

SAFETY DATA SHEET



SureTag DNA Labeling Kit, Part Number 5190-3400

Section 1. Identification

Product identifier	: SureTag DNA Labeling Kit, Part Number 5190-3400																						
Part no. (chemical kit)	: 5190-3400																						
Part no.	: <table border="0" style="margin-left: 20px;"> <tr> <td><input checked="" type="checkbox"/> Nuclease Free Water</td> <td>5190-0439</td> </tr> <tr> <td>Random Primers</td> <td>5190-0441</td> </tr> <tr> <td>5X gDNA Reaction Buffer</td> <td>5190-3387</td> </tr> <tr> <td>Alu I</td> <td>5190-3394</td> </tr> <tr> <td>Rsa I</td> <td>5190-3395</td> </tr> <tr> <td>10X Restriction Enzyme Buffer</td> <td>5190-3396</td> </tr> <tr> <td>BSA</td> <td>5190-3397</td> </tr> <tr> <td>10X dNTP Mix</td> <td>5190-3388</td> </tr> <tr> <td>Exo(-) Klenow</td> <td>5190-0437</td> </tr> <tr> <td>Cyanine-3-dUTP</td> <td>5190-3389</td> </tr> <tr> <td>Cyanine-5-dUTP</td> <td>5190-3390</td> </tr> </table>	<input checked="" type="checkbox"/> Nuclease Free Water	5190-0439	Random Primers	5190-0441	5X gDNA Reaction Buffer	5190-3387	Alu I	5190-3394	Rsa I	5190-3395	10X Restriction Enzyme Buffer	5190-3396	BSA	5190-3397	10X dNTP Mix	5190-3388	Exo(-) Klenow	5190-0437	Cyanine-3-dUTP	5190-3389	Cyanine-5-dUTP	5190-3390
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Cyanine-3-dUTP	5190-3389																						
Cyanine-5-dUTP	5190-3390																						

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

Material uses	: Analytical reagent.																						
	<table border="0" style="margin-left: 20px;"> <tr> <td><input checked="" type="checkbox"/> Nuclease Free Water</td> <td>1500 µl</td> </tr> <tr> <td>Random Primers</td> <td>265 µl</td> </tr> <tr> <td>5X gDNA Reaction Buffer</td> <td>550 µl</td> </tr> <tr> <td>Alu I</td> <td>10 U/µl 28 µl</td> </tr> <tr> <td>Rsa I</td> <td>10 U/µl 28 µl</td> </tr> <tr> <td>10X Restriction Enzyme Buffer</td> <td>142 µl</td> </tr> <tr> <td>BSA</td> <td>15 µl</td> </tr> <tr> <td>10X dNTP Mix</td> <td>265 µl</td> </tr> <tr> <td>Exo(-) Klenow</td> <td>55 µl</td> </tr> <tr> <td>Cyanine-3-dUTP</td> <td>78 µl</td> </tr> <tr> <td>Cyanine-5-dUTP</td> <td>78 µl</td> </tr> </table>	<input checked="" type="checkbox"/> Nuclease Free Water	1500 µl	Random Primers	265 µl	5X gDNA Reaction Buffer	550 µl	Alu I	10 U/µl 28 µl	Rsa I	10 U/µl 28 µl	10X Restriction Enzyme Buffer	142 µl	BSA	15 µl	10X dNTP Mix	265 µl	Exo(-) Klenow	55 µl	Cyanine-3-dUTP	78 µl	Cyanine-5-dUTP	78 µl
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Cyanine-5-dUTP	78 µl																						

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
 679 Springvale Road
 Mulgrave
 Victoria 3170, Australia
 1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

Not classified.

<input checked="" type="checkbox"/> 5X gDNA Reaction 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%
	Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
Alu I	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: 30 - 60%
	Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
Rsa I	Percentage of the mixture consisting of ingredient(s)

Section 2. Hazard(s) identification

10X Restriction Enzyme Buffer	of unknown dermal toxicity: 1 - 10% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
BSA	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%
Exo(-) Klenow	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: 30 - 60%
5X gDNA Reaction Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3.9%
10X Restriction Enzyme Buffer BSA	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.6% Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1%

GHS label elements

Signal word

: Nuclease Free Water	No signal word.
Random Primers	No signal word.
5X gDNA Reaction Buffer	No signal word.
Alu I	No signal word.
Rsa I	No signal word.
10X Restriction Enzyme Buffer	No signal word.
BSA	No signal word.
10X dNTP Mix	No signal word.
Exo(-) Klenow	No signal word.
Cyanine-3-dUTP	No signal word.
Cyanine-5-dUTP	No signal word.

Hazard statements

: Nuclease Free Water	No known significant effects or critical hazards.
Random Primers	No known significant effects or critical hazards.
5X gDNA Reaction Buffer	No known significant effects or critical hazards.
Alu I	No known significant effects or critical hazards.
Rsa I	No known significant effects or critical hazards.
10X Restriction Enzyme Buffer	No known significant effects or critical hazards.
BSA	No known significant effects or critical hazards.
10X dNTP Mix	No known significant effects or critical hazards.
Exo(-) Klenow	No known significant effects or critical hazards.
Cyanine-3-dUTP	No known significant effects or critical hazards.
Cyanine-5-dUTP	No known significant effects or critical hazards.

Precautionary statements

Prevention

: Nuclease Free Water	Not applicable.
Random Primers	Not applicable.
5X gDNA Reaction Buffer	Not applicable.
Alu I	Not applicable.
Rsa I	Not applicable.
10X Restriction Enzyme Buffer	Not applicable.
BSA	Not applicable.
10X dNTP Mix	Not applicable.
Exo(-) Klenow	Not applicable.
Cyanine-3-dUTP	Not applicable.
Cyanine-5-dUTP	Not applicable.

Section 2. Hazard(s) identification

Response	: <input checked="" type="checkbox"/> Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Storage	: <input checked="" type="checkbox"/> Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Disposal	: <input checked="" type="checkbox"/> Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Supplemental label elements		
Additional warning phrases	: <input checked="" type="checkbox"/> Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
Other hazards which do not result in classification	: <input checked="" type="checkbox"/> Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP	None known. None known. None known. None known. None known. None known. None known. None known. None known.

Section 2. Hazard(s) identification

Cyanine-5-dUTP

None known.

Section 3. Composition and ingredient information

Substance/mixture	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Substance Mixture Mixture Mixture Mixture Mixture Mixture Mixture Mixture Mixture Mixture Mixture Mixture
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CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
Nuclease Free Water Water	100	7732-18-5
Alu I Glycerol	≥30 - ≤60	56-81-5
Trisodium citrate	≤3	68-04-2
Rsa I Glycerol	≥30 - ≤60	56-81-5
Exo(-) Klenow Glycerol	≥30 - ≤60	56-81-5

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

Description of necessary first aid measures

Eye contact	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. 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. 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. 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. 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. 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.
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Section 4. First aid measures

	BSA	Check for and remove any contact lenses. Get medical attention if irritation occurs. 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 dNTP Mix	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Exo(-) Klenow	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Cyanine-3-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.
	Cyanine-5-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.
Inhalation	: Nuclease Free Water	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.
	5X gDNA Reaction Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	Alu I	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Rsa I	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	10X Restriction Enzyme Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	BSA	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	10X dNTP Mix	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Exo(-) Klenow	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Cyanine-3-dUTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	Cyanine-5-dUTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Section 4. First aid measures

Skin contact	:	Nuclease Free Water	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get 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.
		5X gDNA Reaction Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Alu I	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Rsa I	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		10X Restriction Enzyme Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		BSA	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		10X dNTP Mix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Exo(-) Klenow	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Cyanine-3-dUTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		Cyanine-5-dUTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Ingestion	:	Nuclease Free Water
		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.
		5X gDNA Reaction Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
		Alu I	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.
		Rsa I	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for

Section 4. First aid measures

10X Restriction Enzyme Buffer	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. 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.
BSA	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 dNTP Mix	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Exo(-) Klenow	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Cyanine-3-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.
Cyanine-5-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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
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Section 4. First aid measures

Inhalation	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
Inhalation	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.

Section 4. First aid measures

Skin contact	:	Nuclease Free Water	No specific data.	
		Random Primers	No specific data.	
		5X gDNA Reaction Buffer	No specific data.	
		Alu I	No specific data.	
		Rsa I	No specific data.	
		10X Restriction Enzyme Buffer	No specific data.	
		BSA	No specific data.	
		10X dNTP Mix	No specific data.	
		Exo(-) Klenow	No specific data.	
		Cyanine-3-dUTP	No specific data.	
		Cyanine-5-dUTP	No specific data.	
	Ingestion	:	Nuclease Free Water	No specific data.
			Random Primers	No specific data.
			5X gDNA Reaction Buffer	No specific data.
		Alu I	No specific data.	
		Rsa I	No specific data.	
		10X Restriction Enzyme Buffer	No specific data.	
		BSA	No specific data.	
		10X dNTP Mix	No specific data.	
		Exo(-) Klenow	No specific data.	
		Cyanine-3-dUTP	No specific data.	
		Cyanine-5-dUTP	No specific data.	

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

Notes to physician	:	Nuclease Free Water	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.
		5X gDNA 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.
		Alu I	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Rsa I	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		10X Restriction Enzyme 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.
		BSA	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		10X dNTP Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Exo(-) Klenow	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Cyanine-3-dUTP	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		Cyanine-5-dUTP	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Section 4. First aid measures

Specific treatments	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment. No specific treatment.
Protection of first-aiders	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
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Section 5. Firefighting measures

Unsuitable extinguishing media	<input checked="" type="checkbox"/> Nuclease Free Water	None known.
	Random Primers	None known.
	5X gDNA Reaction Buffer	None known.
	Alu I	None known.
	Rsa I	None known.
	10X Restriction Enzyme Buffer	None known.
	BSA	None known.
	10X dNTP Mix	None known.
	Exo(-) Klenow	None known.
	Cyanine-3-dUTP	None known.
Cyanine-5-dUTP	None known.	
Specific hazards arising from the chemical	<input checked="" type="checkbox"/> Nuclease Free Water	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.
	5X gDNA Reaction Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	Alu I	In a fire or if heated, a pressure increase will occur and the container may burst.
	Rsa I	In a fire or if heated, a pressure increase will occur and the container may burst.
	10X Restriction Enzyme Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	BSA	In a fire or if heated, a pressure increase will occur and the container may burst.
	10X dNTP Mix	In a fire or if heated, a pressure increase will occur and the container may burst.
	Exo(-) Klenow	In a fire or if heated, a pressure increase will occur and the container may burst.
	Cyanine-3-dUTP	In a fire or if heated, a pressure increase will occur and the container may burst.
Cyanine-5-dUTP	In a fire or if heated, a pressure increase will occur and the container may burst.	
Hazardous thermal decomposition products	<input checked="" type="checkbox"/> Nuclease Free Water	No specific data.
	Random Primers	No specific data.
	5X gDNA Reaction Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds
	Alu I	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
	Rsa I	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
	10X Restriction Enzyme Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
	BSA	Decomposition products may include the following materials:

Section 5. Firefighting measures

		carbon dioxide carbon monoxide No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide
	10X dNTP Mix Exo(-) Klenow	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide
	Cyanine-3-dUTP Cyanine-5-dUTP	No specific data. No specific data.
Special protective actions for fire-fighters	: Nuclease Free 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.
	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.
	5X gDNA 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.
	Alu I	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.
	Rsa I	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 Restriction Enzyme 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.
	BSA	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 dNTP Mix	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Exo(-) Klenow	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Cyanine-3-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.
	Cyanine-5-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.
Special protective equipment for fire-fighters	: Nuclease Free Water	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.
	5X gDNA Reaction Buffer	Fire-fighters should wear appropriate protective

Section 5. Firefighting measures

Alu I	equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Rsa I	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
10X Restriction Enzyme Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
BSA	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
10X dNTP Mix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Exo(-) Klenow	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Cyanine-3-dUTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Cyanine-5-dUTP	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

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Nuclease Free 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 spilt 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 spilt material. Put on appropriate personal protective equipment.
	5X gDNA 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 spilt material. Put on appropriate personal protective equipment.
	Alu I	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

Rsa I	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
10X Restriction Enzyme Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
BSA	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
10X dNTP Mix	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Exo(-) Klenow	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
Cyanine-3-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 spilt material. Put on appropriate personal protective equipment.
Cyanine-5-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 spilt material. Put on appropriate personal protective equipment.
For emergency responders : Nuclease Free Water	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Random Primers	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
5X gDNA Reaction Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Alu I	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Rsa I	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
10X Restriction Enzyme	If specialised clothing is required to deal with the

Section 6. Accidental release measures

Buffer	spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
BSA	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
10X dNTP Mix	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Exo(-) Klenow	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Cyanine-3-dUTP	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Cyanine-5-dUTP	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions	:  Nuclease Free Water	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Random Primers	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	5X gDNA Reaction Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Alu I	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Rsa I	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	10X Restriction Enzyme Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	BSA	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	10X dNTP Mix	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways,

Section 6. Accidental release measures

Exo(-) Klenow	soil or air). Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Cyanine-3-dUTP	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Cyanine-5-dUTP	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up :  Nuclease Free Water

