

SAFETY DATA SHEET



Paq5000 Hotstart DNA Polymerase, Part Number 600864

Section 1. Identification

1.1 Product identifier

Product name : Paq5000 Hotstart DNA Polymerase, Part Number 600864
Part no. (chemical kit) : 600864
Part no. : Paq5000 Hotstart DNA Polymerase 600864-51
 10X Paq5000 Hotstart DNA Polymerase Buffer 600860-52
Validation date : 3/10/2022

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

Material uses : Analytical reagent.
 Paq5000 Hotstart DNA Polymerase 1 ml (5000 U 5.0 U/μl)
 10X Paq5000 Hotstart DNA Polymerase Buffer 1 ml

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Agilent Technologies, Inc.
 5301 Stevens Creek Blvd
 Santa Clara, CA 95051, USA
 800-227-9770

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

| | |
|--|--|
| OSHA/HCS status : Paq5000 Hotstart DNA Polymerase | While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product. |
| 10X Paq5000 Hotstart DNA Polymerase Buffer | While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product. |

Classification of the substance or mixture

Not classified.

| | |
|--|--|
| Paq5000 Hotstart DNA Polymerase | Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 9.8% |
| 10X Paq5000 Hotstart DNA Polymerase Buffer | Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 2.5% |

2.2 GHS label elements

Signal word :

Section 2. Hazards identification

| | | |
|---|--|---|
| | Paq5000 Hotstart DNA Polymerase | No signal word. |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer | No signal word. |
| Hazard statements | : Paq5000 Hotstart DNA Polymerase | No known significant effects or critical hazards. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | No known significant effects or critical hazards. |
| Precautionary statements | | |
| Prevention | : Paq5000 Hotstart DNA Polymerase | Not applicable. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | Not applicable. |
| Response | : Paq5000 Hotstart DNA Polymerase | Not applicable. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | Not applicable. |
| Storage | : Paq5000 Hotstart DNA Polymerase | Not applicable. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | Not applicable. |
| Disposal | : Paq5000 Hotstart DNA Polymerase | Not applicable. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | Not applicable. |
| Supplemental label elements | : Paq5000 Hotstart DNA Polymerase | None known. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | None known. |
| 2.3 Other hazards | | |
| Hazards not otherwise classified | : Paq5000 Hotstart DNA Polymerase | None known. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | None known. |

Section 3. Composition/information on ingredients

| | | |
|--------------------------|--|---------|
| Substance/mixture | : Paq5000 Hotstart DNA Polymerase | Mixture |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | Mixture |

| Ingredient name | % | CAS number |
|--|------|------------|
| Paq5000 Hotstart DNA Polymerase | | |
| 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 | ≤3 | 82473-24-3 |
| Dodecylmethyl(3-sulphonatopropyl)ammonium | ≤3 | 14933-08-5 |
| Ammonium sulphate | ≤2.6 | 7783-20-2 |
| 10X Paq5000 Hotstart DNA Polymerase Buffer | | |
| 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.

Section 3. Composition/information on ingredients

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

| | | |
|---------------------|--|---|
| Eye contact | : Paq5000 Hotstart 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 Hotstart 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 Hotstart DNA Polymerase | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| | 10X Paq5000 Hotstart 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 Hotstart DNA Polymerase | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| Ingestion | : Paq5000 Hotstart 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 Hotstart 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. |

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

| | | |
|--------------------|--|---|
| Eye contact | : Paq5000 Hotstart DNA Polymerase | No known significant effects or critical hazards. |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer | No known significant effects or critical hazards. |
| Inhalation | : Paq5000 Hotstart DNA Polymerase | No known significant effects or critical hazards. |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer | No known significant effects or critical hazards. |

Section 4. First aid measures

| | | |
|--|--|---|
| Skin contact | : Paq5000 Hotstart DNA Polymerase | No known significant effects or critical hazards. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | No known significant effects or critical hazards. |
| Ingestion | : Paq5000 Hotstart DNA Polymerase | No known significant effects or critical hazards. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | No known significant effects or critical hazards. |
| <u>Over-exposure signs/symptoms</u> | | |
| Eye contact | : Paq5000 Hotstart DNA Polymerase | No specific data. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific data. |
| Inhalation | : Paq5000 Hotstart DNA Polymerase | No specific data. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific data. |
| Skin contact | : Paq5000 Hotstart DNA Polymerase | No specific data. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific data. |
| Ingestion | : Paq5000 Hotstart DNA Polymerase | No specific data. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific data. |

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

| | | |
|-----------------------------------|--|---|
| Notes to physician | : Paq5000 Hotstart DNA Polymerase | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Specific treatments | : Paq5000 Hotstart DNA Polymerase | No specific treatment. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific treatment. |
| Protection of first-aiders | : Paq5000 Hotstart DNA Polymerase | No action shall be taken involving any personal risk or without suitable training. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | 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

| | | |
|---------------------------------------|--|---|
| Suitable extinguishing media | : Paq5000 Hotstart DNA Polymerase | Use an extinguishing agent suitable for the surrounding fire. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | Use an extinguishing agent suitable for the surrounding fire. |
| Unsuitable extinguishing media | : Paq5000 Hotstart DNA Polymerase | None known. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | None known. |

Section 5. Fire-fighting measures

5.2 Special hazards arising from the substance or mixture

| | | |
|---|---|--|
| Specific hazards arising from the chemical | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart 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. |
| Hazardous thermal decomposition products | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart DNA Polymerase Buffer | Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides 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 Hotstart DNA Polymerase 10X Paq5000 Hotstart 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. |
| Special protective equipment for fire-fighters | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart 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

| | | |
|------------------------------------|---|--|
| For non-emergency personnel | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart 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 spilled material. Put on appropriate personal protective equipment. 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. Put on appropriate personal protective equipment. |
|------------------------------------|---|--|

Section 6. Accidental release measures

| | | |
|--------------------------------------|---|--|
| For emergency responders | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart 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". 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". |
| 6.2 Environmental precautions | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart 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). 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). |

6.3 Methods and materials for containment and cleaning up

| | | |
|--------------------------------|---|--|
| Methods for cleaning up | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart 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. 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

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

Section 7. Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

: Paq5000 Hotstart 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

10X Paq5000 Hotstart 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.

7.3 Specific end use(s)

Recommendations

: Paq5000 Hotstart DNA Polymerase
10X Paq5000 Hotstart DNA Polymerase Buffer

Industrial applications, Professional applications.

Industrial applications, Professional applications.

Industrial sector specific solutions

: Paq5000 Hotstart DNA Polymerase
10X Paq5000 Hotstart DNA Polymerase Buffer

Not available.

Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|--|-----------------|
| Paq5000 Hotstart DNA Polymerase | |
| 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 | None. |
| Dodecyldimethyl(3-sulphonatopropyl)ammonium | None. |
| Ammonium sulphate | None. |
| 10X Paq5000 Hotstart DNA Polymerase Buffer | |
| Trometamol | None. |
| 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 | None. |
| Ammonium sulphate | None. |

8.2 Exposure controls

Appropriate engineering controls

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

Section 8. Exposure controls/personal protection

- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

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

Appearance

| | | |
|-----------------------|--|----------------|
| Physical state | Paq5000 Hotstart DNA Polymerase | Liquid. |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer | Liquid. |
| | | |
| Color | Paq5000 Hotstart DNA Polymerase | Not available. |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer | Not available. |
| | | |
| Odor | Paq5000 Hotstart DNA Polymerase | Not available. |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer | Not available. |
| | | |
| Odor threshold | Paq5000 Hotstart DNA Polymerase | Not available. |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer | Not available. |
| | | |
| pH | Paq5000 Hotstart DNA Polymerase | 8.2 |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer | 10 |
| | | |

Section 9. Physical and chemical properties and safety characteristics

Melting point/freezing point : Paq5000 Hotstart DNA Polymerase Not available.

10X Paq5000 Hotstart DNA Polymerase Buffer Not available.

Boiling point, initial boiling point, and boiling range : Paq5000 Hotstart DNA Polymerase Not available.

10X Paq5000 Hotstart DNA Polymerase Buffer Not available.

Flash point : Paq5000 Hotstart DNA Polymerase Not available.

10X Paq5000 Hotstart DNA Polymerase Buffer Not available.

Evaporation rate : Paq5000 Hotstart DNA Polymerase Not available.

10X Paq5000 Hotstart DNA Polymerase Buffer Not available.

Flammability : Paq5000 Hotstart DNA Polymerase Not applicable.

10X Paq5000 Hotstart DNA Polymerase Buffer Not applicable.

Lower and upper explosion limit/flammability limit : Paq5000 Hotstart DNA Polymerase Not available.

10X Paq5000 Hotstart DNA Polymerase Buffer Not available.

Vapor pressure :

| Ingredient name | Vapor Pressure at 20°C | | | Vapor pressure at 50°C | | |
|---|------------------------|--------|--------|------------------------|------|--------|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| Paq5000 Hotstart DNA Polymerase | | | | | | |
| Water | 23.8 | 3.2 | | 92.258 | 12.3 | |
| Ammonium sulphate | 0 | 0 | | | | |
| 10X Paq5000 Hotstart DNA Polymerase Buffer | | | | | | |
| Water | 23.8 | 3.2 | | 92.258 | 12.3 | |
| Sulfuric acid, magnesium salt, hydrate (1:1:7) | <0.1 | <0.013 | | | | |

Relative vapor density : Paq5000 Hotstart DNA Polymerase Not available.

10X Paq5000 Hotstart DNA Polymerase Buffer Not available.

Relative density : Paq5000 Hotstart DNA Polymerase Not available.

10X Paq5000 Hotstart DNA Polymerase Buffer Not available.

Solubility : Paq5000 Hotstart DNA Polymerase Easily soluble in the following materials: cold water and hot water.

10X Paq5000 Hotstart DNA Polymerase Buffer Easily soluble in the following materials: cold water and hot water.

Partition coefficient: n-octanol/water : Paq5000 Hotstart DNA Polymerase Not applicable.

10X Paq5000 Hotstart DNA Polymerase Buffer Not applicable.

Section 9. Physical and chemical properties and safety characteristics

| | | |
|----------------------------------|--|----------------|
| Auto-ignition temperature | : Paq5000 Hotstart DNA Polymerase | Not available. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | Not available. |
| Decomposition temperature | : Paq5000 Hotstart DNA Polymerase | Not available. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | Not available. |
| Viscosity | : Paq5000 Hotstart DNA Polymerase | Not available. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | Not available. |

Particle characteristics

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

Section 10. Stability and reactivity

| | | |
|--|--|--|
| 10.1 Reactivity | : Paq5000 Hotstart DNA Polymerase | No specific test data related to reactivity available for this product or its ingredients. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific test data related to reactivity available for this product or its ingredients. |
| 10.2 Chemical stability | : Paq5000 Hotstart DNA Polymerase | The product is stable. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | The product is stable. |
| 10.3 Possibility of hazardous reactions | : Paq5000 Hotstart DNA Polymerase | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | Under normal conditions of storage and use, hazardous reactions will not occur. |
| 10.4 Conditions to avoid | : Paq5000 Hotstart DNA Polymerase | No specific data. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific data. |
| 10.5 Incompatible materials | : Paq5000 Hotstart DNA Polymerase | May react or be incompatible with oxidizing materials. |
| | : 10X Paq5000 Hotstart DNA Polymerase Buffer | May react or be incompatible with oxidizing materials. |
| 10.6 Hazardous decomposition products | : Paq5000 Hotstart DNA Polymerase | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| | : 10X Paq5000 Hotstart 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 Hotstart DNA Polymerase Ammonium sulphate | LD50 Oral | Rat | 2840 mg/kg | - |
| 10X Paq5000 Hotstart DNA Polymerase Buffer 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 |
|---|--|------------------|--------|----------------|-------------|
| 10X Paq5000 Hotstart DNA Polymerase Buffer Trometamol | Skin - Moderate irritant Skin - Severe irritant | Rabbit Rabbit | - - | 25 % 500 mg | - - |

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 |
|--|------------|-------------------|------------------------------|
| Paq5000 Hotstart DNA Polymerase 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 |
| Dodecyldimethyl(3-sulphonatopropyl)ammonium | Category 3 | - | Respiratory tract irritation |
| 10X Paq5000 Hotstart DNA Polymerase Buffer 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.

Section 11. Toxicological information

| | | |
|---|---|--|
| Information on the likely routes of exposure | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart DNA Polymerase Buffer | Routes of entry anticipated: Oral, Dermal, Inhalation. Routes of entry anticipated: Oral, Dermal, Inhalation. |
| <u>Potential acute health effects</u> | | |
| Eye contact | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart DNA Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Inhalation | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart DNA Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Skin contact | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart DNA Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Ingestion | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart 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 Hotstart DNA Polymerase 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific data. No specific data. |
| Inhalation | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific data. No specific data. |
| Skin contact | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific data. No specific data. |
| Ingestion | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart DNA Polymerase Buffer | No specific data. No specific data. |

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

Short term exposure

| | |
|------------------------------------|------------------|
| Potential immediate effects | : Not available. |
| Potential delayed effects | : Not available. |

Long term exposure

| | |
|------------------------------------|------------------|
| Potential immediate effects | : Not available. |
| Potential delayed effects | : Not available. |

Potential chronic health effects

| | | |
|----------------|---|--|
| General | : Paq5000 Hotstart DNA Polymerase 10X Paq5000 Hotstart DNA Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
|----------------|---|--|

Section 11. Toxicological information

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

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) |
|---|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| Paq5000 Hotstart DNA Polymerase Paq5000 Hotstart DNA Polymerase | 29521.8 | 64533.3 | N/A | 645.3 | N/A |
| Dodecyldimethyl(3-sulphonatopropyl)ammonium | 500 | 1100 | N/A | 11 | N/A |
| Ammonium sulphate | 2840 | N/A | N/A | N/A | N/A |
| 10X Paq5000 Hotstart DNA Polymerase Buffer 10X Paq5000 Hotstart DNA Polymerase Buffer | 284000 | 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 |
|---|---|---|----------------------|
| Paq5000 Hotstart DNA Polymerase Ammonium sulphate | