Inorganic Pyrophosphatase
 CTP
 NTP Mix
 4X Transcription Buffer common salt; halite; natriumchlorid (german); rock salt; saline; salt; sea salt; table salt; 1,3-propanediol, 2-amino-2-(hydroxymethyl)-; dus-top.
 MMLV-RT
 RNaseOUT
 dNTP 10 mM
 DTT 0.1M
 5x First Strand Reaction Buffer chloropotassuril; dipotassium dichloride; emplets potassium chloride; enseal; kalitabs; kaochlor; kaon-cl; kaon-cl tabs; kay ciel; k-lor; klotrix; k-lyte/cl; k-predne-dome; pfiklor; potassium monochloride; potavescent; rekawan; slow-k; tripotassium trichloride; 1,3-propanediol, 2-amino-2-(hydroxymethyl)-.
 T7 Promoter Primer

3. Hazards identification

The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification

: RNase A Not classified.
 dNTP Mix Not classified.
 Random Hexamers Not classified.
 PEG 50% Xn; R22
 T7 RNA Polymerase Not classified.
 Inorganic Pyrophosphatase Not classified.
 CTP Not classified.
 NTP Mix Not classified.
 4X Transcription Buffer Not classified.
 MMLV-RT Not classified.
 RNaseOUT Not classified.
 dNTP 10 mM Not classified.
 DTT 0.1M Not classified.
 5x First Strand Reaction Buffer Not classified.
 T7 Promoter Primer Not classified.

3. Hazards identification

Physical/chemical hazards	: RNase A	Not applicable.
	dNTP Mix	Not applicable.
	Random Hexamers	Not applicable.
	PEG 50%	Not applicable.
	T7 RNA Polymerase	Not applicable.
	Inorganic	Not applicable.
	Pyrophosphatase	
	CTP	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
	RNaseOUT	Not applicable.
	dNTP 10 mM	Not applicable.
	DTT 0.1M	Not applicable.
	5x First Strand Reaction Buffer	Not applicable.
T7 Promoter Primer	Not applicable.	
Human health hazards	: RNase A	Not applicable.
	dNTP Mix	Not applicable.
	Random Hexamers	Not applicable.
	PEG 50%	Harmful if swallowed.
	T7 RNA Polymerase	Not applicable.
	Inorganic	Not applicable.
	Pyrophosphatase	
	CTP	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
	RNaseOUT	Not applicable.
	dNTP 10 mM	Not applicable.
	DTT 0.1M	Not applicable.
	5x First Strand Reaction Buffer	Not applicable.
T7 Promoter Primer	Not applicable.	
Environmental hazards	: RNase A	Not applicable.
	dNTP Mix	Not applicable.
	Random Hexamers	Not applicable.
	PEG 50%	Not applicable.
	T7 RNA Polymerase	Not applicable.
	Inorganic	Not applicable.
	Pyrophosphatase	
	CTP	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
	RNaseOUT	Not applicable.
	dNTP 10 mM	Not applicable.
	DTT 0.1M	Not applicable.
	5x First Strand Reaction Buffer	Not applicable.
T7 Promoter Primer	Not applicable.	

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

4. First-aid measures

First-aid measures

Inhalation	: RNase A	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
	dNTP Mix	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.

4. First-aid measures

Random Hexamers	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
PEG 50%	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
T7 RNA Polymerase	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
Inorganic Pyrophosphatase	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
CTP	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
NTP Mix	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
4X Transcription Buffer	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
MMLV-RT	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
RNAseOUT	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
dNTP 10 mM	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
DTT 0.1M	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
5x First Strand Reaction Buffer	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.
T7 Promoter Primer	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if adverse health effects persist or are severe.

Ingestion

: RNAse A	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
dNTP Mix	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
Random Hexamers	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
PEG 50%	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an

4. First-aid measures

		unconscious person. Get medical attention if adverse health effects persist or are severe.
	T7 RNA Polymerase	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	Inorganic Pyrophosphatase	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	CTP	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	NTP Mix	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	4X Transcription Buffer	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	MMLV-RT	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	RNAseOUT	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	dNTP 10 mM	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	DTT 0.1M	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	5x First Strand Reaction Buffer	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
	T7 Promoter Primer	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if adverse health effects persist or are severe.
Skin contact	: RNAse A	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
	dNTP Mix	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
	Random Hexamers	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
	PEG 50%	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.