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.
5X gDNA 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.
Alu I	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.
Rsa I	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 Restriction Enzyme 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.
BSA	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 dNTP Mix	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an

Section 6. Accidental release measures

Exo(-) Klenow	inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Cyanine-3-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.
Cyanine-5-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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Nuclease Free Water	Put on appropriate personal protective equipment (see Section 8).
Random Primers	Put on appropriate personal protective equipment (see Section 8).
5X gDNA Reaction Buffer	Put on appropriate personal protective equipment (see Section 8).
Alu I	Put on appropriate personal protective equipment (see Section 8).
Rsa I	Put on appropriate personal protective equipment (see Section 8).
10X Restriction Enzyme Buffer	Put on appropriate personal protective equipment (see Section 8).
BSA	Put on appropriate personal protective equipment (see Section 8).
10X dNTP Mix	Put on appropriate personal protective equipment (see Section 8).
Exo(-) Klenow	Put on appropriate personal protective equipment (see Section 8).
Cyanine-3-dUTP	Put on appropriate personal protective equipment (see Section 8).
Cyanine-5-dUTP	Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

: Nuclease Free 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.
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.
5X gDNA Reaction Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and

Section 7. Handling and storage

	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.
Alu I	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.
Rsa I	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 Restriction Enzyme 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.
BSA	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 dNTP Mix	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Exo(-) Klenow	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.
Cyanine-3-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.
Cyanine-5-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.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Nuclease Free Water

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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
5X gDNA 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 to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Alu I	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
Rsa I	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
10X Restriction Enzyme Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled

Section 7. Handling and storage

BSA

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

10X dNTP Mix

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

Exo(-) Klenow

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

Cyanine-3-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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Cyanine-5-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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
Alu I Glycerol Trisodium citrate	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours. DFG MAC-values list (Germany, 7/2017). CEIL: 2 mg/m ³
Rsa I Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
Exo(-) Klenow Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- 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: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state	:	☑ Nuclease Free Water	Liquid.	
		Random Primers	Liquid.	
		5X gDNA Reaction Buffer	Liquid.	
		Alu I	Liquid.	
		Rsa I	Liquid.	
		10X Restriction Enzyme Buffer	Liquid.	
		BSA	Liquid.	
		10X dNTP Mix	Liquid.	
		Exo(-) Klenow	Liquid.	
		Cyanine-3-dUTP	Liquid.	
		Cyanine-5-dUTP	Liquid.	
	Colour	:	☑ Nuclease Free Water	Colourless.
			Random Primers	Not available.
		5X gDNA Reaction Buffer	Not available.	
		Alu I	Not available.	
		Rsa I	Not available.	
		10X Restriction Enzyme Buffer	Not available.	
		BSA	Not available.	
		10X dNTP Mix	Not available.	
		Exo(-) Klenow	Not available.	
		Cyanine-3-dUTP	Not available.	
		Cyanine-5-dUTP	Not available.	
Odour		:	☑ Nuclease Free Water	Odourless.
			Random Primers	Not available.
		5X gDNA Reaction Buffer	Not available.	
		Alu I	Not available.	
		Rsa I	Not available.	
		10X Restriction Enzyme Buffer	Not available.	
		BSA	Not available.	
		10X dNTP Mix	Not available.	
		Exo(-) Klenow	Not available.	
		Cyanine-3-dUTP	Not available.	
		Cyanine-5-dUTP	Not available.	
	Odour threshold	:	☑ Nuclease Free Water	Not available.
			Random Primers	Not available.
		5X gDNA Reaction Buffer	Not available.	
		Alu I	Not available.	
		Rsa I	Not available.	
		10X Restriction Enzyme Buffer	Not available.	
		BSA	Not available.	
		10X dNTP Mix	Not available.	
		Exo(-) Klenow	Not available.	
		Cyanine-3-dUTP	Not available.	
		Cyanine-5-dUTP	Not available.	
pH		:	☑ Nuclease Free Water	7
			Random Primers	8
		5X gDNA Reaction Buffer	7.5	
		Alu I	7.4	
		Rsa I	7.4	
		10X Restriction Enzyme Buffer	7.9	
		BSA	Not available.	
		10X dNTP Mix	8	
		Exo(-) Klenow	7.5	
		Cyanine-3-dUTP	Not available.	
		Cyanine-5-dUTP	Not available.	

Section 9. Physical and chemical properties

Melting point	:	☑ Nuclease Free Water	0°C (32°F)	
		Random Primers	0°C (32°F)	
		5X gDNA Reaction Buffer	0°C (32°F)	
		Alu I	Not available.	
		Rsa I	Not available.	
		10X Restriction Enzyme Buffer	Not available.	
		BSA	0°C (32°F)	
		10X dNTP Mix	0°C (32°F)	
		Exo(-) Klenow	Not available.	
		Cyanine-3-dUTP	0°C (32°F)	
		Cyanine-5-dUTP	0°C (32°F)	
	Boiling point	:	☑ Nuclease Free Water	100°C (212°F)
			Random Primers	100°C (212°F)
		5X gDNA Reaction Buffer	100°C (212°F)	
		Alu I	Not available.	
		Rsa I	Not available.	
		10X Restriction Enzyme Buffer	Not available.	
		BSA	100°C (212°F)	
		10X dNTP Mix	100°C (212°F)	
		Exo(-) Klenow	Not available.	
		Cyanine-3-dUTP	100°C (212°F)	
		Cyanine-5-dUTP	100°C (212°F)	
Flash point		:	☑ Nuclease Free Water	Not applicable.
			Random Primers	Not available.
		5X gDNA Reaction Buffer	Not available.	
		Alu I	Not available.	
		Rsa I	Not available.	
		10X Restriction Enzyme Buffer	Not available.	
		BSA	Not available.	
		10X dNTP Mix	Not available.	
		Exo(-) Klenow	Not available.	
		Cyanine-3-dUTP	Not available.	
		Cyanine-5-dUTP	Not available.	
	Evaporation rate	:	☑ Nuclease Free Water	Not available.
			Random Primers	Not available.
		5X gDNA Reaction Buffer	Not available.	
		Alu I	Not available.	
		Rsa I	Not available.	
		10X Restriction Enzyme Buffer	Not available.	
		BSA	Not available.	
		10X dNTP Mix	Not available.	
		Exo(-) Klenow	Not available.	
		Cyanine-3-dUTP	Not available.	
		Cyanine-5-dUTP	Not available.	
Flammability (solid, gas)		:	☑ Nuclease Free Water	Not applicable.
			Random Primers	Not applicable.
		5X gDNA Reaction Buffer	Not applicable.	
		Alu I	Not applicable.	
		Rsa I	Not applicable.	
		10X Restriction Enzyme Buffer	Not applicable.	
		BSA	Not applicable.	
		10X dNTP Mix	Not applicable.	
		Exo(-) Klenow	Not applicable.	
		Cyanine-3-dUTP	Not applicable.	
		Cyanine-5-dUTP	Not applicable.	

Section 9. Physical and chemical properties

Lower and upper explosive (flammable) limits	: Nuclease Free Water	Not available.	
	Random Primers	Not available.	
	5X gDNA Reaction Buffer	Not available.	
	Alu I	Not available.	
	Rsa I	Not available.	
	10X Restriction Enzyme Buffer	Not available.	
	BSA	Not available.	
	10X dNTP Mix	Not available.	
	Exo(-) Klenow	Not available.	
	Cyanine-3-dUTP	Not available.	
	Cyanine-5-dUTP	Not available.	
	Vapour pressure	: Nuclease Free Water	3.2 kPa (23.8 mm Hg) [room temperature]
		Random Primers	Not available.
		5X gDNA Reaction Buffer	Not available.
Alu I		Not available.	
Rsa I		Not available.	
10X Restriction Enzyme Buffer		Not available.	
BSA		Not available.	
10X dNTP Mix		Not available.	
Exo(-) Klenow		Not available.	
Cyanine-3-dUTP		Not available.	
Cyanine-5-dUTP		Not available.	
Vapour density		: Nuclease Free Water	0.62 [Air = 1]
		Random Primers	Not available.
		5X gDNA Reaction Buffer	Not available.
	Alu I	Not available.	
	Rsa I	Not available.	
	10X Restriction Enzyme Buffer	Not available.	
	BSA	Not available.	
	10X dNTP Mix	Not available.	
	Exo(-) Klenow	Not available.	
	Cyanine-3-dUTP	Not available.	
	Cyanine-5-dUTP	Not available.	
	Relative density	: Nuclease Free Water	1
		Random Primers	Not available.
		5X gDNA Reaction Buffer	Not available.
Alu I		Not available.	
Rsa I		Not available.	
10X Restriction Enzyme Buffer		Not available.	
BSA		Not available.	
10X dNTP Mix		Not available.	
Exo(-) Klenow		Not available.	
Cyanine-3-dUTP		Not available.	
Cyanine-5-dUTP		Not available.	
Solubility		: Nuclease Free Water	Easily soluble in the following materials: cold water and hot water.
		Random Primers	Easily soluble in the following materials: cold water and hot water.
		5X gDNA Reaction Buffer	Easily soluble in the following materials: cold water and hot water.
	Alu I	Soluble in the following materials: cold water and hot water.	
	Rsa I	Soluble in the following materials: cold water and hot water.	
	10X Restriction Enzyme Buffer	Easily soluble in the following materials: cold water and hot water.	
	BSA	Easily soluble in the following materials: cold water and hot water.	

