

SAFETY DATA SHEET



Paq5000 DNA Polymerase - 500 U, Part Number 600680

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

1.1 Product identifier

Product name : Paq5000 DNA Polymerase - 500 U, Part Number 600680
Part no. (chemical kit) : 600680
Part no. : Paq5000 DNA Polymerase 600680-51
 10X Paq5000 DNA Polymerase Buffer 600680-52

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

Identified uses : Analytical reagent.
 Paq5000 DNA Polymerase 0.1 ml (500 U 5.0 U/ µl)
 10X Paq5000 DNA Polymerase Buffer 1 ml
Uses advised against : None known.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.
 5500 Lakeside Cheadle Royal Business Park,
 Cheadle, Cheshire, SK8 3GR
 United Kingdom
 Tel: +44 (0) 345 712 5292
 0800 603 1000
e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Paq5000 DNA Polymerase Mixture
 10X Paq5000 DNA Polymerase Buffer Mixture

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

Not classified.

Ingredients of unknown toxicity : Paq5000 DNA Polymerase Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
 10X Paq5000 DNA Polymerase Buffer Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 1 - 10%
 Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%
 Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 1 - 10%

Ingredients of unknown ecotoxicity : 10X Paq5000 DNA Polymerase Buffer Contains 2.5% of components with unknown hazards to the aquatic environment

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

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

SECTION 2: Hazards identification

2.2 Label elements

Signal word	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No signal word. No signal word.
Hazard statements	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.

Precautionary statements

Prevention	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not applicable. Not applicable.
Response	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not applicable. Not applicable.
Storage	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not applicable. Not applicable.
Disposal	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not applicable. Not applicable.
Supplemental label elements	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Safety data sheet available on request. Safety data sheet available on request.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not applicable. Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not applicable. Not applicable.
Tactile warning of danger	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not applicable. Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	This mixture does not contain any substances that are assessed to be a PBT or a vPvB. This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Other hazards which do not result in classification	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	None known. None known.

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SECTION 3: Composition/information on ingredients

3.1 Substances : Paq5000 DNA Polymerase Mixture
 10X Paq5000 DNA Polymerase Mixture
 Buffer

Product/ingredient name	Identifiers	%	Classification	Type
Paq5000 DNA Polymerase Glycerol	EC: 200-289-5 CAS: 56-81-5	≥50 - ≤75	Not classified.	[1]
10X Paq5000 DNA Polymerase Buffer Trometamol	EC: 201-064-4 CAS: 77-86-1	≤7.1	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
1-Propanaminium, 2-hydroxy-n,n-dimethyl-3-sulfo-n-3-(3.alpha.,5.beta.,7.alpha.,12.alpha.)-3,7,12-trihydroxy-24-oxocholan-24-ylaminopropyl-, inner salt Ammonium sulphate	CAS: 82473-24-3 EC: 231-984-1 CAS: 7783-20-2	≤1.6 ≤1.1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Eye Irrit. 2, H319	[1] [1]
			See Section 16 for the full text of the H statements declared above.	

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type
 Paq5000 DNA Polymerase [1] Substance with a workplace exposure limit
 10X Paq5000 DNA Polymerase Buffer [1] Substance classified with a health or environmental hazard
 Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: Paq5000 DNA Polymerase	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 Paq5000 DNA Polymerase Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: Paq5000 DNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	10X Paq5000 DNA Polymerase Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	: Paq5000 DNA Polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	10X Paq5000 DNA Polymerase Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: Paq5000 DNA Polymerase	Wash out mouth with water. 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 Paq5000 DNA Polymerase Buffer	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of

SECTION 4: First aid measures

Protection of first-aiders : Paq5000 DNA
Polymerase
10X Paq5000 DNA
Polymerase Buffer

water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

Eye contact : Paq5000 DNA
Polymerase
10X Paq5000 DNA
Polymerase Buffer

No specific data.

No specific data.