4. First-aid measures

T7 RNA Polymerase	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
Inorganic Pyrophosphatase	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
CTP	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
NTP Mix	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
4X Transcription Buffer	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
MMLV-RT	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
RNAseOUT	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
dNTP 10 mM	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
DTT 0.1M	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
5x First Strand Reaction Buffer	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
T7 Promoter Primer	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.

Eye contact	: RNAse A	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
	dNTP Mix	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
	Random Hexamers	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
	PEG 50%	In case of contact, immediately flush eyes with plenty of

4. First-aid measures

	water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
T7 RNA Polymerase	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
Inorganic Pyrophosphatase	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
CTP	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
NTP Mix	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
4X Transcription Buffer	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
MMLV-RT	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
RNaseOUT	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
dNTP 10 mM	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
DTT 0.1M	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
5x First Strand Reaction Buffer	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
T7 Promoter Primer	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.

Specific treatments :

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

5. Fire-fighting measures

Extinguishing media

Suitable	: Use an extinguishing agent suitable for the surrounding fire.
Not suitable	: RNase A Not applicable. dNTP Mix Not applicable. Random Hexamers Not applicable. PEG 50% Not applicable. T7 RNA Polymerase Not applicable. Inorganic Pyrophosphatase Not applicable. CTP Not applicable. NTP Mix Not applicable. 4X Transcription Buffer Not applicable. MMLV-RT Not applicable. RNaseOUT Not applicable. dNTP 10 mM Not applicable. DTT 0.1M Not applicable. 5x First Strand Reaction Buffer Not applicable. T7 Promoter Primer Not applicable.

Special exposure hazards - Explosibility : No specific hazard.

Hazardous thermal decomposition products : These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂ etc.), halogenated compounds, hydrogen chloride. Some metallic oxides.

5. Fire-fighting measures

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

6. Accidental release measures

- | | | |
|----------------------------------|---|--|
| Personal precautions | : RNase A
dNTP Mix
Random Hexamers
PEG 50%
T7 RNA Polymerase
Inorganic
Pyrophosphatase
CTP
NTP Mix
4X Transcription Buffer
MMLV-RT
RNaseOUT
dNTP 10 mM
DTT 0.1M
5x First Strand Reaction Buffer
T7 Promoter Primer | Avoid contact with eyes, skin and clothing.
Avoid contact with eyes, skin and clothing.
Avoid contact with eyes, skin and clothing.
Avoid contact with eyes, skin and clothing.
Avoid contact with eyes, skin and clothing.
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Avoid contact with eyes, skin and clothing.
Avoid contact with eyes, skin and clothing.
Avoid contact with eyes, skin and clothing.
Avoid contact with eyes, skin and clothing. |
| Environmental precautions | : RNase A

dNTP Mix

Random Hexamers

PEG 50%

T7 RNA Polymerase

Inorganic
Pyrophosphatase
CTP

NTP Mix

4X Transcription Buffer

MMLV-RT

RNaseOUT

dNTP 10 mM

DTT 0.1M

5x First Strand Reaction Buffer
T7 Promoter Primer | Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
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Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. |
| Methods for cleaning up | : RNase A

dNTP Mix | If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.

If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise |

6. Accidental release measures

	contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
Random Hexamers	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
PEG 50%	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
T7 RNA Polymerase	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
Inorganic Pyrophosphatase	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
CTP	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
NTP Mix	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
4X Transcription Buffer	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
MMLV-RT	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.

6. Accidental release measures

RNAseOUT	disposal. If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
dNTP 10 mM	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
DTT 0.1M	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
5x First Strand Reaction Buffer	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.
T7 Promoter Primer	If emergency personnel are unavailable, contain spilt material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. For large spills, dyke spilt material or otherwise contain it to ensure runoff does not reach a waterway. Place spilt material in an appropriate container for disposal.

