


## SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - Europe

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Product name	<b>DNA Polymerization mix (10 mM each dATP, dCTP, dGTP, dTT)</b>	
Catalogue Number	27-2074-60	
Product description	Not available.	
Product type	Liquid.	
Other means of identification	Not available.	

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

Analytical chemistry. Analytical reagent. Research and Development

#### 1.3 Details of the supplier of the safety data sheet

<u>Supplier</u>	GE Healthcare UK Ltd Amersham Place Little Chalfont Buckinghamshire HP7 9NA England +44 0870 606 1921	<b>Hours of operation</b> 08.30 - 17.00
<b>Person who prepared the MSDS:</b> msdslifesciences@ge.com		

<b>Europe</b>	GE Healthcare Bio-Sciences GmbH Munzinger Strasse 5 D-79111 Freiburg Germany / Deutschland
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**1.4 Emergency telephone number**  
+49 0761 4543 0

#### National advisory body/Poison Centre

<b>Europe</b>	<a href="http://www.who.int/ipcs/poisons/centre/directory/euro/en/">http://www.who.int/ipcs/poisons/centre/directory/euro/en/</a>
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Mixture

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

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

<b>Product definition</b>	Mixture
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#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

**Ingredients of unknown toxicity** Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 100%

**Ingredients of unknown ecotoxicity** Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 100%

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

The product is not classified as dangerous according to Directive 67/548/EEC and its amendments.

**Classification** Not classified.



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

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

## 2.2 Label elements

### Hazard pictograms

**Signal word** No signal word.

**Hazard statements** No known significant effects or critical hazards.

### Precautionary statements

**Prevention** Not applicable.

**Response** Not applicable.

**Storage** Not applicable.

**Disposal** Not applicable.

**Hazardous ingredients** DNA Polymerization mix (10 mM each dATP, dCTP, dGTP, dTTP)

**Supplemental label elements** Not applicable.

### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** Not applicable.

**Tactile warning of danger** Not applicable.

## 2.3 Other hazards

**Other hazards which do not result in classification** Not available.

## SECTION 3: Composition/information on ingredients

Substance/mixture Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
-	-	100	Not classified.	Not classified.	[A]

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.

### Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

<b>Eye contact</b>	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>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	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.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training.

### 4.2 Most important symptoms and effects, both acute and delayed



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Potential acute health effects

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

Over-exposure signs/symptoms

<b>Eye contact</b>	No specific data.
<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Ingestion</b>	No specific data.

**4.3 Indication of any immediate medical attention and special treatment needed**

<b>Notes to physician</b>	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	No specific treatment.

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**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

<b>Suitable extinguishing media</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	None known.

**5.2 Special hazards arising from the substance or mixture**

<b>Hazards from the substance or mixture</b>	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous combustion products</b>	No specific data.

**5.3 Advice for firefighters**

<b>Special precautions for fire-fighters</b>	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>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

<b>For non-emergency personnel</b>	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.
<b>For emergency responders</b>	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions** Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**6.3 Methods and materials for containment and cleaning up**

<b>Small spill</b>	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.
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

**6.4 Reference to other sections** See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

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## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenarios).

### 7.1 Precautions for safe handling

<b>Protective measures</b>	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	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.
<b>7.2 Conditions for safe storage, including any incompatibilities</b>	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

### 7.3 Specific end use(s)

<b>Recommendations</b>	Analytical chemistry. Analytical reagent. Research and Development
<b>Industrial sector specific solutions</b>	Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenarios).

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

<b>Recommended monitoring procedures</b>	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.
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#### Derived effect levels

No DELs available.

#### Predicted effect concentrations

No PECs available.

### 8.2 Exposure controls

<b>Appropriate engineering controls</b>	No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
<b><u>Individual protection measures</u></b>	
<b>Hygiene measures</b>	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.
<b>Eye/face protection</b>	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.
<b><u>Skin protection</u></b>	
<b>Hand protection</b>	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.
<b>Body protection</b>	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.
<b>Other skin protection</b>	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.
<b>Respiratory protection</b>	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.
<b>Environmental exposure controls</b>	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.



## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	Liquid.
Colour	Colourless.
Odour	Odourless.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	[Product does not sustain combustion.]
Evaporation rate	Not available.
Flammability (solid, gas)	Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.
Burning time	Not applicable.
Burning rate	Not applicable.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.
Oxidising properties	Not available.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

10.1 Reactivity	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	The product is stable.
10.3 Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	No specific data.
10.5 Incompatible materials	No specific data.
10.6 Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.



## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Conclusion/Summary Not available.

#### Acute toxicity estimates

Not available.

#### Irritation/Corrosion

Conclusion/Summary Not available.

#### Sensitiser

Conclusion/Summary 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.

Information on the likely routes of exposure Not available.

#### Potential acute health effects

Inhalation No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Skin contact No known significant effects or critical hazards.

Eye contact No known significant effects or critical hazards.

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

Inhalation No specific data.

Ingestion No specific data.

Skin contact No specific data.

Eye contact 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.

Conclusion/Summary Not available.

General No known significant effects or critical hazards.



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<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.
<b>Other information</b>	Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

<b>Conclusion/Summary</b>	Not available.
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### 12.2 Persistence and degradability

<b>Conclusion/Summary</b>	Not available.
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### 12.3 Bioaccumulative potential

Not available.
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### 12.4 Mobility in soil

<b>Soil/water partition coefficient (<math>K_{oc}</math>)</b>	Not available.
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<b>Mobility</b>	Not available.
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### 12.5 Results of PBT and vPvB assessment

<b>PBT</b>	Not applicable.
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<b>vPvB</b>	Not applicable.
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<b>12.6 Other adverse effects</b>	No known significant effects or critical hazards.
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## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

<b>Product</b>	
<b>Methods of disposal</b>	The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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.
<b>Hazardous waste</b>	Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.
<b>Packaging</b>	
<b>Methods of disposal</b>	The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
<b>Special precautions</b>	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

	ADR/RID	ADN/ADNR	IMDG	IATA
<b>14.1 UN number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>14.2 UN proper shipping name</b>	-	-	-	-
<b>14.3 Transport hazard class(es)</b>	-	-	-	-



14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
14.6 Special precautions for user	Not available.	Not available.	Not available.	Not available.
Additional information	-	-	-	-

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

## SECTION 15: Regulatory information

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

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

#### Annex XIV - List of substances subject to authorisation

#### Substances of very high concern

None of the components are listed.

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

#### Other EU regulations

Europe inventory Not determined.

Black List Chemicals Not listed

Priority List Chemicals Not listed

Integrated pollution prevention and control list (IPPC) - Air Not listed

Integrated pollution prevention and control list (IPPC) - Water Not listed

#### International regulations

Chemical Weapons Convention List Schedule I Chemicals Not listed

Chemical Weapons Convention List Schedule II Chemicals Not listed

Chemical Weapons Convention List Schedule III Chemicals Not listed

15.2 Chemical Safety Assessment Not available.

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

#### Abbreviations and acronyms

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

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



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Classification	Justification
Not classified.	

Full text of abbreviated H statements	Not applicable.
Full text of classifications [CLP/GHS]	Not applicable.
Full text of abbreviated R phrases	Not applicable.
Full text of classifications [DSD/DPD]	Not applicable.
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**Notice to reader**

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