Inhalation : Paq5000 DNA
Polymerase
10X Paq5000 DNA
Polymerase Buffer

No specific data.

No specific data.

Skin contact : Paq5000 DNA
Polymerase
10X Paq5000 DNA
Polymerase Buffer

No specific data.

No specific data.

Ingestion : Paq5000 DNA
Polymerase
10X Paq5000 DNA
Polymerase Buffer

No specific data.

No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Paq5000 DNA
Polymerase
10X Paq5000 DNA
Polymerase Buffer

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.

Specific treatments : Paq5000 DNA
Polymerase
10X Paq5000 DNA
Polymerase Buffer

No specific treatment.

No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Paq5000 DNA
Polymerase
10X Paq5000 DNA
Polymerase Buffer

Use an extinguishing agent suitable for the surrounding fire.

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : Paq5000 DNA
Polymerase
10X Paq5000 DNA
Polymerase Buffer

None known.

None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Paq5000 DNA
Polymerase
10X Paq5000 DNA
Polymerase Buffer

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.

SECTION 5: Firefighting measures

Hazardous combustion products	: Paq5000 DNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	10X Paq5000 DNA Polymerase Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
 5.3 Advice for firefighters		
Special protective actions for fire-fighters	: Paq5000 DNA Polymerase	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 Paq5000 DNA Polymerase Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Paq5000 DNA Polymerase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	10X Paq5000 DNA Polymerase Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Paq5000 DNA Polymerase	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 Paq5000 DNA Polymerase Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders	: Paq5000 DNA Polymerase	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 Paq5000 DNA Polymerase Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
 6.2 Environmental precautions		
	: Paq5000 DNA Polymerase	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 Paq5000 DNA Polymerase Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Paq5000 DNA Polymerase - 500 U, Part Number 600680

SECTION 6: Accidental release measures

- Methods for cleaning up** : Paq5000 DNA Polymerase 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 Paq5000 DNA Polymerase 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.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Protective measures** : Paq5000 DNA Polymerase Put on appropriate personal protective equipment (see Section 8).
10X Paq5000 DNA Polymerase Buffer Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Paq5000 DNA Polymerase 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 Paq5000 DNA Polymerase 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.

7.2 Conditions for safe storage, including any incompatibilities

- Storage** : Paq5000 DNA Polymerase 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 Paq5000 DNA Polymerase Buffer Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see 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.

7.3 Specific end use(s)

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SECTION 7: Handling and storage

Recommendations	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not available. Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Paq5000 DNA Polymerase Glycerol	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 10 mg/m ³ 8 hours. Form: Mist

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Paq5000 DNA Polymerase Glycerol	DNEL	Long term Inhalation	33 mg/m ³	General population	Local
	DNEL	Long term Inhalation	56 mg/m ³	Workers	Local
	DNEL	Long term Oral	229 mg/kg bw/day	General population	Systemic
10X Paq5000 DNA Polymerase Buffer Trometamol	DNEL	Long term Oral	8.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	29 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	83.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	117.5 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	166.7 mg/kg bw/day	Workers	Systemic
Ammonium sulphate	DNEL	Long term Inhalation	1.667 mg/m ³	General population	Systemic
	DNEL	Long term Oral	6.4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	11.167 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	12.8 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	42.667 mg/kg bw/day	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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.

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

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Liquid. Liquid.
Colour	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not available. Not available.
Odour	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not available. Not available.
Odour threshold	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not available. Not available.
Melting point/freezing point	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not available. Not available.

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SECTION 9: Physical and chemical properties

Initial boiling point and boiling range : Paq5000 DNA Polymerase Not available.
 10X Paq5000 DNA Polymerase Buffer Not available.

Flammability : Paq5000 DNA Polymerase Not applicable.
 10X Paq5000 DNA Polymerase Buffer Not applicable.

Upper/lower flammability or explosive limits : Paq5000 DNA Polymerase Not available.
 10X Paq5000 DNA Polymerase Buffer Not available.

Flash point :

Ingredient name	Closed cup		Open cup	
	°C	Method	°C	Method
Paq5000 DNA Polymerase				
Glycerol			177	

Auto-ignition temperature :

Ingredient name	°C	Method
Paq5000 DNA Polymerase		
Glycerol	370	

Decomposition temperature : Paq5000 DNA Polymerase Not available.
 10X Paq5000 DNA Polymerase Buffer Not available.

pH : Paq5000 DNA Polymerase Not available.
 10X Paq5000 DNA Polymerase Buffer 10

Viscosity : Paq5000 DNA Polymerase Not available.
 10X Paq5000 DNA Polymerase Buffer Not available.

Solubility(ies) :

Media	Result
Paq5000 DNA Polymerase water	Soluble
10X Paq5000 DNA Polymerase Buffer water	Soluble

Partition coefficient: n-octanol/water : Paq5000 DNA Polymerase Not applicable.
 10X Paq5000 DNA Polymerase Buffer Not applicable.

Vapour pressure :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Paq5000 DNA Polymerase water	23.8	3.2		92.258	12.3	
Glycerol	0.000075	0.00001		0.0025	0.00033	
10X Paq5000 DNA Polymerase Buffer						

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SECTION 9: Physical and chemical properties

water	23.8	3.2		92.258	12.3	
Trometamol	<0.00075006	<0.0001				

Evaporation rate : Paq5000 DNA Polymerase Not available.
 10X Paq5000 DNA Polymerase Buffer Not available.

Relative density : Paq5000 DNA Polymerase Not available.
 10X Paq5000 DNA Polymerase Buffer Not available.

Vapour density : Paq5000 DNA Polymerase Not available.
 10X Paq5000 DNA Polymerase Buffer Not available.

Explosive properties : Paq5000 DNA Polymerase Not available.
 10X Paq5000 DNA Polymerase Buffer Not available.

Oxidising properties : Paq5000 DNA Polymerase Not available.
 10X Paq5000 DNA Polymerase Buffer Not available.

Particle characteristics

Median particle size : Paq5000 DNA Polymerase Not applicable.
 10X Paq5000 DNA Polymerase Buffer Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : Paq5000 DNA Polymerase No specific test data related to reactivity available for this product or its ingredients.
 10X Paq5000 DNA Polymerase Buffer No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : Paq5000 DNA Polymerase The product is stable.
 10X Paq5000 DNA Polymerase Buffer The product is stable.

10.3 Possibility of hazardous reactions : Paq5000 DNA Polymerase Under normal conditions of storage and use, hazardous reactions will not occur.
 10X Paq5000 DNA Polymerase Buffer Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Paq5000 DNA Polymerase No specific data.
 10X Paq5000 DNA Polymerase Buffer No specific data.

10.5 Incompatible materials : Paq5000 DNA Polymerase May react or be incompatible with oxidising materials.
 10X Paq5000 DNA Polymerase Buffer May react or be incompatible with oxidising materials.

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SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products	: Paq5000 DNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	10X Paq5000 DNA Polymerase Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Paq5000 DNA Polymerase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
10X Paq5000 DNA Polymerase Buffer Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
Ammonium sulphate	LD50 Oral	Rat	2840 mg/kg	-

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Paq5000 DNA Polymerase Glycerol	12600	N/A	N/A	N/A	N/A
10X Paq5000 DNA Polymerase Buffer Ammonium sulphate	2840	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Paq5000 DNA Polymerase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
10X Paq5000 DNA Polymerase Buffer Trometamol	Skin - Moderate irritant	Rabbit	-	25 %	-
	Skin - Severe irritant	Rabbit	-	500 mg	-

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)

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SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
10X Paq5000 DNA Polymerase Buffer 1-Propanaminium, 2-hydroxy-n,n-dimethyl-3-sulfo-n-3-(3.alpha.,5.beta.,7.alpha.,12.alpha.)-3,7,12-trihydroxy-24-oxocholan-24-ylaminopropyl-, inner salt	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : **Paq5000 DNA Polymerase** Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
10X Paq5000 DNA Polymerase Buffer Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Inhalation : **Paq5000 DNA Polymerase** No known significant effects or critical hazards.
10X Paq5000 DNA Polymerase Buffer No known significant effects or critical hazards.

Ingestion : **Paq5000 DNA Polymerase** No known significant effects or critical hazards.
10X Paq5000 DNA Polymerase Buffer No known significant effects or critical hazards.

Skin contact : **Paq5000 DNA Polymerase** No known significant effects or critical hazards.
10X Paq5000 DNA Polymerase Buffer No known significant effects or critical hazards.

Eye contact : **Paq5000 DNA Polymerase** No known significant effects or critical hazards.
10X Paq5000 DNA Polymerase Buffer No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : **Paq5000 DNA Polymerase** No specific data.
10X Paq5000 DNA Polymerase Buffer No specific data.

Ingestion : **Paq5000 DNA Polymerase** No specific data.
10X Paq5000 DNA Polymerase Buffer No specific data.

Skin contact : **Paq5000 DNA Polymerase** No specific data.
10X Paq5000 DNA Polymerase Buffer No specific data.

Eye contact : **Paq5000 DNA Polymerase** No specific data.
10X Paq5000 DNA Polymerase Buffer 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

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SECTION 11: Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No known significant effects or critical hazards.
Carcinogenicity	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No known significant effects or critical hazards.
Mutagenicity	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No known significant effects or critical hazards.
Reproductive toxicity	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Paq5000 DNA Polymerase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Trout - Oncorhynchus mykiss	96 hours
10X Paq5000 DNA Polymerase Buffer Trometamol	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
Ammonium sulphate	Acute NOEC 520 mg/l Fresh water Chronic NOEC 7.5 mg/l Marine water	Daphnia Algae - Diatom - Phaeodactylum tricornutum - Exponential growth phase	48 hours 96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Paq5000 DNA Polymerase Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
10X Paq5000 DNA Polymerase Buffer Trometamol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97.1 % - Readily - 28 days	30 mg/l	-

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SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<input checked="" type="checkbox"/> 10X Paq5000 DNA Polymerase Buffer			
Trometamol	-	-	Readily
Ammonium sulphate	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
<input checked="" type="checkbox"/> Paq5000 DNA Polymerase			
Glycerol	-1.76	-	low
10X Paq5000 DNA Polymerase Buffer			
Trometamol	-2.31	-	low
Ammonium sulphate	-5.1	-	low

12.4 Mobility in soil

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

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.
- Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Special precautions** : This material and its container must be disposed of in a safe way. 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

Paq5000 DNA Polymerase - 500 U, Part Number 600680

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

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

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Ingredient name	CAS no.	Status
10X Paq5000 DNA Polymerase Buffer Ammonium sulphate	7783-20-2	65

Label : 10X Paq5000 DNA Polymerase Not applicable.
10X Paq5000 DNA Not applicable.
Polymerase Buffer

Seveso Directive

This product is not controlled under the Seveso Directive.

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SECTION 15: Regulatory information

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

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.
Eurasian Economic Union : **Russian Federation inventory**: Not determined.
Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.
New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : All components are listed or exempted.
Thailand : Not determined.
Turkey : Not determined.
United States : Not determined.
Viet Nam : Not determined.

SECTION 16: Other information

📌 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]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 vPvB = Very Persistent and Very Bioaccumulative

Paq5000 DNA Polymerase - 500 U, Part Number 600680

SECTION 16: Other information

Procedure used to derive the classification

Not classified.

Full text of abbreviated H statements

10X Paq5000 DNA Polymerase Buffer	
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Full text of classifications

10X Paq5000 DNA Polymerase Buffer	
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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Notice to reader

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