Section 9. Physical and chemical properties

	10X dNTP Mix	Easily soluble in the following materials: cold water and hot water.
	Exo(-) Klenow	Soluble in the following materials: cold water and hot water.
	Cyanine-3-dUTP	Easily soluble in the following materials: cold water and hot water.
	Cyanine-5-dUTP	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Nuclease Free Water	-1.38
	Random Primers	Not available.
	5X gDNA Reaction Buffer	Not available.
	Alu I	Not available.
	Rsa I	Not available.
	10X Restriction Enzyme Buffer	Not available.
	BSA	Not available.
	10X dNTP Mix	Not available.
	Exo(-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
	Cyanine-5-dUTP	Not available.
Auto-ignition temperature	: Nuclease Free Water	Not applicable.
	Random Primers	Not available.
	5X gDNA Reaction Buffer	Not available.
	Alu I	Not available.
	Rsa I	Not available.
	10X Restriction Enzyme Buffer	Not available.
	BSA	Not available.
	10X dNTP Mix	Not available.
	Exo(-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
	Cyanine-5-dUTP	Not available.
Decomposition temperature	: Nuclease Free Water	Not available.
	Random Primers	Not available.
	5X gDNA Reaction Buffer	Not available.
	Alu I	Not available.
	Rsa I	Not available.
	10X Restriction Enzyme Buffer	Not available.
	BSA	Not available.
	10X dNTP Mix	Not available.
	Exo(-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
	Cyanine-5-dUTP	Not available.
Viscosity	: Nuclease Free Water	Not available.
	Random Primers	Not available.
	5X gDNA Reaction Buffer	Not available.
	Alu I	Not available.
	Rsa I	Not available.
	10X Restriction Enzyme Buffer	Not available.
	BSA	Not available.
	10X dNTP Mix	Not available.
	Exo(-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
	Cyanine-5-dUTP	Not available.

Section 10. Stability and reactivity

Reactivity	: <input checked="" type="checkbox"/> Nuclease Free Water	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.
	5X gDNA Reaction Buffer	No specific test data related to reactivity available for this product or its ingredients.
	Alu I	No specific test data related to reactivity available for this product or its ingredients.
	Rsa I	No specific test data related to reactivity available for this product or its ingredients.
	10X Restriction Enzyme Buffer	No specific test data related to reactivity available for this product or its ingredients.
	BSA	No specific test data related to reactivity available for this product or its ingredients.
	10X dNTP Mix	No specific test data related to reactivity available for this product or its ingredients.
	Exo(-) Klenow	No specific test data related to reactivity available for this product or its ingredients.
	Cyanine-3-dUTP	No specific test data related to reactivity available for this product or its ingredients.
Cyanine-5-dUTP	No specific test data related to reactivity available for this product or its ingredients.	
Chemical stability	: <input checked="" type="checkbox"/> Nuclease Free Water	The product is stable.
	Random Primers	The product is stable.
	5X gDNA Reaction Buffer	The product is stable.
	Alu I	The product is stable.
	Rsa I	The product is stable.
	10X Restriction Enzyme Buffer	The product is stable.
	BSA	The product is stable.
	10X dNTP Mix	The product is stable.
	Exo(-) Klenow	The product is stable.
	Cyanine-3-dUTP	The product is stable.
Cyanine-5-dUTP	The product is stable.	
Possibility of hazardous reactions	: <input checked="" type="checkbox"/> Nuclease Free Water	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.
	5X gDNA Reaction Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	Alu I	Under normal conditions of storage and use, hazardous reactions will not occur.
	Rsa I	Under normal conditions of storage and use, hazardous reactions will not occur.
	10X Restriction Enzyme Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	BSA	Under normal conditions of storage and use, hazardous reactions will not occur.
	10X dNTP Mix	Under normal conditions of storage and use, hazardous reactions will not occur.
	Exo(-) Klenow	Under normal conditions of storage and use, hazardous reactions will not occur.
	Cyanine-3-dUTP	Under normal conditions of storage and use, hazardous reactions will not occur.
Cyanine-5-dUTP	Under normal conditions of storage and use, hazardous reactions will not occur.	

