



## Section 2. Hazards identification

<b>Prevention</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not applicable. Not applicable.
<b>Response</b>	: Paq5000 DNA Polymerase  10X Paq5000 DNA Polymerase Buffer	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention. Not applicable.
<b>Storage</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not applicable. Not applicable.
<b>Disposal</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Not applicable. Not applicable.
<b>Supplemental label elements</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	None known. None known.
<b>2.3 Other hazards</b>		
<b>Hazards not otherwise classified</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	None known. None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Mixture Mixture
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Ingredient name	%	CAS number
<b>Paq5000 DNA Polymerase</b>		
Glycerol	≥50 - ≤75	56-81-5
<b>10X Paq5000 DNA Polymerase Buffer</b>		
Trometamol	≤7.1	77-86-1
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	≤1.6	82473-24-3
Ammonium sulphate	≤1.1	7783-20-2

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

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

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

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

<b>Eye contact</b>	: Paq5000 DNA Polymerase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
	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.
<b>Inhalation</b>	: Paq5000 DNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	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.
<b>Skin contact</b>	: Paq5000 DNA Polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	10X Paq5000 DNA Polymerase Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: Paq5000 DNA Polymerase	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	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 water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

## Section 4. First aid measures

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

#### Potential acute health effects

<b>Eye contact</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Causes eye irritation. No known significant effects or critical hazards.
<b>Inhalation</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	: Paq5000 DNA Polymerase  10X Paq5000 DNA Polymerase Buffer	Adverse symptoms may include the following: irritation watering redness No specific data.
<b>Inhalation</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No specific data. No specific data.
<b>Skin contact</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No specific data. No specific data.
<b>Ingestion</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No specific data. No specific data.

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

<b>Notes to physician</b>	: 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.
<b>Specific treatments</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No specific treatment. No specific treatment.
<b>Protection of first-aiders</b>	: Paq5000 DNA Polymerase  10X Paq5000 DNA Polymerase Buffer	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: 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.
<b>Unsuitable extinguishing media</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	None known. None known.

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

<b>Specific hazards arising from the chemical</b>	: 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.
<b>Hazardous thermal decomposition products</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides

### 5.3 Advice for firefighters

<b>Special protective actions for fire-fighters</b>	: Paq5000 DNA Polymerase 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. 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>	: Paq5000 DNA Polymerase 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. 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

<b>For non-emergency personnel</b>	: Paq5000 DNA Polymerase 10X 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. No action shall be taken involving any personal
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## Section 6. Accidental release measures


	Buffer	risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: Paq5000 DNA Polymerase	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	10X Paq5000 DNA Polymerase Buffer	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>6.2 Environmental precautions</b>	: Paq5000 DNA Polymerase	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	10X Paq5000 DNA Polymerase Buffer	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
<b>6.3 Methods and materials for containment and cleaning up</b>		
<b>Methods for cleaning up</b>	: 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.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: Paq5000 DNA Polymerase	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	10X Paq5000 DNA Polymerase Buffer	Put on appropriate personal protective equipment (see Section 8).

## Section 7. Handling and storage

<b>Advice on general occupational hygiene</b>	: Paq5000 DNA Polymerase  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. 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>	: Paq5000 DNA Polymerase  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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
<b>7.3 Specific end use(s)</b>	: Paq5000 DNA Polymerase	Industrial applications, Professional applications.
<b>Recommendations</b>	: 10X Paq5000 DNA Polymerase Buffer	Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	:  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



## Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
<b>Paq5000 DNA Polymerase</b> Glycerol	<b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Total dust <b>OSHA PEL (United States, 5/2018).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m <sup>3</sup> 8 hours. Form: Total dust
<b>10X Paq5000 DNA Polymerase Buffer</b> Trometamol 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	None. None. None.

## Biological exposure indices

No exposure indices known.

