Conforms to US OSHA Hazard Communication 29CFR1910.1200

SAFETY DATA SHEET

Agilent Technologies

FairPlay III Microarray Labeling Kit, Part Number 252012

Section 1. Identification

1.1 Product identifier

Product name : FairPlay III Microarray Labeling Kit, Part Number 252012

Part No. (Chemical Kit) : 252012

Part No. :

DMSO (high purity)	252003-510
DEPC Water	252003-55
10X AffinityScript Reaction Buffer	252003-52
20X dNTP Mix With Amino Allyl dUTP	252003-56
Oligo (dT) Primer (12-18)	252003-53
Random Primers	252009-53
0.1 M DTT	252003-54
RNase block	252003-57
AffinityScript HC Reverse Transcriptase	252012-51
Glycogen	252003-59
2X Coupling Buffer	252003-58
DNA-Binding Solution	400771-13

Validation date : 6/21/2017

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

Material uses : Analytical reagent.

DMSO (high purity)	1.5 ml
DEPC Water	1.5 ml
10X AffinityScript Reaction Buffer	0.15 ml
20X dNTP Mix With Amino Allyl dUTP	0.03 ml
Oligo (dT) Primer (12-18)	0.06 ml (60 µl 500 ng/µl)
Random Primers	0.03 ml (30 µl 500 ng/µl)
0.1 M DTT	0.09 ml
RNase block	0.015 ml (600 U 40 U/µl)
AffinityScript HC Reverse Transcriptase	0.09 ml
Glycogen	0.03 ml (30 µl 20 µg/µl)
2X Coupling Buffer	0.3 ml
DNA-Binding Solution	2 x 5 ml

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

Section 2. Hazards identification

OSHA/HCS status :

DMSO (high purity)	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
DEPC Water	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
10X AffinityScript Reaction Buffer	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
20X dNTP Mix With Amino Allyl dUTP	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Oligo (dT) Primer (12-18)	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Random Primers	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
0.1 M DTT	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
RNase block	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
AffinityScript HC Reverse Transcriptase	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Glycogen	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
2X Coupling Buffer	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
DNA-Binding Solution	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

DMSO (high purity)

H227	FLAMMABLE LIQUIDS - Category 4
H320	EYE IRRITATION - Category 2B

10X AffinityScript Reaction Buffer

H319	EYE IRRITATION - Category 2A

Section 2. Hazards identification

RNase block

H320 EYE IRRITATION - Category 2B

AffinityScript HC Reverse Transcriptase

H320 EYE IRRITATION - Category 2B

2X Coupling Buffer

H360 TOXIC TO REPRODUCTION (Fertility) - Category 1B
H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B

DNA-Binding Solution

H302 ACUTE TOXICITY (oral) - Category 4
H332 ACUTE TOXICITY (inhalation) - Category 4

Ingredients of unknown toxicity :

10X AffinityScript Reaction Buffer	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
0.1 M DTT	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
RNase block	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
AffinityScript HC Reverse Transcriptase	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
Glycogen	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
2X Coupling Buffer	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%
DNA-Binding Solution	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%

2.2 GHS label elements

Section 2. Hazards identification

Hazard pictograms :

10X AffinityScript Reaction Buffer

2X Coupling Buffer

DNA-Binding Solution

Signal word :

DMSO (high purity)	Warning
DEPC Water	No signal word.
10X AffinityScript Reaction Buffer	Warning
20X dNTP Mix With Amino Allyl dUTP	No signal word.
Oligo (dT) Primer (12-18)	No signal word.
Random Primers	No signal word.
0.1 M DTT	No signal word.
RNase block	Warning
AffinityScript HC Reverse Transcriptase	Warning
Glycogen	No signal word.
2X Coupling Buffer	Danger
DNA-Binding Solution	Warning

Hazard statements :

DMSO (high purity)	H227 - Combustible liquid. H320 - Causes eye irritation.
DEPC Water	No known significant effects or critical hazards.
10X AffinityScript Reaction Buffer	H319 - Causes serious eye irritation.
20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
Random Primers	No known significant effects or critical hazards.
0.1 M DTT	No known significant effects or critical hazards.
RNase block	H320 - Causes eye irritation.
AffinityScript HC Reverse Transcriptase	H320 - Causes eye irritation.
Glycogen	No known significant effects or critical hazards.
2X Coupling Buffer	H360 - May damage fertility or the unborn child.
DNA-Binding Solution	H302 + H332 - Harmful if swallowed or if inhaled.

Precautionary statements

Prevention :

DMSO (high purity)	P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from flames and hot surfaces. - No smoking. P264 - Wash hands thoroughly after handling.
DEPC Water	Not applicable.
10X AffinityScript Reaction Buffer	P280 - Wear eye or face protection. P264 - Wash hands thoroughly after handling.
20X dNTP Mix With Amino Allyl dUTP	Not applicable.
Oligo (dT) Primer (12-18)	Not applicable.
Random Primers	Not applicable.
0.1 M DTT	Not applicable.

Section 2. Hazards identification

		RNase block	P264 - Wash hands thoroughly after handling.
		AffinityScript HC Reverse Transcriptase	P264 - Wash hands thoroughly after handling.
		Glycogen	Not applicable.
		2X Coupling Buffer	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
		DNA-Binding Solution	P271 - Use only outdoors or in a well-ventilated area. P261 - Avoid breathing vapor. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
Response	:	DMSO (high purity)	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
		DEPC Water	Not applicable.
		10X AffinityScript Reaction Buffer	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
		20X dNTP Mix With Amino Allyl dUTP	Not applicable.
		Oligo (dT) Primer (12-18)	Not applicable.
		Random Primers	Not applicable.
		0.1 M DTT	Not applicable.
		RNase block	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
		AffinityScript HC Reverse Transcriptase	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
		Glycogen	Not applicable.
		2X Coupling Buffer	P308 + P313 - IF exposed or concerned: Get medical attention.
		DNA-Binding Solution	P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.

Section 2. Hazards identification

Storage	:	DMSO (high purity)	P403 - Store in a well-ventilated place. P235 - Keep cool.
		DEPC Water	Not applicable.
		10X AffinityScript Reaction Buffer	Not applicable.
		20X dNTP Mix With Amino Allyl dUTP	Not applicable.
		Oligo (dT) Primer (12-18)	Not applicable.
		Random Primers	Not applicable.
		0.1 M DTT	Not applicable.
		RNase block	Not applicable.
		AffinityScript HC Reverse Transcriptase	Not applicable.
		Glycogen	Not applicable.
		2X Coupling Buffer	P405 - Store locked up.
		DNA-Binding Solution	Not applicable.
Disposal	:	DMSO (high purity)	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		DEPC Water	Not applicable.
		10X AffinityScript Reaction Buffer	Not applicable.
		20X dNTP Mix With Amino Allyl dUTP	Not applicable.
		Oligo (dT) Primer (12-18)	Not applicable.
		Random Primers	Not applicable.
		0.1 M DTT	Not applicable.
		RNase block	Not applicable.
		AffinityScript HC Reverse Transcriptase	Not applicable.
		Glycogen	Not applicable.
		2X Coupling Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		DNA-Binding Solution	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	:	DMSO (high purity)	None known.
		DEPC Water	None known.
		10X AffinityScript Reaction Buffer	None known.
		20X dNTP Mix With Amino Allyl dUTP	None known.
		Oligo (dT) Primer (12-18)	None known.
		Random Primers	None known.
		0.1 M DTT	None known.
		RNase block	None known.
		AffinityScript HC Reverse Transcriptase	None known.
		Glycogen	None known.
		2X Coupling Buffer	None known.
		DNA-Binding Solution	None known.

2.3 Other hazards

Hazards not otherwise classified	:	DMSO (high purity)	None known.
		DEPC Water	None known.
		10X AffinityScript Reaction Buffer	None known.
		20X dNTP Mix With Amino Allyl dUTP	None known.
		Oligo (dT) Primer (12-18)	None known.
		Random Primers	None known.
		0.1 M DTT	None known.

Section 2. Hazards identification

RNase block	None known.
AffinityScript HC Reverse Transcriptase	None known.
Glycogen	None known.
2X Coupling Buffer	None known.
DNA-Binding Solution	None known.

Section 3. Composition/information on ingredients

Substance/mixture :

DMSO (high purity)	Substance
DEPC Water	Substance
10X AffinityScript Reaction Buffer	Mixture
20X dNTP Mix With Amino Allyl dUTP	Mixture
Oligo (dT) Primer (12-18)	Mixture
Random Primers	Mixture
0.1 M DTT	Mixture
RNase block	Mixture
AffinityScript HC Reverse Transcriptase	Mixture
Glycogen	Mixture
2X Coupling Buffer	Mixture
DNA-Binding Solution	Mixture

Ingredient name	%	CAS number
DMSO (high purity)		
Dimethyl sulfoxide	100	67-68-5
DEPC Water		
Water	100	7732-18-5
10X AffinityScript Reaction Buffer		
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	<10	1185-53-1
Potassium chloride	≤10	7447-40-7
0.1 M DTT		
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	≤3	3483-12-3
RNase block		
Glycerol	≥50 - ≤75	56-81-5
AffinityScript HC Reverse Transcriptase		
Glycerol	≥50 - ≤75	56-81-5
2X Coupling Buffer		
Borax ($B_4Na_2O_7.10H_2O$)	≤3	1303-96-4
DNA-Binding Solution		
Guanidinium thiocyanate	≥25 - ≤50	593-84-0
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	≤3	1185-53-1
Trometamol	≤3	77-86-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact :

DMSO (high purity)	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
DEPC Water	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 Reaction Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
20X dNTP Mix With Amino Allyl dUTP	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.
Oligo (dT) Primer (12-18)	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Random Primers	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
0.1 M DTT	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
RNase block	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
AffinityScript HC Reverse Transcriptase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
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.
2X Coupling Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
DNA-Binding Solution	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Section 4. First aid measures

Inhalation	:	DMSO (high purity)	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
		DEPC Water	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		10X AffinityScript Reaction Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.
		20X dNTP Mix With Amino Allyl dUTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Oligo (dT) Primer (12-18)	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		Random Primers	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		0.1 M DTT	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		RNase block	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
		AffinityScript HC Reverse Transcriptase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or

Section 4. First aid measures

		oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	Glycogen	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	2X Coupling Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	DNA-Binding Solution	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact :	DMSO (high purity)	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	DEPC Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	10X AffinityScript Reaction Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	20X dNTP Mix With Amino Allyl dUTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Oligo (dT) Primer (12-18)	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get

Section 4. First aid measures

			medical attention if symptoms occur.
		Random Primers	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		0.1 M DTT	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		RNase block	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		AffinityScript HC Reverse Transcriptase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		Glycogen	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		2X Coupling Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
		DNA-Binding Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	:	DMSO (high purity)	Wash out mouth with water. Remove dentures if any. 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. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
		DEPC Water	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 Reaction Buffer	Wash out mouth with water. Remove dentures if any. 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

Section 4. First aid measures

	conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
20X dNTP Mix With Amino Allyl dUTP	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.
Oligo (dT) Primer (12-18)	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Random Primers	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
0.1 M DTT	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
RNase block	Wash out mouth with water. Remove dentures if any. 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. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
AffinityScript HC Reverse Transcriptase	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has

Section 4. First aid measures

	been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
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.
2X Coupling Buffer	Wash out mouth with water. Remove dentures if any. 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. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
DNA-Binding Solution	Wash out mouth with water. Remove dentures if any. 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. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

Eye contact	:	DMSO (high purity)	Causes eye irritation.
		DEPC Water	No known significant effects or critical hazards.
		10X AffinityScript Reaction Buffer	Causes serious eye irritation.
		20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
		Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		RNase block	Causes eye irritation.
		AffinityScript HC Reverse Transcriptase	Causes eye irritation.
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	No known significant effects or critical hazards.
		DNA-Binding Solution	No known significant effects or critical hazards.
Inhalation	:	DMSO (high purity)	No known significant effects or critical hazards.
		DEPC Water	No known significant effects or critical hazards.
		10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
		20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
		Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		RNase block	No known significant effects or critical hazards.
		AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	No known significant effects or critical hazards.
		DNA-Binding Solution	Harmful if inhaled.
Skin contact	:	DMSO (high purity)	No known significant effects or critical hazards.
		DEPC Water	No known significant effects or critical hazards.
		10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
		20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
		Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		RNase block	No known significant effects or critical hazards.
		AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	No known significant effects or critical hazards.
		DNA-Binding Solution	No known significant effects or critical hazards.
Ingestion	:	DMSO (high purity)	No known significant effects or critical hazards.
		DEPC Water	No known significant effects or critical hazards.
		10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
		20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
		Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		RNase block	No known significant effects or critical hazards.
		AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	No known significant effects or critical hazards.
		DNA-Binding Solution	Harmful if swallowed.

