

SAFETY DATA SHEET**miRNA 1st-Strand cDNA Synthesis Kit, Part Number 600036****SECTION 1: Identification of the substance/mixture and of the company/
undertaking****1.1 Product identifier**

Product name	: miRNA 1st-Strand cDNA Synthesis Kit, Part Number 600036	
Part No. (Kit)	: 600036	
Part No.	E. coli Poly A Polymerase (PAP)	600035-51
	E. coli Poly A Polymerase Buffer	600035-52
	Manganese chloride	600035-53
	10 mM rATP	200340-81
	Glycogen	252003-59
	10X AffinityScript RT buffer	600100-52
	RT Adaptor Primer	600035-54
	100 mM dNTPs	200820-55
	AffinityScript RT/RNase	600559-52
	Block Enzyme Mixture	
	Universal Reverse Primer	600035-55

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

Identified uses	
Analytical reagent.	
E. coli Poly A Polymerase (PAP)	0.05 ml
E. coli Poly A Polymerase Buffer	0.2 ml
Manganese chloride	0.05 ml
RT Adaptor Primer	0.05 ml
Universal Reverse Primer	0.2 ml
rATP	0.25 ml
Glycogen	0.03 ml
10X AffinityScript RT buffer	0.1 ml
Deoxynucleotide mix	0.04 ml
AffinityScript RT/RNase Block Enzyme Mixture	0.05 ml

1.3 Details of the supplier of the safety data sheet

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

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

1.4 Emergency telephone number

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

Date of issue/Date of revision : 20/04/2015

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition	:	E. coli Poly A Polymerase (PAP)	Mixture
		E. coli Poly A Polymerase Buffer	Mixture
		Manganese chloride	Mixture
		10 mM rATP	Mixture
		Glycogen	Mixture
		10X AffinityScript RT buffer	Mixture
		RT Adaptor Primer	Mixture
		100 mM dNTPs	Mixture
		AffinityScript RT/RNase	Mixture
		Block Enzyme Mixture	
		Universal Reverse Primer	Mixture

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

E. coli Poly A Polymerase

Buffer

H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2

Ingredients of unknown toxicity	:	E. coli Poly A Polymerase (PAP)	Not applicable.
		E. coli Poly A Polymerase Buffer	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.9%
		Manganese chloride	Not applicable.
		10 mM rATP	Not applicable.
		Glycogen	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 2%
		10X AffinityScript RT buffer	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 7.9%
		RT Adaptor Primer	Not applicable.
		100 mM dNTPs	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 6%
		AffinityScript RT/RNase	Not applicable.
		Block Enzyme Mixture	
		Universal Reverse Primer	Not applicable.
Ingredients of unknown ecotoxicity	:	E. coli Poly A Polymerase (PAP)	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 50%
		E. coli Poly A Polymerase Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4.9%
		Manganese chloride	Not applicable.
		10 mM rATP	Not applicable.
		Glycogen	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2%
		10X AffinityScript RT buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 7.9%
		RT Adaptor Primer	Not applicable.
		100 mM dNTPs	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 6%
		AffinityScript RT/RNase	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 50%
		Block Enzyme Mixture	
		Universal Reverse Primer	Not applicable.

Classification according to Directive 1999/45/EC [DPD]

SECTION 2: Hazards identification

E. coli Poly A Polymerase (PAP)	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
E. coli Poly A Polymerase Buffer	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Manganese chloride	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
10 mM rATP	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Glycogen	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
10X AffinityScript RT buffer	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
RT Adaptor Primer	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
100 mM dNTPs	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
AffinityScript RT/RNase Block Enzyme Mixture	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.
Universal Reverse Primer	The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification	:	E. coli Poly A Polymerase (PAP)	Not classified.
		E. coli Poly A Polymerase Buffer	Not classified.
		Manganese chloride	Not classified.
		10 mM rATP	Not classified.
		Glycogen	Not classified.
		10X AffinityScript RT buffer	Not classified.
		RT Adaptor Primer	Not classified.
		100 mM dNTPs	Not classified.
		AffinityScript RT/RNase Block Enzyme Mixture	Not classified.
		Universal Reverse Primer	Not classified.

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

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

2.2 Label elements

Hazard pictograms




Signal word

:	E. coli Poly A Polymerase (PAP)	No signal word.
	E. coli Poly A Polymerase Buffer	Warning
	Manganese chloride	No signal word.
	10 mM rATP	No signal word.
	Glycogen	No signal word.
	10X AffinityScript RT buffer	No signal word.
	RT Adaptor Primer	No signal word.
	100 mM dNTPs	No signal word.
	AffinityScript RT/RNase Block Enzyme Mixture	No signal word.
	Universal Reverse Primer	No signal word.

Hazard statements


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SECTION 2: Hazards identification


<p> E. coli Poly A Polymerase (PAP)</p> <p>E. coli Poly A Polymerase Buffer</p> <p>Manganese chloride</p> <p>10 mM rATP</p> <p>Glycogen</p> <p>10X AffinityScript RT buffer</p> <p>RT Adaptor Primer</p> <p>100 mM dNTPs</p> <p>AffinityScript RT/RNase</p> <p>Block Enzyme Mixture</p> <p>Universal Reverse Primer</p>	<p>No known significant effects or critical hazards.</p> <p>GHS07 - Causes serious eye irritation.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p> <p>No known significant effects or critical hazards.</p>
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Precautionary statements


Prevention

<p> E. coli Poly A Polymerase (PAP)</p> <p>E. coli Poly A Polymerase Buffer</p> <p>Manganese chloride</p> <p>10 mM rATP</p> <p>Glycogen</p> <p>10X AffinityScript RT buffer</p> <p>RT Adaptor Primer</p> <p>100 mM dNTPs</p> <p>AffinityScript RT/RNase</p> <p>Block Enzyme Mixture</p> <p>Universal Reverse Primer</p>	<p>Not applicable.</p> <p>P280 - Wear eye or face protection.</p> <p>P264 - Wash hands thoroughly after handling.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p>
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Response