## 8.2 Exposure controls

### Appropriate engineering controls

- Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

## Environmental exposure controls

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

## Individual protection measures

## Hygiene measures

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

## Eye/face protection

- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

## Skin protection

## Hand protection

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

## Body protection

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

## Other skin protection

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



## Section 8. Exposure controls/personal protection

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


## Section 9. Physical and chemical properties and safety characteristics

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

### Appearance

- Physical state** : Paq5000 DNA Polymerase Liquid.  
10X Paq5000 DNA Polymerase Liquid.  
Buffer
- Color** : Paq5000 DNA Polymerase Not available.  
10X Paq5000 DNA Polymerase Not available.  
Buffer
- Odor** : Paq5000 DNA Polymerase Not available.  
10X Paq5000 DNA Polymerase Not available.  
Buffer
- Odor threshold** : Paq5000 DNA Polymerase Not available.  
10X Paq5000 DNA Polymerase Not available.  
Buffer
- pH** : Paq5000 DNA Polymerase Not available.  
10X Paq5000 DNA Polymerase 10  
Buffer
- Melting point/freezing point** : Paq5000 DNA Polymerase Not available.  
10X Paq5000 DNA Polymerase Not available.  
Buffer
- Boiling point, initial boiling point, and boiling range** : Paq5000 DNA Polymerase Not available.  
10X Paq5000 DNA Polymerase Not available.  
Buffer

### Flash point

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
 <b>Paq5000 DNA Polymerase</b>						
Glycerol				177	350.6	

- Evaporation rate** : Paq5000 DNA Polymerase Not available.  
10X Paq5000 DNA Polymerase Not available.  
Buffer
- Flammability** : Paq5000 DNA Polymerase Not applicable.  
10X Paq5000 DNA Polymerase Not applicable.  
Buffer
- Lower and upper explosion limit/flammability limit** : Paq5000 DNA Polymerase Not available.  
10X Paq5000 DNA Polymerase Not available.  
Buffer
- Vapor pressure** :

## Section 9. Physical and chemical properties and safety characteristics

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<b>Paq5000 DNA Polymerase</b>						
water	23.8	3.2		92.258	12.3	
Glycerol	0.000075	0.00001		0.0025	0.00033	
<b>10X Paq5000 DNA Polymerase Buffer</b>						
water	23.8	3.2		92.258	12.3	
Trometamol	<0.00075006	<0.0001				

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

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

Media	Result
<b>Paq5000 DNA Polymerase</b>	
water	Soluble
<b>10X Paq5000 DNA Polymerase Buffer</b>	
water	Soluble

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

Ingredient name	°C	°F	Method
<b>Paq5000 DNA Polymerase</b>			
Glycerol	370	698	

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

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

### Particle characteristics

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


## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	The product is stable. The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	No specific data. No specific data.
<b>10.5 Incompatible materials</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.
<b>10.6 Hazardous decomposition products</b>	: Paq5000 DNA Polymerase 10X Paq5000 DNA Polymerase Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.


## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

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

#### Irritation/Corrosion

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

## Section 11. Toxicological information

### Sensitization

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)

Name	Category	Route of exposure	Target organs
<b>10X Paq5000 DNA Polymerase Buffer</b> Trometamol	Category 3	-	Respiratory tract irritation
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 the likely routes of exposure

**Paq5000 DNA Polymerase**  
**10X Paq5000 DNA Polymerase Buffer**

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.  
Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

#### Eye contact

**Paq5000 DNA Polymerase**  
**10X Paq5000 DNA Polymerase Buffer**

Causes eye irritation.  
No known significant effects or critical hazards.

#### Inhalation

**Paq5000 DNA Polymerase**  
**10X Paq5000 DNA Polymerase Buffer**

No known significant effects or critical hazards.  
No known significant effects or critical hazards.

#### Skin contact

**Paq5000 DNA Polymerase**  
**10X Paq5000 DNA Polymerase Buffer**

No known significant effects or critical hazards.  
No known significant effects or critical hazards.

#### Ingestion

**Paq5000 DNA Polymerase**  
**10X Paq5000 DNA Polymerase Buffer**

No known significant effects or critical hazards.  
No known significant effects or critical hazards.

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

#### Eye contact

**Paq5000 DNA Polymerase**  
**10X Paq5000 DNA Polymerase Buffer**

Adverse symptoms may include the following:  
irritation  
watering  
redness  
No specific data.