Over-exposure signs/symptoms

Section 4. First aid measures

Eye contact	:	DMSO (high purity)	Adverse symptoms may include the following: irritation watering redness
		DEPC Water	No specific data.
		10X AffinityScript Reaction Buffer	Adverse symptoms may include the following: pain or irritation watering redness
		20X dNTP Mix With Amino Allyl dUTP	No specific data.
		Oligo (dT) Primer (12-18)	No specific data.
		Random Primers	No specific data.
		0.1 M DTT	No specific data.
		RNase block	Adverse symptoms may include the following: irritation watering redness
		AffinityScript HC Reverse Transcriptase	Adverse symptoms may include the following: irritation watering redness
		Glycogen	No specific data.
		2X Coupling Buffer	No specific data.
		DNA-Binding Solution	No specific data.
Inhalation	:	DMSO (high purity)	No specific data.
		DEPC Water	No specific data.
		10X AffinityScript Reaction Buffer	No specific data.
		20X dNTP Mix With Amino Allyl dUTP	No specific data.
		Oligo (dT) Primer (12-18)	No specific data.
		Random Primers	No specific data.
		0.1 M DTT	No specific data.
		RNase block	No specific data.
		AffinityScript HC Reverse Transcriptase	No specific data.
		Glycogen	No specific data.
		2X Coupling Buffer	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		DNA-Binding Solution	No specific data.
Skin contact	:	DMSO (high purity)	No specific data.
		DEPC Water	No specific data.
		10X AffinityScript Reaction Buffer	No specific data.
		20X dNTP Mix With Amino Allyl dUTP	No specific data.
		Oligo (dT) Primer (12-18)	No specific data.
		Random Primers	No specific data.
		0.1 M DTT	No specific data.
		RNase block	No specific data.
		AffinityScript HC Reverse Transcriptase	No specific data.
		Glycogen	No specific data.
		2X Coupling Buffer	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths

Section 4. First aid measures

		skeletal malformations
	DNA-Binding Solution	No specific data.
Ingestion :	DMSO (high purity)	No specific data.
	DEPC Water	No specific data.
	10X AffinityScript Reaction Buffer	No specific data.
	20X dNTP Mix With Amino Allyl dUTP	No specific data.
	Oligo (dT) Primer (12-18)	No specific data.
	Random Primers	No specific data.
	0.1 M DTT	No specific data.
	RNase block	No specific data.
	AffinityScript HC Reverse Transcriptase	No specific data.
	Glycogen	No specific data.
	2X Coupling Buffer	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
	DNA-Binding Solution	No specific data.

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

Notes to physician :	DMSO (high purity)	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	DEPC Water	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	10X AffinityScript Reaction 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.
	20X dNTP Mix With Amino Allyl dUTP	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Oligo (dT) Primer (12-18)	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Random Primers	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	0.1 M DTT	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	RNase block	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	AffinityScript HC Reverse Transcriptase	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.
	2X Coupling Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	DNA-Binding Solution	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical

Section 4. First aid measures

			surveillance for 48 hours.
Specific treatments	:	DMSO (high purity)	No specific treatment.
		DEPC Water	No specific treatment.
		10X AffinityScript Reaction Buffer	No specific treatment.
		20X dNTP Mix With Amino Allyl dUTP	No specific treatment.
		Oligo (dT) Primer (12-18)	No specific treatment.
		Random Primers	No specific treatment.
		0.1 M DTT	No specific treatment.
		RNase block	No specific treatment.
		AffinityScript HC Reverse Transcriptase	No specific treatment.
		Glycogen	No specific treatment.
		2X Coupling Buffer	No specific treatment.
		DNA-Binding Solution	No specific treatment.
Protection of first-aiders	:	DMSO (high purity)	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
		DEPC Water	No action shall be taken involving any personal risk or without suitable training.
		10X AffinityScript Reaction Buffer	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
		20X dNTP Mix With Amino Allyl dUTP	No action shall be taken involving any personal risk or without suitable training.
		Oligo (dT) Primer (12-18)	No action shall be taken involving any personal risk or without suitable training.
		Random Primers	No action shall be taken involving any personal risk or without suitable training.
		0.1 M DTT	No action shall be taken involving any personal risk or without suitable training.
		RNase block	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
		AffinityScript HC Reverse Transcriptase	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
		Glycogen	No action shall be taken involving any personal risk or without suitable training.
		2X Coupling Buffer	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
		DNA-Binding Solution	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	DMSO (high purity)	Use dry chemical, CO_2, water spray (fog) or foam.
		DEPC Water	Use an extinguishing agent suitable for the surrounding fire.
		10X AffinityScript Reaction Buffer	Use an extinguishing agent suitable for the surrounding fire.
		20X dNTP Mix With Amino Allyl dUTP	Use an extinguishing agent suitable for the surrounding fire.
		Oligo (dT) Primer (12-18)	Use an extinguishing agent suitable for the surrounding fire.
		Random Primers	Use an extinguishing agent suitable for the surrounding fire.
		0.1 M DTT	Use an extinguishing agent suitable for the surrounding fire.
		RNase block	Use an extinguishing agent suitable for the surrounding fire.
		AffinityScript HC Reverse Transcriptase	Use an extinguishing agent suitable for the surrounding fire.
		Glycogen	Use an extinguishing agent suitable for the surrounding fire.
		2X Coupling Buffer	Use an extinguishing agent suitable for the surrounding fire.
		DNA-Binding Solution	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	DMSO (high purity)	Do not use water jet.
		DEPC Water	None known.
		10X AffinityScript Reaction Buffer	None known.
		20X dNTP Mix With Amino Allyl dUTP	None known.
		Oligo (dT) Primer (12-18)	None known.
		Random Primers	None known.
		0.1 M DTT	None known.
		RNase block	None known.
		AffinityScript HC Reverse Transcriptase	None known.
		Glycogen	None known.
		2X Coupling Buffer	None known.
		DNA-Binding Solution	None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	:	DMSO (high purity)	Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
		DEPC Water	In a fire or if heated, a pressure increase will occur and the container may burst.
		10X AffinityScript Reaction Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
		20X dNTP Mix With Amino Allyl dUTP	In a fire or if heated, a pressure increase will occur and the container may burst.

Section 5. Fire-fighting measures

	Oligo (dT) Primer (12-18)	In a fire or if heated, a pressure increase will occur and the container may burst.
	Random Primers	In a fire or if heated, a pressure increase will occur and the container may burst.
	0.1 M DTT	In a fire or if heated, a pressure increase will occur and the container may burst.
	RNase block	In a fire or if heated, a pressure increase will occur and the container may burst.
	AffinityScript HC Reverse Transcriptase	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.
	2X Coupling Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	DNA-Binding Solution	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products :	DMSO (high purity)	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	DEPC Water	No specific data.
	10X AffinityScript Reaction Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	20X dNTP Mix With Amino Allyl dUTP	No specific data.
	Oligo (dT) Primer (12-18)	No specific data.
	Random Primers	No specific data.
	0.1 M DTT	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	RNase block	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	AffinityScript HC Reverse Transcriptase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Glycogen	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	2X Coupling Buffer	Decomposition products may include the following materials: metal oxide/oxides
	DNA-Binding Solution	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides

Section 5. Fire-fighting measures

halogenated compounds

5.3 Advice for firefighters

Special protective actions for fire-fighters :

DMSO (high purity)	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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
DEPC Water	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 Reaction 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.
20X dNTP Mix With Amino Allyl dUTP	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.
Oligo (dT) Primer (12-18)	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Random Primers	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
0.1 M DTT	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
RNase block	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 HC Reverse Transcriptase	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.
2X Coupling 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.
DNA-Binding Solution	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. Fire-fighting measures

Special protective equipment for fire-fighters :	DMSO (high purity)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	DEPC Water	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	10X AffinityScript Reaction Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	20X dNTP Mix With Amino Allyl dUTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Oligo (dT) Primer (12-18)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Random Primers	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	0.1 M DTT	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	RNase block	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	AffinityScript HC Reverse Transcriptase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Glycogen	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	2X Coupling Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	DNA-Binding Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel :	DMSO (high purity)	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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist.