<p> E. coli Poly A Polymerase (PAP)</p> <p>E. coli Poly A Polymerase Buffer</p> <p>Manganese chloride</p> <p>10 mM rATP</p> <p>Glycogen</p> <p>10X AffinityScript RT buffer</p> <p>RT Adaptor Primer</p> <p>100 mM dNTPs</p> <p>AffinityScript RT/RNase</p> <p>Block Enzyme Mixture</p> <p>Universal Reverse Primer</p>	<p>Not applicable.</p> <p>P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p>
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Storage

<p> E. coli Poly A Polymerase (PAP)</p> <p>E. coli Poly A Polymerase Buffer</p> <p>Manganese chloride</p> <p>10 mM rATP</p> <p>Glycogen</p> <p>10X AffinityScript RT buffer</p> <p>RT Adaptor Primer</p> <p>100 mM dNTPs</p> <p>AffinityScript RT/RNase</p> <p>Block Enzyme Mixture</p> <p>Universal Reverse</p>	<p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p>
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SECTION 2: Hazards identification

	Primer	
Disposal	: E. coli Poly A	Not applicable.
	Polymerase (PAP)	
	E. coli Poly A	Not applicable.
	Polymerase Buffer	
	Manganese chloride	Not applicable.
	10 mM rATP	Not applicable.
	Glycogen	Not applicable.
	10X AffinityScript RT buffer	Not applicable.
	RT Adaptor Primer	Not applicable.
	100 mM dNTPs	Not applicable.
	AffinityScript RT/RNase	Not applicable.
	Block Enzyme Mixture	
	Universal Reverse Primer	Not applicable.
Hazardous ingredients	: E. coli Poly A Polymerase Buffer	
	Sodium chloride	
	2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	
Supplemental label elements	: E. coli Poly A	Safety data sheet available on request.
	Polymerase (PAP)	
	E. coli Poly A	Safety data sheet available on request.
	Polymerase Buffer	
	Manganese chloride	Safety data sheet available on request.
	10 mM rATP	Safety data sheet available on request.
	Glycogen	Safety data sheet available on request.
	10X AffinityScript RT buffer	Safety data sheet available on request.
	RT Adaptor Primer	Safety data sheet available on request.
	100 mM dNTPs	Safety data sheet available on request.
	AffinityScript RT/RNase	Safety data sheet available on request.
	Block Enzyme Mixture	
	Universal Reverse Primer	Safety data sheet available on request.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: Not applicable.	
Special packaging requirements		
Tactile warning of danger	: E. coli Poly A	Not applicable.
	Polymerase (PAP)	
	E. coli Poly A	Not applicable.
	Polymerase Buffer	
	Manganese chloride	Not applicable.
	10 mM rATP	Not applicable.
	Glycogen	Not applicable.
	10X AffinityScript RT buffer	Not applicable.
	RT Adaptor Primer	Not applicable.
	100 mM dNTPs	Not applicable.
	AffinityScript RT/RNase	Not applicable.
	Block Enzyme Mixture	
	Universal Reverse Primer	Not applicable.

2.3 Other hazards

SECTION 2: Hazards identification

Other hazards which do not result in classification	: E. coli Poly A Polymerase (PAP)	None known.
	E. coli Poly A	None known.
	Polymerase Buffer	None known.
	Manganese chloride	None known.
	10 mM rATP	None known.
	Glycogen	None known.
	10X AffinityScript RT buffer	None known.
	RT Adaptor Primer	None known.
	100 mM dNTPs	None known.
	AffinityScript RT/RNase	None known.
	Block Enzyme Mixture	None known.
	Universal Reverse Primer	None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures	: E. coli Poly A Polymerase (PAP)	Mixture
	E. coli Poly A Polymerase Buffer	Mixture
	Manganese chloride	Mixture
	10 mM rATP	Mixture
	Glycogen	Mixture
	10X AffinityScript RT buffer	Mixture
	RT Adaptor Primer	Mixture
	100 mM dNTPs	Mixture
	AffinityScript RT/RNase Block Enzyme Mixture	Mixture
	Universal Reverse Primer	Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
E. coli Poly A Polymerase (PAP) Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≥1 - <3	Xi; R36	Eye Irrit. 2, H319	[1]
E. coli Poly A Polymerase Buffer Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≥7 - <10	Xi; R36	Eye Irrit. 2, H319	[1]
2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	≥3.5 - <5	Xi; R36/37/38	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
10X AffinityScript RT buffer 2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	≥5 - <10	Xi; R36/37/38	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
			See Section 16 for the full text of the R-phrases declared above.	See Section 16 for the full text of the H statements declared above.	

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

SECTION 3: Composition/information on ingredients

Type

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

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

SECTION 4: First aid measures

4.1 Description of first aid measures


Eye contact	: E. coli Poly A Polymerase (PAP)	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.
	E. coli Poly A Polymerase 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.
	Manganese chloride	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 rATP	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.
	Glycogen	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.
	10X AffinityScript RT 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.
	RT Adaptor 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.
	100 mM dNTPs	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.
	AffinityScript RT/RNase Block Enzyme Mixture	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.
	Universal Reverse 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.
Inhalation	: E. coli Poly A Polymerase (PAP)	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	E. coli Poly A Polymerase 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.
	Manganese chloride	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	10 mM rATP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Glycogen	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	10X AffinityScript RT 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

SECTION 4: First aid measures

		products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	RT Adaptor Primer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	100 mM dNTPs	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.
	AffinityScript RT/RNase Block Enzyme Mixture	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Universal Reverse Primer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: E. coli Poly A Polymerase (PAP)	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	E. coli Poly A Polymerase Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Manganese chloride	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	10 mM rATP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Glycogen	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	10X AffinityScript RT buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	RT Adaptor Primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	100 mM dNTPs	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	AffinityScript RT/RNase Block Enzyme Mixture	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Universal Reverse Primer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: E. coli Poly A Polymerase (PAP)	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	E. coli Poly A Polymerase Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Manganese chloride	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If

