

# SAFETY DATA SHEET



Custom Enzymatic DNA Labeling Bundle -20C Parts, Part Number 930946-5

## Section 1. Identification

**Product identifier** : Custom Enzymatic DNA Labeling Bundle -20C Parts  
**Part No. (Chemical Kit)** : 930946-5  
**Part No.** :  
     Random Primers : 930946-52  
     5X Reaction Buffer : 930946-54  
     10X dNTP Mix : 930946-51  
     Exo (-) Klenow : 930946-53  
     Cyanine-3-dUTP : FP1475  
     Cyanine-5-dUTP : FP1476

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

Analytical reagent.

Random Primers	0.7 ml
5X Reaction Buffer	1.5 ml
10X dNTP Mix	0.7 ml
Exo (-) Klenow	0.2 ml
Cyanine-3-dUTP	0.25 ml
Cyanine-5-dUTP	0.25 ml

**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.

Random Primers	Not applicable.
5X Reaction Buffer	Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.5%
10X dNTP Mix	Not applicable.
Exo (-) Klenow	Not applicable.
Cyanine-3-dUTP	Not applicable.
Cyanine-5-dUTP	Not applicable.
Random Primers	Not applicable.
5X Reaction Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3.5%
10X dNTP Mix	Not applicable.
Exo (-) Klenow	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 50%
Cyanine-3-dUTP	Not applicable.
Cyanine-5-dUTP	Not applicable.

### GHS label elements

## Section 2. Hazard(s) identification

<b>Signal word</b>	: Random Primers 5X Reaction Buffer 10X dNTP Mix Exo (-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	No signal word. No signal word. No signal word. No signal word. No signal word. No signal word.
<b>Hazard statements</b>	: Random Primers 5X Reaction Buffer 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.
<b><u>Precautionary statements</u></b>		
<b>Prevention</b>	: Random Primers 5X Reaction Buffer 10X dNTP Mix Exo (-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Response</b>	: Random Primers 5X Reaction Buffer 10X dNTP Mix Exo (-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Storage</b>	: Random Primers 5X Reaction Buffer 10X dNTP Mix Exo (-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Disposal</b>	: Random Primers 5X Reaction Buffer 10X dNTP Mix Exo (-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Supplemental label elements</b>	: Random Primers 5X Reaction Buffer 10X dNTP Mix Exo (-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable. Not applicable. Not applicable. Not applicable. Not applicable.
<b>Other hazards which do not result in classification</b>	: Random Primers 5X Reaction Buffer 10X dNTP Mix Exo (-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	None known. None known. None known. None known. None known. None known.

## Section 3. Composition and ingredient information

<b>Substance/mixture</b>	: Random Primers 5X Reaction Buffer 10X dNTP Mix Exo (-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	Mixture Mixture Mixture Mixture Mixture Mixture
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### CAS number/other identifiers

### Section 3. Composition and ingredient information

Ingredient name	% (w/w)	CAS number
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

<b>Eye contact</b>	: 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.
	5X Reaction 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.
	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.
<b>Inhalation</b>	: Random Primers	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	5X 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.
	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

<b>Skin contact</b>	: Random Primers	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	5X Reaction Buffer	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.
<b>Ingestion</b>	: 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 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.
	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

## Section 4. First-aid measures

### Potential acute health effects

<b>Eye contact</b>	: Random Primers 5X Reaction Buffer 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.
<b>Inhalation</b>	: Random Primers 5X Reaction Buffer 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.
<b>Skin contact</b>	: Random Primers 5X Reaction Buffer 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.
<b>Ingestion</b>	: Random Primers 5X Reaction Buffer 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.

### Over-exposure signs/symptoms

<b>Eye contact</b>	: Random Primers 5X Reaction Buffer 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.
<b>Inhalation</b>	: Random Primers 5X Reaction Buffer 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.
<b>Skin contact</b>	: Random Primers 5X Reaction Buffer 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.
<b>Ingestion</b>	: Random Primers 5X Reaction Buffer 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.