Section 6. Accidental release measures

	Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
DEPC Water	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 spilled material. Put on appropriate personal protective equipment.
10X AffinityScript Reaction 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
20X dNTP Mix With Amino Allyl dUTP	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 spilled material. Put on appropriate personal protective equipment.
Oligo (dT) Primer (12-18)	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 spilled material. Put on appropriate personal protective equipment.
Random Primers	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 spilled material. Put on appropriate personal protective equipment.
0.1 M DTT	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
RNase block	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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
AffinityScript HC Reverse Transcriptase	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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate

Section 6. Accidental release measures

		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 spilled material. Put on appropriate personal protective equipment.
	2X Coupling 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	DNA-Binding Solution	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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders :	DMSO (high purity)	If specialized 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".
	DEPC Water	If specialized 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 Reaction Buffer	If specialized 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".
	20X dNTP Mix With Amino Allyl dUTP	If specialized 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".
	Oligo (dT) Primer (12-18)	If specialized 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".
	Random Primers	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	0.1 M DTT	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	RNase block	If specialized 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 HC Reverse Transcriptase	If specialized clothing is required to deal with the spillage, take note of any information in Section 8

Section 6. Accidental release measures

		on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Glycogen	If specialized 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".
	2X Coupling Buffer	If specialized 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".
	DNA-Binding Solution	If specialized 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 :	DMSO (high purity)	Avoid dispersal of spilled 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).
	DEPC Water	Avoid dispersal of spilled 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 Reaction Buffer	Avoid dispersal of spilled 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).
	20X dNTP Mix With Amino Allyl dUTP	Avoid dispersal of spilled 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).
	Oligo (dT) Primer (12-18)	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Random Primers	Avoid dispersal of spilled 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).
	0.1 M DTT	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	RNase block	Avoid dispersal of spilled 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).
	AffinityScript HC Reverse Transcriptase	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers,

Section 6. Accidental release measures

	waterways, soil or air).
Glycogen	Avoid dispersal of spilled 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).
2X Coupling Buffer	Avoid dispersal of spilled 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).
DNA-Binding Solution	Avoid dispersal of spilled 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 materials for containment and cleaning up

Methods for cleaning up	: DMSO (high purity)	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.
	DEPC Water	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.
	10X AffinityScript Reaction Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	20X dNTP Mix With Amino Allyl dUTP	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.
	Oligo (dT) Primer (12-18)	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Random Primers	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.
	0.1 M DTT	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an

Section 6. Accidental release measures

	inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
RNase block	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.
AffinityScript HC Reverse Transcriptase	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.
Glycogen	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.
2X Coupling Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
DNA-Binding Solution	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures	:	DMSO (high purity)	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.
		DEPC Water	Put on appropriate personal protective equipment (see Section 8).
		10X AffinityScript Reaction Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved

Section 7. Handling and storage

	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.
20X dNTP Mix With Amino Allyl dUTP	Put on appropriate personal protective equipment (see Section 8).
Oligo (dT) Primer (12-18)	Put on appropriate personal protective equipment (see Section 8).
Random Primers	Put on appropriate personal protective equipment (see Section 8).
0.1 M DTT	Put on appropriate personal protective equipment (see Section 8).
RNase block	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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.
AffinityScript HC Reverse Transcriptase	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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.
Glycogen	Put on appropriate personal protective equipment (see Section 8).
2X Coupling Buffer	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.
DNA-Binding Solution	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.

Section 7. Handling and storage

Advice on general occupational hygiene	:	DMSO (high purity)	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.
		DEPC Water	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 Reaction 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.
		20X dNTP Mix With Amino Allyl dUTP	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.
		Oligo (dT) Primer (12-18)	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.
		Random Primers	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
		0.1 M DTT	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
		RNase block	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 HC Reverse Transcriptase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face

Section 7. Handling and storage

		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.
	2X Coupling 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.
	DNA-Binding Solution	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	: DMSO (high purity)	Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	DEPC Water	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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	10X AffinityScript Reaction 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

Section 7. Handling and storage

	to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
20X dNTP Mix With Amino Allyl dUTP	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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Oligo (dT) Primer (12-18)	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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Random Primers	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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
0.1 M DTT	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
RNase block	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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 7. Handling and storage

AffinityScript HC Reverse Transcriptase	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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
2X Coupling 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. Store locked up. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
DNA-Binding Solution	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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations	:	DMSO (high purity)	Industrial applications, Professional applications.
		DEPC Water	Industrial applications, Professional applications.
		10X AffinityScript Reaction Buffer	Industrial applications, Professional applications.
		20X dNTP Mix With Amino Allyl dUTP	Industrial applications, Professional applications.
		Oligo (dT) Primer (12-18)	Industrial applications, Professional applications.
		Random Primers	Industrial applications, Professional applications.
		0.1 M DTT	Industrial applications, Professional applications.
		RNase block	Industrial applications, Professional applications.
		AffinityScript HC Reverse Transcriptase	Industrial applications, Professional applications.

Section 7. Handling and storage

		Glycogen	Industrial applications, Professional applications.
		2X Coupling Buffer	Industrial applications, Professional applications.
		DNA-Binding Solution	Industrial applications, Professional applications.
Industrial sector specific solutions	:	DMSO (high purity)	Not applicable.
		DEPC Water	Not applicable.
		10X AffinityScript Reaction Buffer	Not applicable.
		20X dNTP Mix With Amino Allyl dUTP	Not applicable.
		Oligo (dT) Primer (12-18)	Not applicable.
		Random Primers	Not applicable.
		0.1 M DTT	Not applicable.
		RNase block	Not applicable.
		AffinityScript HC Reverse Transcriptase	Not applicable.
		Glycogen	Not applicable.
		2X Coupling Buffer	Not applicable.
		DNA-Binding Solution	Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
DMSO (high purity)	
Dimethyl sulfoxide	**AIHA WEEL (United States, 10/2011).** TWA: 250 ppm 8 hours.
DEPC Water	
Water	None.
10X AffinityScript Reaction Buffer	
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	None.
Potassium chloride	None.
0.1 M DTT	
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	None.
RNase block	
Glycerol	**OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
AffinityScript HC Reverse Transcriptase	
Glycerol	**OSHA PEL 1989 (United States, 3/1989).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust **OSHA PEL (United States, 6/2016).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust

Section 8. Exposure controls/personal protection

2X Coupling Buffer Borax ($B_4Na_2O_7.10H_2O$)	**OSHA PEL 1989 (United States, 3/1989).** TWA: 10 mg/m³ 8 hours. **NIOSH REL (United States, 10/2013).** TWA: 5 mg/m³ 10 hours. **ACGIH TLV (United States, 3/2016).** TWA: 2 mg/m³ 8 hours. Form: Inhalable fraction STEL: 6 mg/m³ 15 minutes. Form: Inhalable fraction
DNA-Binding Solution	
Guanidinium thiocyanate	None.
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	None.
Trometamol	None.