SECTION 4: First aid measures

	material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
10 mM rATP	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Glycogen	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
10X AffinityScript RT buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
RT Adaptor Primer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
100 mM dNTPs	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
AffinityScript RT/RNase Block Enzyme Mixture	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Universal Reverse Primer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders :	 E. coli Poly A Polymerase (PAP)	No action shall be taken involving any personal risk or without suitable training.
	E. coli Poly A Polymerase Buffer	No action shall be taken involving any personal risk or without suitable training.
	Manganese chloride	No action shall be taken involving any personal risk or without suitable training.
	10 mM rATP	No action shall be taken involving any personal risk or without suitable training.
	Glycogen	No action shall be taken involving any personal risk or without suitable training.
	10X AffinityScript RT buffer	No action shall be taken involving any personal risk or without suitable training.
	RT Adaptor Primer	No action shall be taken involving any personal risk or without suitable training.
	100 mM dNTPs	No action shall be taken involving any personal risk or without suitable training.

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AffinityScript RT/RNase Block Enzyme Mixture	No action shall be taken involving any personal risk or without suitable training.
Universal Reverse Primer	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	: E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
	E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
	Manganese chloride	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	10X AffinityScript RT buffer	No known significant effects or critical hazards.
	RT Adaptor Primer	No known significant effects or critical hazards.
	100 mM dNTPs	No known significant effects or critical hazards.
	AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
	Universal Reverse Primer	No known significant effects or critical hazards.
Inhalation	: E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
	E. coli Poly A Polymerase Buffer	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	Manganese chloride	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	10X AffinityScript RT buffer	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	RT Adaptor Primer	No known significant effects or critical hazards.
	100 mM dNTPs	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
	Universal Reverse Primer	No known significant effects or critical hazards.
Skin contact	: E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
	E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
	Manganese chloride	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	10X AffinityScript RT buffer	No known significant effects or critical hazards.
	RT Adaptor Primer	No known significant effects or critical hazards.
	100 mM dNTPs	No known significant effects or critical hazards.
	AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
	Universal Reverse Primer	No known significant effects or critical hazards.
Ingestion	: E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
	E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
	Manganese chloride	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.

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10X AffinityScript RT buffer	No known significant effects or critical hazards.
RT Adaptor Primer	No known significant effects or critical hazards.
100 mM dNTPs	No known significant effects or critical hazards.
AffinityScript RT/RNase	No known significant effects or critical hazards.
Block Enzyme Mixture	
Universal Reverse Primer	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	E. coli Poly A Polymerase (PAP)	No specific data.
		E. coli Poly A Polymerase Buffer	No specific data.
		Manganese chloride	No specific data.
		10 mM rATP	No specific data.
		Glycogen	No specific data.
		10X AffinityScript RT buffer	No specific data.
		RT Adaptor Primer	No specific data.
		100 mM dNTPs	No specific data.
		AffinityScript RT/RNase	No specific data.
		Block Enzyme Mixture	
		Universal Reverse Primer	No specific data.
Inhalation	:	E. coli Poly A Polymerase (PAP)	No specific data.
		E. coli Poly A Polymerase Buffer	No specific data.
		Manganese chloride	No specific data.
		10 mM rATP	No specific data.
		Glycogen	No specific data.
		10X AffinityScript RT buffer	No specific data.
		RT Adaptor Primer	No specific data.
		100 mM dNTPs	No specific data.
		AffinityScript RT/RNase	No specific data.
		Block Enzyme Mixture	
		Universal Reverse Primer	No specific data.
Skin contact	:	E. coli Poly A Polymerase (PAP)	No specific data.
		E. coli Poly A Polymerase Buffer	No specific data.
		Manganese chloride	No specific data.
		10 mM rATP	No specific data.
		Glycogen	No specific data.
		10X AffinityScript RT buffer	No specific data.
		RT Adaptor Primer	No specific data.
		100 mM dNTPs	No specific data.
		AffinityScript RT/RNase	No specific data.
		Block Enzyme Mixture	
		Universal Reverse Primer	No specific data.

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Ingestion	: E. coli Poly A Polymerase (PAP)	No specific data.
	E. coli Poly A Polymerase Buffer	No specific data.
	Manganese chloride	No specific data.
	10 mM rATP	No specific data.
	Glycogen	No specific data.
	10X AffinityScript RT buffer	No specific data.
	RT Adaptor Primer	No specific data.
	100 mM dNTPs	No specific data.
	AffinityScript RT/RNase Block Enzyme Mixture	No specific data.
	Universal Reverse Primer	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: E. coli Poly A Polymerase (PAP)	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	E. coli Poly A Polymerase 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.
	Manganese chloride	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	10 mM rATP	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Glycogen	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	10X AffinityScript RT 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.
	RT Adaptor Primer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	100 mM dNTPs	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.
	AffinityScript RT/RNase Block Enzyme Mixture	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Universal Reverse Primer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: E. coli Poly A Polymerase (PAP)	No specific treatment.
	E. coli Poly A Polymerase Buffer	No specific treatment.
	Manganese chloride	No specific treatment.
	10 mM rATP	No specific treatment.
	Glycogen	No specific treatment.
	10X AffinityScript RT buffer	No specific treatment.
	RT Adaptor Primer	No specific treatment.
	100 mM dNTPs	No specific treatment.
	AffinityScript RT/RNase Block Enzyme Mixture	No specific treatment.
	Universal Reverse Primer	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: E. coli Poly A	Use an extinguishing agent suitable for the surrounding fire.
	Polymerase (PAP)	
	E. coli Poly A	Use an extinguishing agent suitable for the surrounding fire.
	Polymerase Buffer	
	Manganese chloride	Use an extinguishing agent suitable for the surrounding fire.
	10 mM rATP	Use an extinguishing agent suitable for the surrounding fire.
	Glycogen	Use an extinguishing agent suitable for the surrounding fire.
	10X AffinityScript RT buffer	Use an extinguishing agent suitable for the surrounding fire.
	RT Adaptor Primer	Use an extinguishing agent suitable for the surrounding fire.
	100 mM dNTPs	Use an extinguishing agent suitable for the surrounding fire.
AffinityScript RT/RNase	Use an extinguishing agent suitable for the surrounding fire.	
Block Enzyme Mixture		
Universal Reverse Primer	Use an extinguishing agent suitable for the surrounding fire.	
Unsuitable extinguishing media	: E. coli Poly A	None known.
	Polymerase (PAP)	
	E. coli Poly A	None known.
	Polymerase Buffer	
	Manganese chloride	None known.
	10 mM rATP	None known.
	Glycogen	None known.
	10X AffinityScript RT buffer	None known.
	RT Adaptor Primer	None known.
	100 mM dNTPs	None known.
AffinityScript RT/RNase	None known.	
Block Enzyme Mixture		
Universal Reverse Primer	None known.	