Section 10. Stability and reactivity

Conditions to avoid	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data. No specific data.
Incompatible materials	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
Hazardous decomposition products	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Alu I Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Rsa I Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Exo(-) Klenow Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Alu I Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Rsa I Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Exo(-) Klenow Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitisation

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on likely routes of exposure	: Nuclease Free Water	Not available.
	Random Primers	Not available.
	5X gDNA Reaction Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Alu I	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Rsa I	Routes of entry anticipated: Oral, Dermal, Inhalation.
	10X Restriction Enzyme Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation.
	BSA	Not available.
	10X dNTP Mix	Not available.
	Exo(-) Klenow	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Cyanine-3-dUTP	Not available.
Cyanine-5-dUTP	Not available.	

Potential acute health effects

Eye contact

: Nuclease Free Water	No known significant effects or critical hazards.
Random Primers	No known significant effects or critical hazards.
5X gDNA Reaction Buffer	No known significant effects or critical hazards.
Alu I	No known significant effects or critical hazards.
Rsa I	No known significant effects or critical hazards.
10X Restriction Enzyme Buffer	No known significant effects or critical hazards.
BSA	No known significant effects or critical hazards.
10X dNTP Mix	No known significant effects or critical hazards.
Exo(-) Klenow	No known significant effects or critical hazards.
Cyanine-3-dUTP	No known significant effects or critical hazards.
Cyanine-5-dUTP	No known significant effects or critical hazards.

Inhalation

: Nuclease Free Water	No known significant effects or critical hazards.
Random Primers	No known significant effects or critical hazards.
5X gDNA Reaction Buffer	No known significant effects or critical hazards.
Alu I	No known significant effects or critical hazards.
Rsa I	No known significant effects or critical hazards.
10X Restriction Enzyme Buffer	No known significant effects or critical hazards.
BSA	No known significant effects or critical hazards.
10X dNTP Mix	No known significant effects or critical hazards.
Exo(-) Klenow	No known significant effects or critical hazards.
Cyanine-3-dUTP	No known significant effects or critical hazards.
Cyanine-5-dUTP	No known significant effects or critical hazards.

Skin contact

: Nuclease Free Water	No known significant effects or critical hazards.
Random Primers	No known significant effects or critical hazards.
5X gDNA Reaction Buffer	No known significant effects or critical hazards.
Alu I	No known significant effects or critical hazards.
Rsa I	No known significant effects or critical hazards.
10X Restriction Enzyme Buffer	No known significant effects or critical hazards.
BSA	No known significant effects or critical hazards.
10X dNTP Mix	No known significant effects or critical hazards.
Exo(-) Klenow	No known significant effects or critical hazards.
Cyanine-3-dUTP	No known significant effects or critical hazards.
Cyanine-5-dUTP	No known significant effects or critical hazards.

Ingestion

: Nuclease Free Water	No known significant effects or critical hazards.
Random Primers	No known significant effects or critical hazards.
5X gDNA Reaction Buffer	No known significant effects or critical hazards.
Alu I	No known significant effects or critical hazards.
Rsa I	No known significant effects or critical hazards.
10X Restriction Enzyme Buffer	No known significant effects or critical hazards.
BSA	No known significant effects or critical hazards.
10X dNTP Mix	No known significant effects or critical hazards.
Exo(-) Klenow	No known significant effects or critical hazards.
Cyanine-3-dUTP	No known significant effects or critical hazards.
Cyanine-5-dUTP	No known significant effects or critical hazards.