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor 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.

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

Individual protection measures

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

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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

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

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

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state :

DMSO (high purity)	Liquid. [Clear.]
DEPC Water	Liquid.
10X AffinityScript Reaction Buffer	Liquid.
20X dNTP Mix With Amino Allyl dUTP	Liquid.
Oligo (dT) Primer (12-18)	Liquid.
Random Primers	Liquid.
0.1 M DTT	Liquid.
RNase block	Liquid.
AffinityScript HC Reverse Transcriptase	Liquid.
Glycogen	Liquid.
2X Coupling Buffer	Liquid.
DNA-Binding Solution	Liquid.

Color :

DMSO (high purity)	Colorless.
DEPC Water	Not available.
10X AffinityScript Reaction Buffer	Not available.
20X dNTP Mix With Amino Allyl dUTP	Not available.
Oligo (dT) Primer (12-18)	Not available.
Random Primers	Not available.
0.1 M DTT	Not available.
RNase block	Not available.
AffinityScript HC Reverse Transcriptase	Not available.
Glycogen	Not available.
2X Coupling Buffer	Not available.
DNA-Binding Solution	Not available.

Odor :

DMSO (high purity)	Odorless. [Slight]
DEPC Water	Not available.
10X AffinityScript Reaction Buffer	Not available.
20X dNTP Mix With Amino Allyl dUTP	Not available.
Oligo (dT) Primer (12-18)	Not available.
Random Primers	Not available.
0.1 M DTT	Not available.
RNase block	Not available.
AffinityScript HC Reverse Transcriptase	Not available.
Glycogen	Not available.
2X Coupling Buffer	Not available.
DNA-Binding Solution	Not available.

Odor threshold :

DMSO (high purity)	Not available.
DEPC Water	Not available.
10X AffinityScript Reaction Buffer	Not available.
20X dNTP Mix With Amino Allyl dUTP	Not available.
Oligo (dT) Primer (12-18)	Not available.
Random Primers	Not available.
0.1 M DTT	Not available.
RNase block	Not available.
AffinityScript HC Reverse Transcriptase	Not available.
Glycogen	Not available.
2X Coupling Buffer	Not available.

Section 9. Physical and chemical properties

		DNA-Binding Solution	Not available.
pH	:	DMSO (high purity)	Not available.
		DEPC Water	7
		10X AffinityScript Reaction Buffer	8.3
		20X dNTP Mix With Amino Allyl dUTP	7.5
		Oligo (dT) Primer (12-18)	7.5
		Random Primers	7.5
		0.1 M DTT	Not available.
		RNase block	7.6
		AffinityScript HC Reverse Transcriptase	8
		Glycogen	Not available.
		2X Coupling Buffer	9.1
		DNA-Binding Solution	6.4
Melting point	:	DMSO (high purity)	18.5°C (65.3°F)
		DEPC Water	0°C (32°F)
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	0°C (32°F)
		Oligo (dT) Primer (12-18)	0°C (32°F)
		Random Primers	0°C (32°F)
		0.1 M DTT	0°C (32°F)
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	0°C (32°F)
		2X Coupling Buffer	0°C (32°F)
		DNA-Binding Solution	0°C (32°F)
Boiling point	:	DMSO (high purity)	189°C (372.2°F)
		DEPC Water	100°C (212°F)
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	100°C (212°F)
		Oligo (dT) Primer (12-18)	100°C (212°F)
		Random Primers	100°C (212°F)
		0.1 M DTT	100°C (212°F)
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	100°C (212°F)
		2X Coupling Buffer	100°C (212°F)
		DNA-Binding Solution	100°C (212°F)
Flash point	:	DMSO (high purity)	Closed cup: 87°C (188.6°F)
		DEPC Water	Not available.
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	Not available.
		Oligo (dT) Primer (12-18)	Not available.
		Random Primers	Not available.
		0.1 M DTT	Not available.
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	Not available.
		2X Coupling Buffer	Not available.
		DNA-Binding Solution	Not available.

Section 9. Physical and chemical properties

Evaporation rate	:	DMSO (high purity)	0.026 (butyl acetate = 1)
		DEPC Water	Not available.
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	Not available.
		Oligo (dT) Primer (12-18)	Not available.
		Random Primers	Not available.
		0.1 M DTT	Not available.
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	Not available.
		2X Coupling Buffer	Not available.
		DNA-Binding Solution	Not available.
Flammability (solid, gas)	:	DMSO (high purity)	Not applicable.
		DEPC Water	Not applicable.
		10X AffinityScript Reaction Buffer	Not applicable.
		20X dNTP Mix With Amino Allyl dUTP	Not applicable.
		Oligo (dT) Primer (12-18)	Not applicable.
		Random Primers	Not applicable.
		0.1 M DTT	Not applicable.
		RNase block	Not applicable.
		AffinityScript HC Reverse Transcriptase	Not applicable.
		Glycogen	Not applicable.
		2X Coupling Buffer	Not applicable.
		DNA-Binding Solution	Not applicable.
Lower and upper explosive (flammable) limits	:	DMSO (high purity)	Lower: 2.6% Upper: 42%
		DEPC Water	Not available.
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	Not available.
		Oligo (dT) Primer (12-18)	Not available.
		Random Primers	Not available.
		0.1 M DTT	Not available.
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	Not available.
		2X Coupling Buffer	Not available.
		DNA-Binding Solution	Not available.
Vapor pressure	:	DMSO (high purity)	0.059 kPa (0.4455 mm Hg) [room temperature]
		DEPC Water	Not available.
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	Not available.
		Oligo (dT) Primer (12-18)	Not available.
		Random Primers	Not available.
		0.1 M DTT	Not available.
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	Not available.
		2X Coupling Buffer	Not available.
		DNA-Binding Solution	Not available.