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: E. coli Poly A	In a fire or if heated, a pressure increase will occur and the container may burst.
	Polymerase (PAP)	
	E. coli Poly A	In a fire or if heated, a pressure increase will occur and the container may burst.
	Polymerase Buffer	
	Manganese chloride	In a fire or if heated, a pressure increase will occur and the container may burst.
	10 mM rATP	In a fire or if heated, a pressure increase will occur and the container may burst.
	Glycogen	In a fire or if heated, a pressure increase will occur and the container may burst.
	10X AffinityScript RT buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	RT Adaptor Primer	In a fire or if heated, a pressure increase will occur and the container may burst.
	100 mM dNTPs	In a fire or if heated, a pressure increase will occur and the container may burst.
AffinityScript RT/RNase	In a fire or if heated, a pressure increase will occur and the container may burst.	
Block Enzyme Mixture		
Universal Reverse Primer	In a fire or if heated, a pressure increase will occur and the container may burst.	
Hazardous combustion products	: E. coli Poly A	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	Polymerase (PAP)	
	: E. coli Poly A	Decomposition products may include the following materials: carbon dioxide
	Polymerase Buffer	

SECTION 5: Firefighting measures

	carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
Manganese chloride	No specific data.
10 mM rATP	No specific data.
Glycogen	Decomposition products may include the following materials: carbon dioxide carbon monoxide
10X AffinityScript RT buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
RT Adaptor Primer	No specific data.
100 mM dNTPs	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
AffinityScript RT/RNase Block Enzyme Mixture	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Universal Reverse Primer	No specific data.

5.3 Advice for firefighters

Special precautions for fire-fighters

: E. coli Poly A Polymerase (PAP)	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.
E. coli Poly A Polymerase 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.
Manganese chloride	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 rATP	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.
Glycogen	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.
10X AffinityScript RT 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.
RT Adaptor 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.
100 mM dNTPs	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.
AffinityScript RT/RNase Block Enzyme Mixture	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.
Universal Reverse 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.

SECTION 5: Firefighting measures

Special protective equipment for fire-fighters	: E. coli Poly A Polymerase (PAP)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	E. coli Poly A Polymerase Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	Manganese chloride	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	10 mM rATP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	Glycogen	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	10X AffinityScript RT buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	RT Adaptor Primer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	100 mM dNTPs	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	AffinityScript RT/RNase Block Enzyme Mixture	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	Universal Reverse Primer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	 E. coli Poly A Polymerase (PAP)	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.
		E. coli Poly A Polymerase 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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
		Manganese chloride	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 rATP	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.
		Glycogen	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.
		10X AffinityScript RT 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.
		RT Adaptor 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.
		100 mM dNTPs	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.
		AffinityScript RT/RNase Block Enzyme Mixture	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.
		Universal Reverse 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.
For emergency responders	:	E. coli Poly A Polymerase (PAP)	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".
		E. coli Poly A Polymerase 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".

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Manganese chloride	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 rATP	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".
Glycogen	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".
10X AffinityScript RT 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".
RT Adaptor 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".
100 mM dNTPs	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".
AffinityScript RT/RNase Block Enzyme Mixture	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".
Universal Reverse 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".

6.2 Environmental precautions

: E. coli Poly A Polymerase (PAP)	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).
E. coli Poly A Polymerase 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).
Manganese chloride	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 rATP	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).
Glycogen	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).
10X AffinityScript RT 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).
RT Adaptor Primer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
100 mM dNTPs	Avoid dispersal of spilt material and runoff and contact with

SECTION 6: Accidental release measures

AffinityScript RT/RNase Block Enzyme Mixture	soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Universal Reverse Primer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : 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	<p>E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer</p> <p>Manganese chloride</p> <p>10 mM rATP</p> <p>Glycogen</p> <p>10X AffinityScript RT buffer RT Adaptor Primer</p> <p>100 mM dNTPs</p> <p>AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer</p>	<p>Put on appropriate personal protective equipment (see Section 8).</p> <p>Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. 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.</p> <p>Put on appropriate personal protective equipment (see Section 8).</p> <p>Put on appropriate personal protective equipment (see Section 8).</p> <p>Put on appropriate personal protective equipment (see Section 8).</p> <p>Put on appropriate personal protective equipment (see Section 8).</p> <p>Put on appropriate personal protective equipment (see Section 8).</p> <p>Put on appropriate personal protective equipment (see Section 8).</p> <p>Put on appropriate personal protective equipment (see Section 8).</p>
Advice on general occupational hygiene	<p>E. coli Poly A Polymerase (PAP)</p> <p>E. coli Poly A Polymerase Buffer</p>	<p>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p> <p>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also</p>

SECTION 7: Handling and storage

Manganese chloride	Section 8 for additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
10 mM rATP	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.
Glycogen	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.
10X AffinityScript RT 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.
RT Adaptor 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.
100 mM dNTPs	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.
AffinityScript RT/RNase Block Enzyme Mixture	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.
Universal Reverse 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.

7.2 Conditions for safe storage, including any incompatibilities

: E. coli Poly A Polymerase (PAP)	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.
E. coli Poly A Polymerase 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

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	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.
Manganese chloride	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.
10 mM rATP	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.
Glycogen	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.
10X AffinityScript RT 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.
RT Adaptor 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.
100 mM dNTPs	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.
AffinityScript RT/RNase Block Enzyme Mixture	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and

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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.