7. Handling and storage

Handling	<ul style="list-style-type: none"> : RNAse A dNTP Mix Random Hexamers PEG 50% T7 RNA Polymerase Inorganic Pyrophosphatase CTP NTP Mix 4X Transcription Buffer MMLV-RT RNAseOUT dNTP 10 mM DTT 0.1M 5x First Strand Reaction Buffer T7 Promoter Primer 	<ul style="list-style-type: none"> Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Do not ingest. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling.
Storage	<ul style="list-style-type: none"> : Keep container tightly closed. Keep container in a cool, well-ventilated area. 	
Packaging materials		
Recommended	<ul style="list-style-type: none"> : Use original container. 	

8. Exposure controls/personal protection

- Exposure limit values** : Not available.
- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.
- Exposure controls**
- Occupational exposure controls** : No special ventilation requirements. Good general ventilation should be sufficient to control airborne levels. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- 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.
- Eye 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 or dusts.
- Skin 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.
- 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.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

General information

Appearance

Physical state	:	RNAse A	Liquid.
		dNTP Mix	Liquid.
		Random Hexamers	Liquid.
		PEG 50%	Liquid.
		T7 RNA Polymerase	Liquid.
		Inorganic Pyrophosphatase	Liquid.
		CTP	Liquid.
		NTP Mix	Liquid.
		4X Transcription Buffer	Liquid.
		MMLV-RT	Liquid.
		RNAseOUT	Liquid.
		dNTP 10 mM	Liquid.
		DTT 0.1M	Liquid.
		5x First Strand Reaction Buffer	Liquid.
		T7 Promoter Primer	Liquid.

9. Physical and chemical properties

Colour	:	RNAse A	Not available.
		dNTP Mix	Not available.
		Random Hexamers	Not available.
		PEG 50%	Not available.
		T7 RNA Polymerase	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		MMLV-RT	Clear.
		RNAseOUT	Not available.
		dNTP 10 mM	Not available.
		DTT 0.1M	Not available.
		5x First Strand Reaction Buffer	Not available.
		T7 Promoter Primer	Not available.

Odour	:	RNAse A	Not available.
		dNTP Mix	Not available.
		Random Hexamers	Not available.
		PEG 50%	Not available.
		T7 RNA Polymerase	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		MMLV-RT	Not available.
		RNAseOUT	Not available.
		dNTP 10 mM	Not available.
		DTT 0.1M	Not available.
		5x First Strand Reaction Buffer	Not available.
		T7 Promoter Primer	Not available.

Important health, safety and environmental information

pH	:	RNAse A	Not available.
		dNTP Mix	Not available.
		Random Hexamers	Not available.
		PEG 50%	Not available.
		T7 RNA Polymerase	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		MMLV-RT	Not available.
		RNAseOUT	Not available.
		dNTP 10 mM	Not available.
		DTT 0.1M	Not available.
		5x First Strand Reaction Buffer	Not available.
		T7 Promoter Primer	Not available.

Boiling point	:	RNAse A	Not available.
		dNTP Mix	Not available.
		Random Hexamers	Not available.
		PEG 50%	The lowest known value is 100°C (212°F) (Water).
		T7 RNA Polymerase	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		MMLV-RT	Not available.
		RNAseOUT	Not available.
		dNTP 10 mM	Not available.

9. Physical and chemical properties

	DTT 0.1M	The lowest known value is 100°C (212°F) (Water).
	5x First Strand Reaction Buffer	Not available.
	T7 Promoter Primer	Not available.
Melting point	: RNase A	Not available.
	dNTP Mix	Not available.
	Random Hexamers	Not available.
	PEG 50%	May start to solidify at 0°C (32°F) based on data for: Water.
	T7 RNA Polymerase	Not available.
	Inorganic Pyrophosphatase	Not available.
	CTP	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	MMLV-RT	Not available.
	RNaseOUT	Not available.
	dNTP 10 mM	Not available.
	DTT 0.1M	May start to solidify at 0°C (32°F) based on data for: Water.
	5x First Strand Reaction Buffer	Not available.
	T7 Promoter Primer	Not available.
Flash point	: RNase A	Not applicable.
	dNTP Mix	Not applicable.
	Random Hexamers	Not applicable.
	PEG 50%	Not applicable.
	T7 RNA Polymerase	Not applicable.
	Inorganic Pyrophosphatase	Not applicable.
	CTP	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
	RNaseOUT	Not applicable.
	dNTP 10 mM	Not applicable.
	DTT 0.1M	Not applicable.
	5x First Strand Reaction Buffer	Not applicable.
	T7 Promoter Primer	Not applicable.
Flammability (solid, gas)	: RNase A	Not applicable.
	dNTP Mix	Not applicable.
	Random Hexamers	Not applicable.
	PEG 50%	Not applicable.
	T7 RNA Polymerase	Not applicable.
	Inorganic Pyrophosphatase	Not applicable.
	CTP	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
	RNaseOUT	Not applicable.
	dNTP 10 mM	Not applicable.
	DTT 0.1M	Not applicable.
	5x First Strand Reaction Buffer	Not applicable.
	T7 Promoter Primer	Not applicable.
Explosive properties	: RNase A	Not available.
	dNTP Mix	Not available.
	Random Hexamers	Not available.
	PEG 50%	Not available.
	T7 RNA Polymerase	Not available.
	Inorganic Pyrophosphatase	Not available.
	CTP	Not available.

9. Physical and chemical properties

	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	MMLV-RT	Not available.
	RNAseOUT	Not available.
	dNTP 10 mM	Not available.
	DTT 0.1M	Not available.
	5x First Strand Reaction Buffer	Not available.
	T7 Promoter Primer	Not available.
Explosion limits	: RNAse A	Not applicable.
	dNTP Mix	Not applicable.
	Random Hexamers	Not applicable.
	PEG 50%	Not applicable.
	T7 RNA Polymerase	Not applicable.
	Inorganic Pyrophosphatase	Not applicable.
	CTP	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
	RNAseOUT	Not applicable.
	dNTP 10 mM	Not applicable.
	DTT 0.1M	Not applicable.
	5x First Strand Reaction Buffer	Not applicable.
	T7 Promoter Primer	Not applicable.
Oxidising properties	: RNAse A	Not available.
	dNTP Mix	Not available.
	Random Hexamers	Not available.
	PEG 50%	Not available.
	T7 RNA Polymerase	Not available.
	Inorganic Pyrophosphatase	Not available.
	CTP	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	MMLV-RT	Not available.
	RNAseOUT	Not available.
	dNTP 10 mM	Not available.
	DTT 0.1M	Not available.
	5x First Strand Reaction Buffer	Not available.
	T7 Promoter Primer	Not available.
Vapour pressure	: RNAse A	Not available.
	dNTP Mix	Not available.
	Random Hexamers	Not available.
	PEG 50%	Not available.
	T7 RNA Polymerase	Not available.
	Inorganic Pyrophosphatase	Not available.
	CTP	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	MMLV-RT	Not available.
	RNAseOUT	Not available.
	dNTP 10 mM	Not available.
	DTT 0.1M	Not available.
	5x First Strand Reaction Buffer	Not available.
	T7 Promoter Primer	Not available.

9. Physical and chemical properties

Relative density	:	RNAse A	Not available.
		dNTP Mix	Not available.
		Random Hexamers	Not available.
		PEG 50%	Not available.
		T7 RNA Polymerase	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		MMLV-RT	Not available.
		RNAseOUT	Not available.
		dNTP 10 mM	Not available.
		DTT 0.1M	Not available.
		5x First Strand Reaction Buffer	Not available.
		T7 Promoter Primer	Not available.

Solubility	:	RNAse A	Not available.
		dNTP Mix	Not available.
		Random Hexamers	Not available.
		PEG 50%	Not available.
		T7 RNA Polymerase	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		MMLV-RT	Not available.
		RNAseOUT	Not available.
		dNTP 10 mM	Not available.
		DTT 0.1M	Not available.
		5x First Strand Reaction Buffer	Not available.
		T7 Promoter Primer	Not available.

Vapour density	:	RNAse A	Not available.
		dNTP Mix	Not available.
		Random Hexamers	Not available.
		PEG 50%	Not available.
		T7 RNA Polymerase	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		MMLV-RT	Not available.
		RNAseOUT	Not available.
		dNTP 10 mM	Not available.
		DTT 0.1M	Not available.
		5x First Strand Reaction Buffer	Not available.
		T7 Promoter Primer	Not available.

Evaporation rate (butyl acetate = 1)	:	RNAse A	Not available.
		dNTP Mix	Not available.
		Random Hexamers	Not available.
		PEG 50%	Not available.
		T7 RNA Polymerase	Not available.
		Inorganic Pyrophosphatase	Not available.
		CTP	Not available.
		NTP Mix	Not available.
		4X Transcription Buffer	Not available.
		MMLV-RT	Not available.
		RNAseOUT	Not available.
		dNTP 10 mM	Not available.

9. Physical and chemical properties

DTT 0.1M Not available.
 5x First Strand Reaction Buffer Not available.
 T7 Promoter Primer Not available.

Auto-ignition temperature :

RNAse A	Not applicable.
dNTP Mix	Not applicable.
Random Hexamers	Not applicable.
PEG 50%	Not applicable.
T7 RNA Polymerase	Not applicable.
Inorganic Pyrophosphatase	Not applicable.
CTP	Not applicable.
NTP Mix	Not applicable.
4X Transcription Buffer	Not applicable.
MMLV-RT	Not applicable.
RNAseOUT	Not applicable.
dNTP 10 mM	Not applicable.
DTT 0.1M	Not applicable.
5x First Strand Reaction Buffer	Not applicable.
T7 Promoter Primer	Not applicable.

10. Stability and reactivity

Stability : The product is stable.

Conditions to avoid :

RNAse A	Not available.
dNTP Mix	Not available.
Random Hexamers	Not available.
PEG 50%	Not available.
T7 RNA Polymerase	Not available.
Inorganic Pyrophosphatase	Not available.
CTP	Not available.
NTP Mix	Not available.
4X Transcription Buffer	Not available.
MMLV-RT	Not available.
RNAseOUT	Not available.
dNTP 10 mM	Not available.
DTT 0.1M	Not available.
5x First Strand Reaction Buffer	Not available.
T7 Promoter Primer	Not available.

Materials to avoid :

RNAse A	Not available.
dNTP Mix	Not available.
Random Hexamers	Not available.
PEG 50%	Not available.
T7 RNA Polymerase	Not available.
Inorganic Pyrophosphatase	Not available.
CTP	Not available.
NTP Mix	Not available.
4X Transcription Buffer	Not available.
MMLV-RT	Not available.
RNAseOUT	Not available.
dNTP 10 mM	Not available.
DTT 0.1M	Not available.
5x First Strand Reaction Buffer	Not available.
T7 Promoter Primer	Not available.

Hazardous decomposition products :

10. Stability and reactivity

RNAse A	Not available.
dNTP Mix	Not available.
Random Hexamers	Not available.
PEG 50%	Not available.
T7 RNA Polymerase	Not available.
Inorganic Pyrophosphatase	Not available.
CTP	Not available.
NTP Mix	Not available.
4X Transcription Buffer	These products are halogenated compounds, hydrogen chloride.
MMLV-RT	Not available.
RNAseOUT	Not available.
dNTP 10 mM	Not available.
DTT 0.1M	Not available.
5x First Strand Reaction Buffer	These products are halogenated compounds, hydrogen chloride.
T7 Promoter Primer	Not available.

11. Toxicological information

Potential acute health effects

Inhalation

: RNAse A	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
Random Hexamers	No known significant effects or critical hazards.
PEG 50%	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
Inorganic Pyrophosphatase	No known significant effects or critical hazards.
CTP	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.
4X Transcription Buffer	No known significant effects or critical hazards.
MMLV-RT	No known significant effects or critical hazards.
RNAseOUT	No known significant effects or critical hazards.
dNTP 10 mM	No known significant effects or critical hazards.
DTT 0.1M	No known significant effects or critical hazards.
5x First Strand Reaction Buffer	No known significant effects or critical hazards.
T7 Promoter Primer	No known significant effects or critical hazards.

Ingestion

: RNAse A	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
Random Hexamers	No known significant effects or critical hazards.
PEG 50%	Harmful if swallowed.
T7 RNA Polymerase	No known significant effects or critical hazards.
Inorganic Pyrophosphatase	No known significant effects or critical hazards.
CTP	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.
4X Transcription Buffer	No known significant effects or critical hazards.
MMLV-RT	No known significant effects or critical hazards.
RNAseOUT	No known significant effects or critical hazards.
dNTP 10 mM	No known significant effects or critical hazards.
DTT 0.1M	No known significant effects or critical hazards.
5x First Strand Reaction Buffer	No known significant effects or critical hazards.
T7 Promoter Primer	No known significant effects or critical hazards.