Section 9. Physical and chemical properties

Vapor density	:	DMSO (high purity)	2.7 [Air = 1]
		DEPC Water	Not available.
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	Not available.
		Oligo (dT) Primer (12-18)	Not available.
		Random Primers	Not available.
		0.1 M DTT	Not available.
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	Not available.
		2X Coupling Buffer	Not available.
		DNA-Binding Solution	Not available.
Relative density	:	DMSO (high purity)	1.1
		DEPC Water	1
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	Not available.
		Oligo (dT) Primer (12-18)	Not available.
		Random Primers	Not available.
		0.1 M DTT	Not available.
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	Not available.
		2X Coupling Buffer	Not available.
		DNA-Binding Solution	Not available.
Solubility	:	DMSO (high purity)	Easily soluble in the following materials: cold water and hot water.
		DEPC Water	Easily soluble in the following materials: cold water and hot water.
		10X AffinityScript Reaction Buffer	Easily soluble in the following materials: cold water and hot water.
		20X dNTP Mix With Amino Allyl dUTP	Easily soluble in the following materials: cold water and hot water.
		Oligo (dT) Primer (12-18)	Easily soluble in the following materials: cold water and hot water.
		Random Primers	Easily soluble in the following materials: cold water and hot water.
		0.1 M DTT	Easily soluble in the following materials: cold water and hot water.
		RNase block	Soluble in the following materials: cold water and hot water.
		AffinityScript HC Reverse Transcriptase	Soluble in the following materials: cold water and hot water.
		Glycogen	Easily soluble in the following materials: cold water and hot water.
		2X Coupling Buffer	Easily soluble in the following materials: cold water and hot water.
		DNA-Binding Solution	Soluble in the following materials: cold water and hot water.

Section 9. Physical and chemical properties

Partition coefficient: n-octanol/water	:	DMSO (high purity)	-1.35
		DEPC Water	Not available.
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	Not available.
		Oligo (dT) Primer (12-18)	Not available.
		Random Primers	Not available.
		0.1 M DTT	Not available.
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	Not available.
		2X Coupling Buffer	Not available.
		DNA-Binding Solution	Not available.
Auto-ignition temperature	:	DMSO (high purity)	300 to 302°C (572 to 575.6°F)
		DEPC Water	Not available.
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	Not available.
		Oligo (dT) Primer (12-18)	Not available.
		Random Primers	Not available.
		0.1 M DTT	Not available.
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	Not available.
		2X Coupling Buffer	Not available.
		DNA-Binding Solution	Not available.
Decomposition temperature	:	DMSO (high purity)	140 to 189°C (284 to 372.2°F)
		DEPC Water	Not available.
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	Not available.
		Oligo (dT) Primer (12-18)	Not available.
		Random Primers	Not available.
		0.1 M DTT	Not available.
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	Not available.
		2X Coupling Buffer	Not available.
		DNA-Binding Solution	Not available.
Viscosity	:	DMSO (high purity)	Dynamic (room temperature): 2.14 mPa·s (2.14 cP)
		DEPC Water	Not available.
		10X AffinityScript Reaction Buffer	Not available.
		20X dNTP Mix With Amino Allyl dUTP	Not available.
		Oligo (dT) Primer (12-18)	Not available.
		Random Primers	Not available.
		0.1 M DTT	Not available.
		RNase block	Not available.
		AffinityScript HC Reverse Transcriptase	Not available.
		Glycogen	Not available.
		2X Coupling Buffer	Not available.
		DNA-Binding Solution	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: DMSO (high purity)	No specific test data related to reactivity available for this product or its ingredients.
	DEPC Water	No specific test data related to reactivity available for this product or its ingredients.
	10X AffinityScript Reaction Buffer	No specific test data related to reactivity available for this product or its ingredients.
	20X dNTP Mix With Amino Allyl dUTP	No specific test data related to reactivity available for this product or its ingredients.
	Oligo (dT) Primer (12-18)	No specific test data related to reactivity available for this product or its ingredients.
	Random Primers	No specific test data related to reactivity available for this product or its ingredients.
	0.1 M DTT	No specific test data related to reactivity available for this product or its ingredients.
	RNase block	No specific test data related to reactivity available for this product or its ingredients.
	AffinityScript HC Reverse Transcriptase	No specific test data related to reactivity available for this product or its ingredients.
	Glycogen	No specific test data related to reactivity available for this product or its ingredients.
	2X Coupling Buffer	No specific test data related to reactivity available for this product or its ingredients.
	DNA-Binding Solution	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: DMSO (high purity)	The product is stable.
	DEPC Water	The product is stable.
	10X AffinityScript Reaction Buffer	The product is stable.
	20X dNTP Mix With Amino Allyl dUTP	The product is stable.
	Oligo (dT) Primer (12-18)	The product is stable.
	Random Primers	The product is stable.
	0.1 M DTT	The product is stable.
	RNase block	The product is stable.
	AffinityScript HC Reverse Transcriptase	The product is stable.
	Glycogen	The product is stable.
	2X Coupling Buffer	The product is stable.
	DNA-Binding Solution	The product is stable.
10.3 Possibility of hazardous reactions	: DMSO (high purity)	Under normal conditions of storage and use, hazardous reactions will not occur.
	DEPC Water	Under normal conditions of storage and use, hazardous reactions will not occur.
	10X AffinityScript Reaction Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	20X dNTP Mix With Amino Allyl dUTP	Under normal conditions of storage and use, hazardous reactions will not occur.
	Oligo (dT) Primer (12-18)	Under normal conditions of storage and use, hazardous reactions will not occur.
	Random Primers	Under normal conditions of storage and use, hazardous reactions will not occur.
	0.1 M DTT	Under normal conditions of storage and use, hazardous reactions will not occur.
	RNase block	Under normal conditions of storage and use, hazardous reactions will not occur.
	AffinityScript HC Reverse	Under normal conditions of storage and use,

Section 10. Stability and reactivity

	Transcriptase	hazardous reactions will not occur.
	Glycogen	Under normal conditions of storage and use, hazardous reactions will not occur.
	2X Coupling Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	DNA-Binding Solution	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid :	DMSO (high purity)	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
	DEPC Water	No specific data.
	10X AffinityScript Reaction Buffer	No specific data.
	20X dNTP Mix With Amino Allyl dUTP	No specific data.
	Oligo (dT) Primer (12-18)	No specific data.
	Random Primers	No specific data.
	0.1 M DTT	No specific data.
	RNase block	No specific data.
	AffinityScript HC Reverse Transcriptase	No specific data.
	Glycogen	No specific data.
	2X Coupling Buffer	No specific data.
	DNA-Binding Solution	No specific data.
10.5 Incompatible materials :	DMSO (high purity)	Reactive or incompatible with the following materials: oxidizing materials
	DEPC Water	May react or be incompatible with oxidizing materials.
	10X AffinityScript Reaction Buffer	May react or be incompatible with oxidizing materials.
	20X dNTP Mix With Amino Allyl dUTP	May react or be incompatible with oxidizing materials.
	Oligo (dT) Primer (12-18)	May react or be incompatible with oxidizing materials.
	Random Primers	May react or be incompatible with oxidizing materials.
	0.1 M DTT	May react or be incompatible with oxidizing materials.
	RNase block	May react or be incompatible with oxidizing materials.
	AffinityScript HC Reverse Transcriptase	May react or be incompatible with oxidizing materials.
	Glycogen	May react or be incompatible with oxidizing materials.
	2X Coupling Buffer	May react or be incompatible with oxidizing materials.
	DNA-Binding Solution	May react or be incompatible with oxidizing materials.

Section 10. Stability and reactivity

10.6 Hazardous decomposition products	: DMSO (high purity)	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DEPC Water	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	10X AffinityScript Reaction Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	20X dNTP Mix With Amino Allyl dUTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Oligo (dT) Primer (12-18)	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Random Primers	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	0.1 M DTT	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	RNase block	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	AffinityScript HC Reverse Transcriptase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Glycogen	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	2X Coupling Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DNA-Binding Solution	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
DMSO (high purity)				
Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-
10X AffinityScript Reaction Buffer				
Potassium chloride	LD50 Oral	Rat	2600 mg/kg	-
RNase block				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
AffinityScript HC Reverse Transcriptase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
2X Coupling Buffer				

Section 11. Toxicological information

Borax ($B_4Na_2O_7.10H_2O$)	LD50 Oral	Rat	2660 mg/kg	-
DNA-Binding Solution				
Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
DMSO (high purity)					
Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	100 milligrams	-
10X AffinityScript Reaction Buffer					
Potassium chloride	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
RNase block					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
AffinityScript HC Reverse Transcriptase					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
DNA-Binding Solution					
Trometamol	Skin - Moderate irritant	Rabbit	-	25 Percent	-
	Skin - Severe irritant	Rabbit	-	500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
10X AffinityScript Reaction Buffer			
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
0.1 M DTT			
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	Category 3	Not applicable.	Respiratory tract irritation
DNA-Binding Solution			
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
Trometamol	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure :

DMSO (high purity)	Routes of entry anticipated: Oral, Dermal, Inhalation.
DEPC Water	Not available.
10X AffinityScript Reaction Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
20X dNTP Mix With Amino Allyl dUTP	Not available.
Oligo (dT) Primer (12-18)	Not available.
Random Primers	Not available.
0.1 M DTT	Routes of entry anticipated: Oral, Dermal, Inhalation.
RNase block	Routes of entry anticipated: Oral, Dermal, Inhalation.
AffinityScript HC Reverse Transcriptase	Not available.
Glycogen	Not available.
2X Coupling Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
DNA-Binding Solution	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact :

DMSO (high purity)	Causes eye irritation.
DEPC Water	No known significant effects or critical hazards.
10X AffinityScript Reaction Buffer	Causes serious eye irritation.
20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
Random Primers	No known significant effects or critical hazards.
0.1 M DTT	No known significant effects or critical hazards.
RNase block	Causes eye irritation.
AffinityScript HC Reverse Transcriptase	Causes eye irritation.
Glycogen	No known significant effects or critical hazards.
2X Coupling Buffer	No known significant effects or critical hazards.
DNA-Binding Solution	No known significant effects or critical hazards.

Section 11. Toxicological information

Inhalation	:	DMSO (high purity)	No known significant effects or critical hazards.
		DEPC Water	No known significant effects or critical hazards.
		10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
		20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
		Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		RNase block	No known significant effects or critical hazards.
		AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	No known significant effects or critical hazards.
		DNA-Binding Solution	Harmful if inhaled.
Skin contact	:	DMSO (high purity)	No known significant effects or critical hazards.
		DEPC Water	No known significant effects or critical hazards.
		10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
		20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
		Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		RNase block	No known significant effects or critical hazards.
		AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	No known significant effects or critical hazards.
		DNA-Binding Solution	No known significant effects or critical hazards.
Ingestion	:	DMSO (high purity)	No known significant effects or critical hazards.
		DEPC Water	No known significant effects or critical hazards.
		10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
		20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
		Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		RNase block	No known significant effects or critical hazards.
		AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	No known significant effects or critical hazards.
		DNA-Binding Solution	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	DMSO (high purity)	Adverse symptoms may include the following: irritation watering redness
		DEPC Water	No specific data.
		10X AffinityScript Reaction Buffer	Adverse symptoms may include the following: pain or irritation watering redness
		20X dNTP Mix With Amino Allyl dUTP	No specific data.
		Oligo (dT) Primer (12-18)	No specific data.
		Random Primers	No specific data.

Section 11. Toxicological information

		0.1 M DTT	No specific data.
		RNase block	Adverse symptoms may include the following: irritation watering redness
		AffinityScript HC Reverse Transcriptase	Adverse symptoms may include the following: irritation watering redness
		Glycogen	No specific data.
		2X Coupling Buffer	No specific data.
		DNA-Binding Solution	No specific data.
Inhalation	:	DMSO (high purity)	No specific data.
		DEPC Water	No specific data.
		10X AffinityScript Reaction Buffer	No specific data.
		20X dNTP Mix With Amino Allyl dUTP	No specific data.
		Oligo (dT) Primer (12-18)	No specific data.
		Random Primers	No specific data.
		0.1 M DTT	No specific data.
		RNase block	No specific data.
		AffinityScript HC Reverse Transcriptase	No specific data.
		Glycogen	No specific data.
		2X Coupling Buffer	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		DNA-Binding Solution	No specific data.
Skin contact	:	DMSO (high purity)	No specific data.
		DEPC Water	No specific data.
		10X AffinityScript Reaction Buffer	No specific data.
		20X dNTP Mix With Amino Allyl dUTP	No specific data.
		Oligo (dT) Primer (12-18)	No specific data.
		Random Primers	No specific data.
		0.1 M DTT	No specific data.
		RNase block	No specific data.
		AffinityScript HC Reverse Transcriptase	No specific data.
		Glycogen	No specific data.
		2X Coupling Buffer	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
		DNA-Binding Solution	No specific data.
Ingestion	:	DMSO (high purity)	No specific data.
		DEPC Water	No specific data.
		10X AffinityScript Reaction Buffer	No specific data.
		20X dNTP Mix With Amino Allyl dUTP	No specific data.
		Oligo (dT) Primer (12-18)	No specific data.
		Random Primers	No specific data.
		0.1 M DTT	No specific data.
		RNase block	No specific data.
		AffinityScript HC Reverse Transcriptase	No specific data.

Section 11. Toxicological information

Glycogen	No specific data.
2X Coupling Buffer	Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
DNA-Binding Solution	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	: DMSO (high purity)	No known significant effects or critical hazards.
	DEPC Water	No known significant effects or critical hazards.
	10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
	20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
	Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
	Random Primers	No known significant effects or critical hazards.
	0.1 M DTT	No known significant effects or critical hazards.
	RNase block	No known significant effects or critical hazards.
	AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	2X Coupling Buffer	No known significant effects or critical hazards.
	DNA-Binding Solution	No known significant effects or critical hazards.
Carcinogenicity	: DMSO (high purity)	No known significant effects or critical hazards.
	DEPC Water	No known significant effects or critical hazards.
	10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
	20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
	Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
	Random Primers	No known significant effects or critical hazards.
	0.1 M DTT	No known significant effects or critical hazards.
	RNase block	No known significant effects or critical hazards.
	AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
	Glycogen	No known significant effects or critical hazards.
	2X Coupling Buffer	No known significant effects or critical hazards.
	DNA-Binding Solution	No known significant effects or critical hazards.
Mutagenicity	: DMSO (high purity)	No known significant effects or critical hazards.
	DEPC Water	No known significant effects or critical hazards.
	10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
	20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
	Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
	Random Primers	No known significant effects or critical hazards.
	0.1 M DTT	No known significant effects or critical hazards.
	RNase block	No known significant effects or critical hazards.
	AffinityScript HC Reverse	No known significant effects or critical hazards.

Section 11. Toxicological information

		Transcriptase	
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	No known significant effects or critical hazards.
		DNA-Binding Solution	No known significant effects or critical hazards.
Teratogenicity	:	DMSO (high purity)	No known significant effects or critical hazards.
		DEPC Water	No known significant effects or critical hazards.
		10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
		20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
		Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		RNase block	No known significant effects or critical hazards.
		AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	May damage the unborn child.
		DNA-Binding Solution	No known significant effects or critical hazards.
Developmental effects	:	DMSO (high purity)	No known significant effects or critical hazards.
		DEPC Water	No known significant effects or critical hazards.
		10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
		20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
		Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		RNase block	No known significant effects or critical hazards.
		AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	No known significant effects or critical hazards.
		DNA-Binding Solution	No known significant effects or critical hazards.
Fertility effects	:	DMSO (high purity)	No known significant effects or critical hazards.
		DEPC Water	No known significant effects or critical hazards.
		10X AffinityScript Reaction Buffer	No known significant effects or critical hazards.
		20X dNTP Mix With Amino Allyl dUTP	No known significant effects or critical hazards.
		Oligo (dT) Primer (12-18)	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		0.1 M DTT	No known significant effects or critical hazards.
		RNase block	No known significant effects or critical hazards.
		AffinityScript HC Reverse Transcriptase	No known significant effects or critical hazards.
		Glycogen	No known significant effects or critical hazards.
		2X Coupling Buffer	May damage fertility.
		DNA-Binding Solution	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Route	ATE value
10X AffinityScript Reaction Buffer	
Oral	46428.6 mg/kg
0.1 M DTT	
Oral	32467.5 mg/kg
2X Coupling Buffer	
Oral	133000.1 mg/kg
DNA-Binding Solution	
Oral	1061.1 mg/kg
Dermal	2340.4 mg/kg
Inhalation (dusts and mists)	3.191 mg/l

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
DMSO (high purity)			
Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 34000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 100 ul/L Marine water	Algae - Ulva lactuca	72 hours
10X AffinityScript Reaction Buffer			
Potassium chloride	Acute EC50 1337000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 9.24 g/L Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 141460 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 12.92 mg/l Fresh water	Crustaceans - Pseudosida ramosa - Neonate	48 hours
	Acute LC50 880000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
0.1 M DTT			
(R*,R*)-1, 4-Dimercaptobutane-2,3-diol	Acute LC50 27000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
RNase block			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
AffinityScript HC Reverse Transcriptase			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
2X Coupling Buffer			
Borax ($B_4Na_2O_7.10H_2O$)	Acute EC50 1645 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
DNA-Binding Solution			
Trometamol	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 520 mg/l Fresh water	Daphnia	48 hours

Section 12. Ecological information

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
DEPC Water Water	-	100 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
DEPC Water Water	-	-	Readily
10X AffinityScript Reaction Buffer Potassium chloride	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
DMSO (high purity) Dimethyl sulfoxide	-1.35	3.16	low
DEPC Water Water	-1.38	-	low
10X AffinityScript Reaction Buffer Potassium chloride	-0.46	-	low
RNase block Glycerol	-1.76	-	low
AffinityScript HC Reverse Transcriptase Glycerol	-1.76	-	low
DNA-Binding Solution Trometamol	-1.56	-	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. 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.

Section 13. Disposal considerations

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

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

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

Section 15. Regulatory information

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

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

Clean Water Act (CWA) 311: Edetic acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Section 15. Regulatory information

Classification :

DMSO (high purity)	Fire hazard Immediate (acute) health hazard
DEPC Water	Not applicable.
10X AffinityScript Reaction Buffer	Immediate (acute) health hazard
20X dNTP Mix With Amino Allyl dUTP	Not applicable.
Oligo (dT) Primer (12-18)	Not applicable.
Random Primers	Not applicable.
0.1 M DTT	Not applicable.
RNase block	Immediate (acute) health hazard
AffinityScript HC Reverse Transcriptase	Immediate (acute) health hazard
Glycogen	Not applicable.
2X Coupling Buffer	Delayed (chronic) health hazard
DNA-Binding Solution	Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
DMSO (high purity)						
Dimethyl sulfoxide	100	Yes.	No.	No.	Yes.	No.
10X AffinityScript Reaction Buffer						
2-Amino-2-(hydroxymethyl)propane-1, 3-diol hydrochloride	<10	No.	No.	No.	Yes.	No.
Potassium chloride	≤10	No.	No.	No.	Yes.	No.
0.1 M DTT						
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	≤3	No.	No.	No.	Yes.	No.
RNase block						
Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
AffinityScript HC Reverse Transcriptase						
Glycerol	≥50 - ≤75	No.	No.	No.	Yes.	No.
2X Coupling Buffer						
Borax ($B_4Na_2O_7.10H_2O$)	≤3	No.	No.	No.	Yes.	Yes.
DNA-Binding Solution						
Guanidinium thiocyanate	≥25 - ≤50	No.	No.	No.	Yes.	No.
2-Amino-2-(hydroxymethyl)propane-1, 3-diol hydrochloride	≤3	No.	No.	No.	Yes.	No.
Trometamol	≤3	Yes.	No.	No.	Yes.	No.

State regulations

Massachusetts : The following components are listed: GLYCERINE MIST

New York : None of the components are listed.

New Jersey : The following components are listed: DIMETHYL SULFOXIDE; METHANE, SULFINYLBIS-; GLYCERIN; 1,2,3-PROPANETRIOL

Pennsylvania : The following components are listed: 1,2,3-PROPANETRIOL

California Prop. 65

Not available.

Section 15. Regulatory information

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	:	Not determined.
Canada	:	Not determined.
China	:	Not determined.
Europe	:	Not determined.
Japan	:	**Japan inventory (ENCS)**: Not determined. **Japan inventory (ISHL)**: Not determined.
Malaysia	:	Not determined.
New Zealand	:	Not determined.
Philippines	:	Not determined.
Republic of Korea	:	Not determined.
Taiwan	:	All components are listed or exempted.
Thailand	:	Not determined.
Turkey	:	Not determined.
United States	:	Not determined.
Viet Nam	:	Not determined.

Section 16. Other information

History

Date of issue	:	06/21/2017
Date of previous issue	:	12/24/2014.
Version	:	5

Indicates information that has changed from previously issued version.

Notice to reader

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