Universal Reverse 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.

7.3 Specific end use(s)

Recommendations

: E. coli Poly A Polymerase (PAP) Industrial applications, Professional applications.
 E. coli Poly A Polymerase Buffer Industrial applications, Professional applications.
 Manganese chloride Industrial applications, Professional applications.
 10 mM rATP Industrial applications, Professional applications.
 Glycogen Industrial applications, Professional applications.
 10X AffinityScript RT buffer Industrial applications, Professional applications.
 RT Adaptor Primer Industrial applications, Professional applications.
 100 mM dNTPs Industrial applications, Professional applications.
 AffinityScript RT/RNase Block Enzyme Mixture Industrial applications, Professional applications.
 Universal Reverse Primer Industrial applications, Professional applications.

Industrial sector specific solutions : Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

 No exposure limit value known.

Recommended monitoring procedures

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

DNELs/DMELs

No DNELs available.

PNECs

No PNECs available.

SECTION 8: Exposure controls/personal protection**8.2 Exposure controls**

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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: chemical splash goggles.

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 : 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.

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

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

Physical state	E. coli Poly A	Liquid.
	Polymerase (PAP)	
	E. coli Poly A	Liquid.
	Polymerase Buffer	
	Manganese chloride	Liquid.
	10 mM rATP	Liquid.
	Glycogen	Liquid.
	10X AffinityScript RT buffer	Liquid.
	RT Adaptor Primer	Liquid.
	100 mM dNTPs	Liquid.
	AffinityScript RT/RNase Block Enzyme Mixture	Liquid.
	Universal Reverse Primer	Liquid.

SECTION 9: Physical and chemical properties

Colour	:	E. coli Poly A	Not available.
		Polymerase (PAP)	
		E. coli Poly A	Not available.
		Polymerase Buffer	
		Manganese chloride	Not available.
		10 mM rATP	Not available.
		Glycogen	Not available.
		10X AffinityScript RT buffer	Not available.
		RT Adaptor Primer	Not available.
		100 mM dNTPs	Not available.
		AffinityScript RT/RNase	Not available.
		Block Enzyme Mixture	
		Universal Reverse	Not available.
		Primer	
Odour	:	E. coli Poly A	Not available.
		Polymerase (PAP)	
		E. coli Poly A	Not available.
		Polymerase Buffer	
		Manganese chloride	Not available.
		10 mM rATP	Not available.
		Glycogen	Not available.
		10X AffinityScript RT buffer	Not available.
		RT Adaptor Primer	Not available.
		100 mM dNTPs	Not available.
		AffinityScript RT/RNase	Not available.
		Block Enzyme Mixture	
		Universal Reverse	Not available.
		Primer	
Odour threshold	:	E. coli Poly A	Not available.
		Polymerase (PAP)	
		E. coli Poly A	Not available.
		Polymerase Buffer	
		Manganese chloride	Not available.
		10 mM rATP	Not available.
		Glycogen	Not available.
		10X AffinityScript RT buffer	Not available.
		RT Adaptor Primer	Not available.
		100 mM dNTPs	Not available.
		AffinityScript RT/RNase	Not available.
		Block Enzyme Mixture	
		Universal Reverse	Not available.
		Primer	
pH	:	E. coli Poly A	8
		Polymerase (PAP)	
		E. coli Poly A	8
		Polymerase Buffer	
		Manganese chloride	Not available.
		10 mM rATP	7
		Glycogen	Not available.
		10X AffinityScript RT buffer	8.3
		RT Adaptor Primer	7.5
		100 mM dNTPs	7.5
		AffinityScript RT/RNase	8
		Block Enzyme Mixture	
		Universal Reverse	Not available.
		Primer	

SECTION 9: Physical and chemical properties

Melting point/freezing point	:	E. coli Poly A	Not available.
		Polymerase (PAP)	
		E. coli Poly A	Not available.
		Polymerase Buffer	
		Manganese chloride	0°C
		10 mM rATP	0°C
		Glycogen	0°C
		10X AffinityScript RT buffer	Not available.
		RT Adaptor Primer	0°C
		100 mM dNTPs	Not available.
		AffinityScript RT/RNase	Not available.
		Block Enzyme Mixture	
		Universal Reverse Primer	0°C
	Initial boiling point and boiling range	:	E. coli Poly A
		Polymerase (PAP)	
		E. coli Poly A	Not available.
		Polymerase Buffer	
		Manganese chloride	100°C
		10 mM rATP	100°C
		Glycogen	100°C
		10X AffinityScript RT buffer	Not available.
		RT Adaptor Primer	100°C
		100 mM dNTPs	Not available.
		AffinityScript RT/RNase	Not available.
		Block Enzyme Mixture	
		Universal Reverse Primer	100°C
Flash point		:	E. coli Poly A
		Polymerase (PAP)	
		E. coli Poly A	Not available.
		Polymerase Buffer	
		Manganese chloride	Not available.
		10 mM rATP	Not available.
		Glycogen	Not available.
		10X AffinityScript RT buffer	Not available.
		RT Adaptor Primer	Not available.
		100 mM dNTPs	Not available.
		AffinityScript RT/RNase	Not available.
		Block Enzyme Mixture	
		Universal Reverse Primer	Not available.
	Evaporation rate	:	E. coli Poly A
		Polymerase (PAP)	
		E. coli Poly A	Not available.
		Polymerase Buffer	
		Manganese chloride	Not available.
		10 mM rATP	Not available.
		Glycogen	Not available.
		10X AffinityScript RT buffer	Not available.
		RT Adaptor Primer	Not available.
		100 mM dNTPs	Not available.
		AffinityScript RT/RNase	Not available.
		Block Enzyme Mixture	
		Universal Reverse Primer	Not available.

SECTION 9: Physical and chemical properties

Flammability (solid, gas)	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/ RNase Block Enzyme Mixture Universal Reverse Primer	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Upper/lower flammability or explosive limits	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Vapour pressure	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Vapour density	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.