Skin contact

: RNAse A	No known significant effects or critical hazards.
dNTP Mix	No known significant effects or critical hazards.
Random Hexamers	No known significant effects or critical hazards.
PEG 50%	No known significant effects or critical hazards.
T7 RNA Polymerase	No known significant effects or critical hazards.
Inorganic Pyrophosphatase	No known significant effects or critical hazards.
CTP	No known significant effects or critical hazards.
NTP Mix	No known significant effects or critical hazards.
4X Transcription Buffer	No known significant effects or critical hazards.

11. Toxicological information

	MMLV-RT	No known significant effects or critical hazards.
	RNAseOUT	No known significant effects or critical hazards.
	dNTP 10 mM	No known significant effects or critical hazards.
	DTT 0.1M	No known significant effects or critical hazards.
	5x First Strand Reaction Buffer	No known significant effects or critical hazards.
	T7 Promoter Primer	No known significant effects or critical hazards.
Eye contact	: RNAse A	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	Random Hexamers	No known significant effects or critical hazards.
	PEG 50%	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
	CTP	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	RNAseOUT	No known significant effects or critical hazards.
	dNTP 10 mM	No known significant effects or critical hazards.
	DTT 0.1M	No known significant effects or critical hazards.
	5x First Strand Reaction Buffer	No known significant effects or critical hazards.
	T7 Promoter Primer	No known significant effects or critical hazards.

Acute toxicity

<u>Product/ingredient name</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
PEG 50%				
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	LD50	600 mg/kg	Oral	Rat
	LD50	1054 mg/kg	Oral	Rat
	LD50	27500 mg/kg	Oral	Rat

Potential chronic health effects

Carcinogenicity	: RNAse A	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	Random Hexamers	No known significant effects or critical hazards.
	PEG 50%	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
	CTP	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	RNAseOUT	No known significant effects or critical hazards.
	dNTP 10 mM	No known significant effects or critical hazards.
	DTT 0.1M	No known significant effects or critical hazards.
	5x First Strand Reaction Buffer	No known significant effects or critical hazards.
	T7 Promoter Primer	No known significant effects or critical hazards.
Mutagenicity	: RNAse A	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	Random Hexamers	No known significant effects or critical hazards.
	PEG 50%	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
	CTP	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	RNAseOUT	No known significant effects or critical hazards.
	dNTP 10 mM	No known significant effects or critical hazards.
	DTT 0.1M	No known significant effects or critical hazards.
	5x First Strand Reaction Buffer	No known significant effects or critical hazards.

11. Toxicological information

	T7 Promoter Primer	No known significant effects or critical hazards.
Reproductive toxicity	: RNase A	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	Random Hexamers	No known significant effects or critical hazards.
	PEG 50%	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
	CTP	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	RNaseOUT	No known significant effects or critical hazards.
	dNTP 10 mM	No known significant effects or critical hazards.
	DTT 0.1M	No known significant effects or critical hazards.
	5x First Strand Reaction Buffer	No known significant effects or critical hazards.
	T7 Promoter Primer	No known significant effects or critical hazards.
<u>Over-exposure signs/symptoms</u>		
Inhalation	: RNase A	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	Random Hexamers	No known significant effects or critical hazards.
	PEG 50%	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
	CTP	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	RNaseOUT	No known significant effects or critical hazards.
	dNTP 10 mM	No known significant effects or critical hazards.
	DTT 0.1M	No known significant effects or critical hazards.
	5x First Strand Reaction Buffer	No known significant effects or critical hazards.
	T7 Promoter Primer	No known significant effects or critical hazards.
Ingestion	: RNase A	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	Random Hexamers	No known significant effects or critical hazards.
	PEG 50%	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
	CTP	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	RNaseOUT	No known significant effects or critical hazards.
	dNTP 10 mM	No known significant effects or critical hazards.
	DTT 0.1M	No known significant effects or critical hazards.
	5x First Strand Reaction Buffer	No known significant effects or critical hazards.
	T7 Promoter Primer	No known significant effects or critical hazards.
Skin	: RNase A	No known significant effects or critical hazards.
	dNTP Mix	No known significant effects or critical hazards.
	Random Hexamers	No known significant effects or critical hazards.
	PEG 50%	No known significant effects or critical hazards.
	T7 RNA Polymerase	No known significant effects or critical hazards.
	Inorganic Pyrophosphatase	No known significant effects or critical hazards.
	CTP	No known significant effects or critical hazards.
	NTP Mix	No known significant effects or critical hazards.
	4X Transcription Buffer	No known significant effects or critical hazards.
	MMLV-RT	No known significant effects or critical hazards.
	RNaseOUT	No known significant effects or critical hazards.