## Section 11. Toxicological information

<b>Inhalation</b>	: Paq5000 DNA Polymerase	No specific data.
	10X Paq5000 DNA Polymerase	No specific data.
	Buffer	
<b>Skin contact</b>	: Paq5000 DNA Polymerase	No specific data.
	10X Paq5000 DNA Polymerase	No specific data.
	Buffer	
<b>Ingestion</b>	: Paq5000 DNA Polymerase	No specific data.
	10X Paq5000 DNA Polymerase	No specific data.
	Buffer	

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Long term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Potential chronic health effects

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

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>Paq5000 DNA Polymerase</b>					
Glycerol	12600	N/A	N/A	N/A	N/A
<b>10X Paq5000 DNA Polymerase Buffer</b>					
10X Paq5000 DNA Polymerase Buffer	284000.0	N/A	N/A	N/A	N/A
Ammonium sulphate	2840	N/A	N/A	N/A	N/A

## Section 12. Ecological information

### 12.1 Toxicity

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

### 12.2 Persistence and degradability

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<b>10X Paq5000 DNA Polymerase Buffer</b> Trometamol	-	-	Readily
Ammonium sulphate	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>Paq5000 DNA Polymerase</b> Glycerol	-1.76	-	low
<b>10X Paq5000 DNA Polymerase Buffer</b> Trometamol	-2.31	-	low
Ammonium sulphate	-5.1	-	low

### 12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

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

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

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

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

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

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

## Section 14. Transport information

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

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

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

## Section 15. Regulatory information

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

**U.S. Federal regulations** : TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
Clean Water Act (CWA) 311: Edetic acid

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

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**



## Section 15. Regulatory information

### Composition/information on ingredients


No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** :  Paq5000 DNA Polymerase  
10X Paq5000 DNA Polymerase Buffer EYE IRRITATION - Category 2B  
Not applicable.

### Composition/information on ingredients


Name	%	Classification
 Paq5000 DNA Polymerase	≥50 - ≤75	EYE IRRITATION - Category 2B
Glycerol		
<b>10X Paq5000 DNA Polymerase Buffer</b>		
Trometamol	≤7.1	COMBUSTIBLE DUSTS SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
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	≤1.6	COMBUSTIBLE DUSTS SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Ammonium sulphate	≤1.1	EYE IRRITATION - Category 2A
1-O-Octyl-β-D-glucopyranoside	≤3	COMBUSTIBLE DUSTS

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	<b>10X Paq5000 DNA Polymerase Buffer</b> Ammonium sulphate	7783-20-2	≤1.1
<b>Supplier notification</b>	<b>10X Paq5000 DNA Polymerase Buffer</b> Ammonium sulphate	7783-20-2	≤1.1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: GLYCERINE MIST  
**New York** : None of the components are listed.  
**New Jersey** :  The following components are listed: GLYCERIN  
**Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL

### California Prop. 65

 This product does not require a Safe Harbor warning under California Prop. 65.

### 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)

## Section 15. Regulatory information

Not listed.

### [UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

### [Inventory list](#)

<a href="#">Australia</a>	: Not determined.
<a href="#">Canada</a>	: Not determined.
<a href="#">China</a>	: Not determined.
<a href="#">Eurasian Economic Union</a>	: <a href="#">Russian Federation inventory</a> : Not determined.
<a href="#">Japan</a>	: <a href="#">Japan inventory (CSCL)</a> : Not determined. <a href="#">Japan inventory (ISHL)</a> : Not determined.
<a href="#">New Zealand</a>	: Not determined.
<a href="#">Philippines</a>	: Not determined.
<a href="#">Republic of Korea</a>	: Not determined.
<a href="#">Taiwan</a>	: All components are listed or exempted.
<a href="#">Thailand</a>	: Not determined.
<a href="#">Turkey</a>	: Not determined.
<a href="#">United States</a>	: Not determined.
<a href="#">Viet Nam</a>	: Not determined.

## Section 16. Other information

### [Procedure used to derive the classification](#)

Classification	Justification
<a href="#">Pq5000 DNA Polymerase</a> EYE IRRITATION - Category 2B	Calculation method

### [History](#)

<a href="#">Date of issue</a>	: 09/20/2022
<a href="#">Date of previous issue</a>	: 11/24/2019
<a href="#">Version</a>	: 6

<a href="#">Key to abbreviations</a>	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available UN = United Nations
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 Indicates information that has changed from previously issued version.

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