SECTION 9: Physical and chemical properties

Relative density	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Solubility(ies)	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	Soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.
Auto-ignition temperature	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase	Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available. Not available.

SECTION 9: Physical and chemical properties

	Block Enzyme Mixture	
	Universal Reverse Primer	Not available.
Decomposition temperature	: E. coli Poly A Polymerase (PAP)	Not available.
	E. coli Poly A Polymerase Buffer	Not available.
	Manganese chloride	Not available.
	10 mM rATP	Not available.
	Glycogen	Not available.
	10X AffinityScript RT buffer	Not available.
	RT Adaptor Primer	Not available.
	100 mM dNTPs	Not available.
	AffinityScript RT/RNase	Not available.
	Block Enzyme Mixture	
	Universal Reverse Primer	Not available.
Viscosity	: E. coli Poly A Polymerase (PAP)	Not available.
	E. coli Poly A Polymerase Buffer	Not available.
	Manganese chloride	Not available.
	10 mM rATP	Not available.
	Glycogen	Not available.
	10X AffinityScript RT buffer	Not available.
	RT Adaptor Primer	Not available.
	100 mM dNTPs	Not available.
	AffinityScript RT/RNase	Not available.
	Block Enzyme Mixture	
	Universal Reverse Primer	Not available.
Explosive properties	: E. coli Poly A Polymerase (PAP)	Not available.
	E. coli Poly A Polymerase Buffer	Not available.
	Manganese chloride	Not available.
	10 mM rATP	Not available.
	Glycogen	Not available.
	10X AffinityScript RT buffer	Not available.
	RT Adaptor Primer	Not available.
	100 mM dNTPs	Not available.
	AffinityScript RT/RNase	Not available.
	Block Enzyme Mixture	
	Universal Reverse Primer	Not available.
Oxidising properties	: Not available.	

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	: E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.

SECTION 10: Stability and reactivity

10.4 Conditions to avoid	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
10.5 Incompatible materials	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride 10 mM rATP Glycogen 10X AffinityScript RT buffer RT Adaptor Primer 100 mM dNTPs AffinityScript RT/RNase Block Enzyme Mixture Universal Reverse Primer	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
10.6 Hazardous decomposition products	:	E. coli Poly A Polymerase (PAP) E. coli Poly A Polymerase Buffer Manganese chloride RT Adaptor Primer Universal Reverse Primer rATP Glycogen 10X AffinityScript RT buffer Deoxynucleotide mix AffinityScript RT/RNase Block Enzyme Mixture	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. 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
E. coli Poly A Polymerase (PAP) Sodium chloride	LC50 Inhalation Dusts and mists LD50 Oral	Rat Rat	>42 g/m ³ 3000 mg/kg	1 hours -
E. coli Poly A Polymerase Buffer Sodium chloride	LC50 Inhalation Dusts and mists LD50 Oral	Rat Rat	>42 g/m ³ 3000 mg/kg	1 hours -

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
E. coli Poly A Polymerase (PAP) Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
E. coli Poly A Polymerase Buffer Sodium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitiser

Conclusion/Summary : Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
E. coli Poly A Polymerase Buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
10X AffinityScript RT buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation


Specific target organ toxicity (repeated exposure)

Not available.


Aspiration hazard

Not available.

SECTION 11: Toxicological information

Information on the likely routes of exposure	:  E. coli Poly A Polymerase (PAP)	Routes of entry anticipated: Oral, Dermal, Inhalation.
	E. coli Poly A Polymerase Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Manganese chloride	Not available.
	10 mM rATP	Not available.
	Glycogen	Not available.
	10X AffinityScript RT buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
	RT Adaptor Primer	Not available.
	100 mM dNTPs	Routes of entry anticipated: Oral, Dermal, Inhalation.
	AffinityScript RT/RNase Block Enzyme Mixture	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Universal Reverse Primer	Not available.

Potential acute health effects

Inhalation	: E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
	E. coli Poly A Polymerase Buffer	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	Manganese chloride	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	10X AffinityScript RT buffer	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	RT Adaptor Primer	No known significant effects or critical hazards.
	100 mM dNTPs	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
	Universal Reverse Primer	No known significant effects or critical hazards.
Ingestion	:  E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
	E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
	Manganese chloride	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	10X AffinityScript RT buffer	No known significant effects or critical hazards.
	RT Adaptor Primer	No known significant effects or critical hazards.
	100 mM dNTPs	No known significant effects or critical hazards.
	AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
	Universal Reverse Primer	No known significant effects or critical hazards.
Skin contact	: E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
	E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
	Manganese chloride	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	10X AffinityScript RT buffer	No known significant effects or critical hazards.
	RT Adaptor Primer	No known significant effects or critical hazards.
	100 mM dNTPs	No known significant effects or critical hazards.
	AffinityScript RT/RNase Block Enzyme Mixture	No known significant effects or critical hazards.
	Universal Reverse	No known significant effects or critical hazards.

SECTION 11: Toxicological information

	Primer	
Eye contact	: E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
	E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
	Manganese chloride	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	10X AffinityScript RT buffer	No known significant effects or critical hazards.
	RT Adaptor Primer	No known significant effects or critical hazards.
	100 mM dNTPs	No known significant effects or critical hazards.
	AffinityScript RT/RNase	No known significant effects or critical hazards.
	Block Enzyme Mixture	
	Universal Reverse Primer	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: E. coli Poly A Polymerase (PAP)	No specific data.
	E. coli Poly A Polymerase Buffer	No specific data.
	Manganese chloride	No specific data.
	10 mM rATP	No specific data.
	Glycogen	No specific data.
	10X AffinityScript RT buffer	No specific data.
	RT Adaptor Primer	No specific data.
	100 mM dNTPs	No specific data.
	AffinityScript RT/RNase	No specific data.
	Block Enzyme Mixture	
	Universal Reverse Primer	No specific data.
Ingestion	: E. coli Poly A Polymerase (PAP)	No specific data.
	E. coli Poly A Polymerase Buffer	No specific data.
	Manganese chloride	No specific data.
	10 mM rATP	No specific data.
	Glycogen	No specific data.
	10X AffinityScript RT buffer	No specific data.
	RT Adaptor Primer	No specific data.
	100 mM dNTPs	No specific data.
	AffinityScript RT/RNase	No specific data.
	Block Enzyme Mixture	
	Universal Reverse Primer	No specific data.
Skin contact	: E. coli Poly A Polymerase (PAP)	No specific data.
	E. coli Poly A Polymerase Buffer	No specific data.
	Manganese chloride	No specific data.
	10 mM rATP	No specific data.
	Glycogen	No specific data.
	10X AffinityScript RT buffer	No specific data.
	RT Adaptor Primer	No specific data.
	100 mM dNTPs	No specific data.
	AffinityScript RT/RNase	No specific data.
	Block Enzyme Mixture	
	Universal Reverse	No specific data.