11. Toxicological information

	dNTP 10 mM	No known significant effects or critical hazards.
	DTT 0.1M	No known significant effects or critical hazards.
	5x First Strand Reaction Buffer	No known significant effects or critical hazards.
	T7 Promoter Primer	No known significant effects or critical hazards.
Target organs	: RNase A	Not available.
	dNTP Mix	Not available.
	Random Hexamers	Not available.
	PEG 50%	Not available.
	T7 RNA Polymerase	Not available.
	Inorganic Pyrophosphatase	Not available.
	CTP	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Contains material which causes damage to the following organs: skin, stomach.
	MMLV-RT	Not available.
	RNaseOUT	Not available.
	dNTP 10 mM	Not available.
	DTT 0.1M	Not available.
	5x First Strand Reaction Buffer	Contains material which causes damage to the following organs: gastrointestinal tract, eye, lens or cornea.
	T7 Promoter Primer	Not available.
Other adverse effects	: RNase A	Not available.
	dNTP Mix	Not available.
	Random Hexamers	Not available.
	PEG 50%	Not available.
	T7 RNA Polymerase	Not available.
	Inorganic Pyrophosphatase	Not available.
	CTP	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	MMLV-RT	Not available.
	RNaseOUT	Not available.
	dNTP 10 mM	Not available.
	DTT 0.1M	Not available.
	5x First Strand Reaction Buffer	Not available.
	T7 Promoter Primer	Not available.

12. Ecological information

Ecotoxicity data

<u>Product/ingredient name</u>	<u>Species</u>	<u>Period</u>	<u>Result</u>
PEG 50% poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	Oncorhynchus mykiss (LC50)	96 hour/hours	>20000 mg/l

Mobility	: RNase A	Not available.
	dNTP Mix	Not available.
	Random Hexamers	Not available.
	PEG 50%	Not available.
	T7 RNA Polymerase	Not available.
	Inorganic Pyrophosphatase	Not available.
	CTP	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	MMLV-RT	Not available.
	RNaseOUT	Not available.
	dNTP 10 mM	Not available.
	DTT 0.1M	Not available.
	5x First Strand Reaction Buffer	Not available.
	T7 Promoter Primer	Not available.

12. Ecological information

Other adverse effects	: RNase A dNTP Mix Random Hexamers PEG 50% T7 RNA Polymerase Inorganic Pyrophosphatase CTP NTP Mix 4X Transcription Buffer MMLV-RT RNaseOUT dNTP 10 mM DTT 0.1M 5x First Strand Reaction Buffer T7 Promoter Primer	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
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13. Disposal considerations

Methods of disposal	: RNase A dNTP Mix Random Hexamers PEG 50% T7 RNA Polymerase Inorganic Pyrophosphatase CTP	The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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. The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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. The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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. The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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. The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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. The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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. The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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.
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13. Disposal considerations

NTP Mix	should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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.
4X Transcription Buffer	The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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.
MMLV-RT	The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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.
RNaseOUT	The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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.
dNTP 10 mM	The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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.
DTT 0.1M	The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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.
5x First Strand Reaction Buffer	The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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.
T7 Promoter Primer	The generation of waste should be avoided or minimised wherever possible. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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.

European waste catalogue (EWC)	: RNase A	Not available.
	: dNTP Mix	Not available.
	: Random Hexamers	Not available.
	: PEG 50%	Not available.
	: T7 RNA Polymerase	Not available.
	: Inorganic	Not available.
	: Pyrophosphatase	Not available.