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

<b>Notes to physician</b>	: Random Primers  5X Reaction Buffer  10X dNTP Mix	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.  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.  Treat symptomatically. Contact poison treatment
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## Section 4. First-aid measures

	Exo (-) Klenow	specialist immediately if large quantities have been ingested or inhaled. 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.
<b>Specific treatments</b>	: Random Primers 5X Reaction Buffer 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.
<b>Protection of first-aiders</b>	: Random Primers  5X Reaction Buffer  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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	: Random Primers 5X Reaction Buffer 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.
<b>Unsuitable extinguishing media</b>	: Random Primers 5X Reaction Buffer 10X dNTP Mix Exo (-) Klenow Cyanine-3-dUTP Cyanine-5-dUTP	None known. None known. None known. None known. None known. None known.
<b>Specific hazards arising from the chemical</b>	: Random Primers 5X Reaction Buffer 10X dNTP Mix Exo (-) Klenow	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur

## Section 5. Fire-fighting measures

	Cyanine-3-dUTP	and the container may burst. 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.
<b>Hazardous thermal decomposition products</b>	: Random Primers	No specific data.
	5X Reaction Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds
	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.
<b>Special protective actions for fire-fighters</b>	: 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 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.
	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.
<b>Special protective equipment for fire-fighters</b>	: 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 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.
	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

## Section 5. Fire-fighting measures

Cyanine-5-dUTP

(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.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel**

: 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 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.

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**

: 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 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".

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



## Section 6. Accidental release measures

Cyanine-5-dUTP

spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".  
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** : 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 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).

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, soil or air).

Exo (-) Klenow

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** : 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 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.

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 inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Exo (-) Klenow

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.

## Section 6. Accidental release measures

Cyanine-3-dUTP	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-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

: Random Primers	Put on appropriate personal protective equipment (see Section 8).
5X Reaction Buffer	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

: 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 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.
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

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Random Primers

Cyanine-5-dUTP

before entering eating areas. See also Section 8 for additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

5X 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.

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.

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.

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.

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

## Section 7. Handling and storage

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.

## Section 8. Exposure controls and personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Exo (-) Klenow Glycerol	<b>Safe Work Australia (Australia, 1/2014).</b> TWA: 10 mg/m <sup>3</sup> 8 hours.

- Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- 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. 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** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	: Random Primers	Liquid.
	5X Reaction Buffer	Liquid.
	10X dNTP Mix	Liquid.
	Exo (-) Klenow	Liquid.
	Cyanine-3-dUTP	Liquid.
<b>Colour</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Odour</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Odour threshold</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>pH</b>	: Random Primers	8
	5X Reaction Buffer	6.8
	10X dNTP Mix	8
	Exo (-) Klenow	7.5
	Cyanine-3-dUTP	Not available.
<b>Melting point</b>	: Random Primers	0°C (32°F)
	5X Reaction Buffer	0°C (32°F)
	10X dNTP Mix	0°C (32°F)
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	0°C (32°F)
<b>Boiling point</b>	: Random Primers	100°C (212°F)
	5X Reaction Buffer	100°C (212°F)
	10X dNTP Mix	100°C (212°F)
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	100°C (212°F)
<b>Flash point</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Evaporation rate</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Flammability (solid, gas)</b>	: Random Primers	Not applicable.
	5X Reaction Buffer	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