SECTION 11: Toxicological information

	Primer	
Eye contact	: E. coli Poly A Polymerase (PAP)	No specific data.
	E. coli Poly A Polymerase Buffer	No specific data.
	Manganese chloride	No specific data.
	10 mM rATP	No specific data.
	Glycogen	No specific data.
	10X AffinityScript RT buffer	No specific data.
	RT Adaptor Primer	No specific data.
	100 mM dNTPs	No specific data.
	AffinityScript RT/RNase	No specific data.
	Block Enzyme Mixture	
	Universal Reverse Primer	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure**Short term exposure**

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
	E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
	Manganese chloride	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	10X AffinityScript RT buffer	No known significant effects or critical hazards.
	RT Adaptor Primer	No known significant effects or critical hazards.
	100 mM dNTPs	No known significant effects or critical hazards.
	AffinityScript RT/RNase	No known significant effects or critical hazards.
	Block Enzyme Mixture	
	Universal Reverse Primer	No known significant effects or critical hazards.
Carcinogenicity	: E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
	E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
	Manganese chloride	No known significant effects or critical hazards.
	10 mM rATP	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	10X AffinityScript RT buffer	No known significant effects or critical hazards.
	RT Adaptor Primer	No known significant effects or critical hazards.
	100 mM dNTPs	No known significant effects or critical hazards.
	AffinityScript RT/RNase	No known significant effects or critical hazards.
	Block Enzyme Mixture	
	Universal Reverse Primer	No known significant effects or critical hazards.

SECTION 11: Toxicological information

Mutagenicity	:	E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.	
		E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.	
		Manganese chloride	No known significant effects or critical hazards.	
		10 mM rATP	No known significant effects or critical hazards.	
		Glycogen	No known significant effects or critical hazards.	
		10X AffinityScript RT buffer	No known significant effects or critical hazards.	
		RT Adaptor Primer	No known significant effects or critical hazards.	
		100 mM dNTPs	No known significant effects or critical hazards.	
		AffinityScript RT/RNase	No known significant effects or critical hazards.	
		Block Enzyme Mixture	No known significant effects or critical hazards.	
		Universal Reverse Primer	No known significant effects or critical hazards.	
	Teratogenicity	:	E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
			E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
		Manganese chloride	No known significant effects or critical hazards.	
		10 mM rATP	No known significant effects or critical hazards.	
		Glycogen	No known significant effects or critical hazards.	
		10X AffinityScript RT buffer	No known significant effects or critical hazards.	
		RT Adaptor Primer	No known significant effects or critical hazards.	
		100 mM dNTPs	No known significant effects or critical hazards.	
		AffinityScript RT/RNase	No known significant effects or critical hazards.	
		Block Enzyme Mixture	No known significant effects or critical hazards.	
		Universal Reverse Primer	No known significant effects or critical hazards.	
Developmental effects		:	E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
			E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
		Manganese chloride	No known significant effects or critical hazards.	
		10 mM rATP	No known significant effects or critical hazards.	
		Glycogen	No known significant effects or critical hazards.	
		10X AffinityScript RT buffer	No known significant effects or critical hazards.	
		RT Adaptor Primer	No known significant effects or critical hazards.	
		100 mM dNTPs	No known significant effects or critical hazards.	
		AffinityScript RT/RNase	No known significant effects or critical hazards.	
		Block Enzyme Mixture	No known significant effects or critical hazards.	
		Universal Reverse Primer	No known significant effects or critical hazards.	
	Fertility effects	:	E. coli Poly A Polymerase (PAP)	No known significant effects or critical hazards.
			E. coli Poly A Polymerase Buffer	No known significant effects or critical hazards.
		Manganese chloride	No known significant effects or critical hazards.	
		10 mM rATP	No known significant effects or critical hazards.	
		Glycogen	No known significant effects or critical hazards.	
		10X AffinityScript RT buffer	No known significant effects or critical hazards.	
		RT Adaptor Primer	No known significant effects or critical hazards.	
		100 mM dNTPs	No known significant effects or critical hazards.	
		AffinityScript RT/RNase	No known significant effects or critical hazards.	
		Block Enzyme Mixture	No known significant effects or critical hazards.	
		Universal Reverse Primer	No known significant effects or critical hazards.	