13. Disposal considerations

	CTP	Not available.
	NTP Mix	Not available.
	4X Transcription Buffer	Not available.
	MMLV-RT	Not available.
	RNAseOUT	Not available.
	dNTP 10 mM	Not available.
	DTT 0.1M	Not available.
	5x First Strand Reaction Buffer	Not available.
	T7 Promoter Primer	Not available.
Hazardous waste	: RNAse A	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	dNTP Mix	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	Random Hexamers	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	PEG 50%	The classification of the product may meet the criteria for a hazardous waste.
	T7 RNA Polymerase	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	Inorganic Pyrophosphatase	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	CTP	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	NTP Mix	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	4X Transcription Buffer	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	MMLV-RT	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	RNAseOUT	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	dNTP 10 mM	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	DTT 0.1M	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	5x First Strand Reaction Buffer	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
	T7 Promoter Primer	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

14. Transport information

[International transport regulations](#)

15. Regulatory information

	DTT 0.1M	Not applicable.
	5x First Strand Reaction Buffer	Not applicable.
	T7 Promoter Primer	Not applicable.
Contains	:	
	PEG 50%	
	poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	500-038-2
Product use	:	
	RNAse A	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	dNTP Mix	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	Random Hexamers	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	PEG 50%	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	T7 RNA Polymerase	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	Inorganic Pyrophosphatase	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	CTP	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	NTP Mix	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	4X Transcription Buffer	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	MMLV-RT	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	RNAseOUT	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	dNTP 10 mM	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	DTT 0.1M	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	5x First Strand Reaction Buffer	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use. - Industrial applications.
	T7 Promoter Primer	Classification and labelling have been performed according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and the intended use.

15. Regulatory information

- Industrial applications.

Other EU regulations

Additional warning phrases	: RNase A	Not applicable.
	dNTP Mix	Not applicable.
	Random Hexamers	Not applicable.
	PEG 50%	Not applicable.
	T7 RNA Polymerase	Not applicable.
	Inorganic Pyrophosphatase	Not applicable.
	CTP	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
	RNaseOUT	Not applicable.
	dNTP 10 mM	Not applicable.
	DTT 0.1M	Not applicable.
	5x First Strand Reaction Buffer	Not applicable.
	T7 Promoter Primer	Not applicable.

Child protection	: RNase A	Not applicable.
	dNTP Mix	Not applicable.
	Random Hexamers	Not applicable.
	PEG 50%	Not applicable.
	T7 RNA Polymerase	Not applicable.
	Inorganic Pyrophosphatase	Not applicable.
	CTP	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
	RNaseOUT	Not applicable.
	dNTP 10 mM	Not applicable.
	DTT 0.1M	Not applicable.
	5x First Strand Reaction Buffer	Not applicable.
	T7 Promoter Primer	Not applicable.

Tactile warning of danger	: RNase A	Not applicable.
	dNTP Mix	Not applicable.
	Random Hexamers	Not applicable.
	PEG 50%	Not applicable.
	T7 RNA Polymerase	Not applicable.
	Inorganic Pyrophosphatase	Not applicable.
	CTP	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
	RNaseOUT	Not applicable.
	dNTP 10 mM	Not applicable.
	DTT 0.1M	Not applicable.
	5x First Strand Reaction Buffer	Not applicable.
	T7 Promoter Primer	Not applicable.

Restrictions on the Marketing and Use Directive	: RNase A	Not applicable.
	dNTP Mix	Not applicable.
	Random Hexamers	Not applicable.
	PEG 50%	Not applicable.
	T7 RNA Polymerase	Not applicable.
	Inorganic Pyrophosphatase	Not applicable.
	CTP	Not applicable.
	NTP Mix	Not applicable.
	4X Transcription Buffer	Not applicable.
	MMLV-RT	Not applicable.
RNaseOUT	Not applicable.	

15. Regulatory information

dNTP 10 mM	Not applicable.
DTT 0.1M	Not applicable.
5x First Strand Reaction Buffer	Not applicable.
T7 Promoter Primer	Not applicable.

16. Other information

Full text of R-phrases referred to in sections 2 and 3 - Europe : R22- Harmful if swallowed.

Full text of classifications referred to in sections 2 and 3 - Europe : Xn - Harmful

History

Date of printing : 4/2/2007.
Date of issue : 4/2/2007.
Date of previous issue : No previous validation.
Version : 0.01

Notice to reader

DISCLAIMER: *This information is based on our present state of knowledge. It should not therefore be construed as guaranteeing the suitability of the Product for a particular application.*

 Indicates information that has changed from previously issued version.