<b>Lower and upper explosive (flammable) limits</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Vapour pressure</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Vapour density</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Relative density</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Solubility</b>	: Random Primers	Easily soluble in the following materials: cold water and hot water.
	5X Reaction Buffer	Easily soluble in the following materials: cold water and hot water.
	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.
<b>Partition coefficient: n-octanol/water</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Auto-ignition temperature</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Decomposition temperature</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.
<b>Viscosity</b>	: Random Primers	Not available.
	5X Reaction Buffer	Not available.
	10X dNTP Mix	Not available.
	Exo (-) Klenow	Not available.
	Cyanine-3-dUTP	Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	<ul style="list-style-type: none"> <li>: Random Primers</li> <li>5X Reaction Buffer</li> <li>10X dNTP Mix</li> <li>Exo (-) Klenow</li> <li>Cyanine-3-dUTP</li> <li>Cyanine-5-dUTP</li> </ul>	<p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p>
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>: Random Primers</li> <li>5X Reaction Buffer</li> <li>10X dNTP Mix</li> <li>Exo (-) Klenow</li> <li>Cyanine-3-dUTP</li> <li>Cyanine-5-dUTP</li> </ul>	<p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p>
<b>Possibility of hazardous reactions</b>	<ul style="list-style-type: none"> <li>: Random Primers</li> <li>5X Reaction Buffer</li> <li>10X dNTP Mix</li> <li>Exo (-) Klenow</li> <li>Cyanine-3-dUTP</li> <li>Cyanine-5-dUTP</li> </ul>	<p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Hazardous reactions or instability may occur under certain conditions of storage or use.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p>
<b>Conditions to avoid</b>	<ul style="list-style-type: none"> <li>: Random Primers</li> <li>5X Reaction Buffer</li> <li>10X dNTP Mix</li> <li>Exo (-) Klenow</li> <li>Cyanine-3-dUTP</li> <li>Cyanine-5-dUTP</li> </ul>	<p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p> <p>No specific data.</p>
<b>Incompatible materials</b>	<ul style="list-style-type: none"> <li>: Random Primers</li> <li>5X Reaction Buffer</li> <li>10X dNTP Mix</li> <li>Exo (-) Klenow</li> <li>Cyanine-3-dUTP</li> <li>Cyanine-5-dUTP</li> </ul>	<p>May react or be incompatible with oxidising materials.</p> <p>May react or be incompatible with oxidising materials.</p> <p>May react or be incompatible with oxidising materials.</p> <p>May react or be incompatible with oxidising materials.</p> <p>May react or be incompatible with oxidising materials.</p> <p>May react or be incompatible with oxidising materials.</p>
<b>Hazardous decomposition products</b>	<ul style="list-style-type: none"> <li>: Random Primers</li> <li>5X Reaction Buffer</li> <li>10X dNTP Mix</li> <li>Exo (-) Klenow</li> <li>Cyanine-3-dUTP</li> </ul>	<p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p> <p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p> <p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p> <p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p> <p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p>

## Section 10. Stability and reactivity

Cyanine-5-dUTP

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
Exo (-) Klenow Glycerol	LD50 Oral	Rat	12600 mg/kg	-

#### Irritation/Corrosion

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

#### Sensitisation

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

#### Information on the likely routes of exposure

Random Primers Not available.  
5X Reaction Buffer Not available.  
10X dNTP Mix Not available.  
Exo (-) Klenow Not available.  
Cyanine-3-dUTP Not available.  
Cyanine-5-dUTP Not available.

#### Potential acute health effects

##### Eye contact

Random Primers No known significant effects or critical hazards.  
5X Reaction Buffer 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

<b>Inhalation</b>	: Random Primers 5X Reaction Buffer 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.
<b>Skin contact</b>	: Random Primers 5X Reaction Buffer 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.
<b>Ingestion</b>	: Random Primers 5X Reaction Buffer 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.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	: Random Primers 5X Reaction Buffer 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.
<b>Inhalation</b>	: Random Primers 5X Reaction Buffer 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.
<b>Skin contact</b>	: Random Primers 5X Reaction Buffer 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.
<b>Ingestion</b>	: Random Primers 5X Reaction Buffer 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.

### 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

Not available.

## Section 11. Toxicological information

<b>General</b>	: Random Primers 5X Reaction Buffer 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.
<b>Carcinogenicity</b>	: Random Primers 5X Reaction Buffer 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.
<b>Mutagenicity</b>	: Random Primers 5X Reaction Buffer 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.
<b>Teratogenicity</b>	: Random Primers 5X Reaction Buffer 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.
<b>Developmental effects</b>	: Random Primers 5X Reaction Buffer 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.
<b>Fertility effects</b>	: Random Primers 5X Reaction Buffer 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.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

## Section 12. Ecological information

### Toxicity

Not available.

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Exo (-) Klenow Glycerol	-1.76	-	low

## Section 12. Ecological information

### 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

### Regulatory information

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 73/78 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

Australia inventory (AICS) : Not determined.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### International lists

#### National inventory

## Section 15. Regulatory information

Canada	: Not determined.
China	: <input checked="" type="checkbox"/> Not determined.
Europe	: <input checked="" type="checkbox"/> All components are listed or exempted.
Japan	: Not determined.
Malaysia	: <input checked="" type="checkbox"/> Not determined.
New Zealand	: <input checked="" type="checkbox"/> Not determined.
Philippines	: <input checked="" type="checkbox"/> Not determined.
Republic of Korea	: <input checked="" type="checkbox"/> Not determined.
Taiwan	: <input checked="" type="checkbox"/> All components are listed or exempted.
United States	: At least one component is not listed.

## Section 16. Any other relevant information

### History

Date of issue/Date of revision	: 15/10/2015
Date of previous issue	: 27/06/2013.
Version	: 2

### 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 73/78 = 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
: 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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