Toxicokinetics

SECTION 11: Toxicological information

Absorption	:	E. coli Poly A	Not available.	
		Polymerase (PAP)		
		E. coli Poly A	Not available.	
		Polymerase Buffer		
		Manganese chloride	Not available.	
		10 mM rATP	Not available.	
		Glycogen	Not available.	
		10X AffinityScript RT buffer	Not available.	
		RT Adaptor Primer	Not available.	
		100 mM dNTPs	Not available.	
		AffinityScript RT/RNase	Not available.	
		Block Enzyme Mixture		
		Universal Reverse Primer	Not available.	
	Distribution	:	E. coli Poly A	Not available.
			Polymerase (PAP)	
		E. coli Poly A	Not available.	
		Polymerase Buffer		
		Manganese chloride	Not available.	
		10 mM rATP	Not available.	
		Glycogen	Not available.	
		10X AffinityScript RT buffer	Not available.	
		RT Adaptor Primer	Not available.	
		100 mM dNTPs	Not available.	
		AffinityScript RT/RNase	Not available.	
		Block Enzyme Mixture		
		Universal Reverse Primer	Not available.	
Metabolism		:	E. coli Poly A	Not available.
			Polymerase (PAP)	
		E. coli Poly A	Not available.	
		Polymerase Buffer		
		Manganese chloride	Not available.	
		10 mM rATP	Not available.	
		Glycogen	Not available.	
		10X AffinityScript RT buffer	Not available.	
		RT Adaptor Primer	Not available.	
		100 mM dNTPs	Not available.	
		AffinityScript RT/RNase	Not available.	
		Block Enzyme Mixture		
		Universal Reverse Primer	Not available.	
	Elimination	:	E. coli Poly A	Not available.
			Polymerase (PAP)	
		E. coli Poly A	Not available.	
		Polymerase Buffer		
		Manganese chloride	Not available.	
		10 mM rATP	Not available.	
		Glycogen	Not available.	
		10X AffinityScript RT buffer	Not available.	
		RT Adaptor Primer	Not available.	
		100 mM dNTPs	Not available.	
		AffinityScript RT/RNase	Not available.	
		Block Enzyme Mixture		
		Universal Reverse Primer	Not available.	

SECTION 11: Toxicological information

Other information	: <input checked="" type="checkbox"/> <i>E. coli</i> Poly A Polymerase (PAP)	Not available.
	<i>E. coli</i> Poly A Polymerase Buffer	Not available.
	Manganese chloride	Not available.
	10 mM rATP	Not available.
	Glycogen	Not available.
	10X AffinityScript RT buffer	Not available.
	RT Adaptor Primer	Not available.
	100 mM dNTPs	Not available.
	AffinityScript RT/RNase	Not available.
	Block Enzyme Mixture	Not available.
	Universal Reverse Primer	Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<i>E. coli</i> Poly A Polymerase (PAP) Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - <i>Navicula seminulum</i>	96 hours
	Acute EC50 28.85 mg/dm ³ Fresh water	Algae - <i>Pseudokirchneriella subcapitata</i>	72 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - <i>Cypris subglobosa</i>	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - <i>Lemna minor</i>	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - <i>Morone saxatilis</i> - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - <i>Hyalella azteca</i> - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - <i>Lemna minor</i>	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - <i>Daphnia pulex</i>	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - <i>Gambusia holbrooki</i> - Adult	8 weeks
<i>E. coli</i> Poly A Polymerase Buffer Sodium chloride	Acute EC50 2430000 µg/l Fresh water	Algae - <i>Navicula seminulum</i>	96 hours
	Acute EC50 28.85 mg/dm ³ Fresh water	Algae - <i>Pseudokirchneriella subcapitata</i>	72 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - <i>Cypris subglobosa</i>	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - <i>Lemna minor</i>	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - <i>Morone saxatilis</i> - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - <i>Hyalella azteca</i> - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - <i>Lemna minor</i>	96 hours
	Chronic NOEC 0.314 g/L Fresh water	Daphnia - <i>Daphnia pulex</i>	21 days
	Chronic NOEC 100 mg/l Fresh water	Fish - <i>Gambusia holbrooki</i> - Adult	8 weeks


12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

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SECTION 12: Ecological information

 Not available.

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

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 : The classification of the product may meet the criteria for a hazardous waste.

Packaging

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

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. 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

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

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

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

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SECTION 15: Regulatory information

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Seveso II Directive

This product is not controlled under the Seveso II Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : Not determined.
Canada : All components are listed or exempted.
China : Not determined.
Japan : Not determined.
Malaysia : Not determined.
New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : Not determined.
United States : All components are listed or exempted.

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

SECTION 16: Other information

Indicates information that has changed from previously issued version.

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

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

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SECTION 16: Other information

Classification	Justification
E. coli Poly A Polymerase Buffer Eye Irrit. 2, H319	Calculation method

Full text of abbreviated H statements	<p>E. coli Poly A Polymerase (PAP) H319</p> <p>E. coli Poly A Polymerase Buffer H315 H319 H335</p> <p>10X AffinityScript RT buffer H315 H319 H335</p>	<p>Causes serious eye irritation.</p> <p>Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.</p> <p>Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.</p>
Full text of classifications [CLP/GHS]	<p>E. coli Poly A Polymerase (PAP) Eye Irrit. 2, H319</p> <p>E. coli Poly A Polymerase Buffer Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT SE 3, H335</p> <p>10X AffinityScript RT buffer Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT SE 3, H335</p>	<p>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2</p> <p>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</p> <p>SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3</p>
Full text of abbreviated R phrases	<p>E. coli Poly A Polymerase (PAP)</p> <p>E. coli Poly A Polymerase Buffer</p> <p>Manganese chloride</p> <p>10 mM rATP</p> <p>Glycogen</p> <p>10X AffinityScript RT buffer</p> <p>RT Adaptor Primer</p> <p>100 mM dNTPs</p> <p>AffinityScript RT/RNase Block Enzyme Mixture</p> <p>Universal Reverse Primer</p>	<p>R36- Irritating to eyes.</p> <p>R36- Irritating to eyes.</p> <p>R36/37/38- Irritating to eyes, respiratory system and skin.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>R36/37/38- Irritating to eyes, respiratory system and skin.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p>
Full text of classifications [DSD/DPD]	<p>E. coli Poly A Polymerase (PAP)</p> <p>E. coli Poly A Polymerase Buffer</p> <p>Manganese chloride</p> <p>10 mM rATP</p> <p>Glycogen</p> <p>10X AffinityScript RT buffer</p> <p>RT Adaptor Primer</p>	<p>Xi - Irritant</p> <p>Xi - Irritant</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Not applicable.</p> <p>Xi - Irritant</p> <p>Not applicable.</p>

SECTION 16: Other information

100 mM dNTPs	Not applicable.
AffinityScript RT/RNase	Not applicable.
Block Enzyme Mixture	
Universal Reverse Primer	Not applicable.

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