Section 11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	☑ Nuclease Free Water	No specific data.
		Random Primers	No specific data.
		5X gDNA Reaction Buffer	No specific data.
		Alu I	No specific data.
		Rsa I	No specific data.
		10X Restriction Enzyme Buffer	No specific data.
		BSA	No specific data.
		10X dNTP Mix	No specific data.
		Exo(-) Klenow	No specific data.
		Cyanine-3-dUTP	No specific data.
	Cyanine-5-dUTP	No specific data.	
Inhalation	:	☑ Nuclease Free Water	No specific data.
		Random Primers	No specific data.
		5X gDNA Reaction Buffer	No specific data.
		Alu I	No specific data.
		Rsa I	No specific data.
		10X Restriction Enzyme Buffer	No specific data.
		BSA	No specific data.
		10X dNTP Mix	No specific data.
		Exo(-) Klenow	No specific data.
		Cyanine-3-dUTP	No specific data.
	Cyanine-5-dUTP	No specific data.	
Skin contact	:	☑ Nuclease Free Water	No specific data.
		Random Primers	No specific data.
		5X gDNA Reaction Buffer	No specific data.
		Alu I	No specific data.
		Rsa I	No specific data.
		10X Restriction Enzyme Buffer	No specific data.
		BSA	No specific data.
		10X dNTP Mix	No specific data.
		Exo(-) Klenow	No specific data.
		Cyanine-3-dUTP	No specific data.
	Cyanine-5-dUTP	No specific data.	
Ingestion	:	☑ Nuclease Free Water	No specific data.
		Random Primers	No specific data.
		5X gDNA Reaction Buffer	No specific data.
		Alu I	No specific data.
		Rsa I	No specific data.
		10X Restriction Enzyme Buffer	No specific data.
		BSA	No specific data.
		10X dNTP Mix	No specific data.
		Exo(-) Klenow	No specific data.
		Cyanine-3-dUTP	No specific data.
	Cyanine-5-dUTP	No specific data.	

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Potential chronic health effects

General	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: Nuclease Free Water Random Primers 5X gDNA Reaction Buffer Alu I Rsa I 10X Restriction Enzyme Buffer BSA 10X dNTP Mix Exo(-) Klenow Cyanine-3-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Section 11. Toxicological information

Fertility effects	:	Cyanine-5-dUTP	No known significant effects or critical hazards.
		☒ Nuclease Free Water	No known significant effects or critical hazards.
		Random Primers	No known significant effects or critical hazards.
		5X gDNA Reaction Buffer	No known significant effects or critical hazards.
		Alu I	No known significant effects or critical hazards.
		Rsa I	No known significant effects or critical hazards.
		10X Restriction Enzyme Buffer	No known significant effects or critical hazards.
		BSA	No known significant effects or critical hazards.
		10X dNTP Mix	No known significant effects or critical hazards.
		Exo(-) Klenow	No known significant effects or critical hazards.
Cyanine-3-dUTP	No known significant effects or critical hazards.		
Cyanine-5-dUTP	No known significant effects or critical hazards.		

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information	:	☒ Nuclease Free Water	Not available.
		Random Primers	Not available.
		5X gDNA Reaction Buffer	Adverse symptoms may include the following: May cause sensitisation by skin contact.
		Alu I	Not available.
		Rsa I	Not available.
		10X Restriction Enzyme Buffer	Not available.
		BSA	Not available.
		10X dNTP Mix	Not available.
		Exo(-) Klenow	Not available.
		Cyanine-3-dUTP	Not available.
Cyanine-5-dUTP	Not available.		

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Alu I Glycerol Trisodium citrate	Acute LC50 54000 mg/l Fresh water Acute EC50 735.54 mg/l Fresh water	Fish - Oncorhynchus mykiss Crustaceans - Ceriodaphnia dubia - Neonate	96 hours 48 hours
Rsa I Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Exo(-) Klenow Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Alu I Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Rsa I Glycerol	301D Ready	93 % - 30 days	-	-

Section 12. Ecological information

Exo(-) Klenow Glycerol	Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
	301D Ready Biodegradability - Closed Bottle Test			
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
<input checked="" type="checkbox"/> Nuclease Free Water Water	-	-	Readily	

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
<input checked="" type="checkbox"/> Nuclease Free Water Water	-1.38	-	low
Alu I Glycerol	-1.76	-	low
Rsa I Glycerol	-1.76	-	low
Exo(-) Klenow Glycerol	-1.76	-	low

Mobility in soil

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

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

Section 13. Disposal considerations

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

Section 14. Transport information

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

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

Standard Uniform Schedule of Medicine and Poisons

6

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

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	: Not determined.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision : 26/04/2018

Date of previous issue : 14/10/2016

Version : 4

Key to abbreviations

ADG = Australian Dangerous Goods
 ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 NOHSC = National Occupational Health and Safety Commission

Section 16. Any other relevant information

SUSMP = Standard Uniform Schedule of Medicine and Poisons
UN = United Nations

Procedure used to derive the classification

Classification	Justification
Not classified.	

References : Not available.

✔ Indicates information that has changed from previously issued version.

Notice to reader

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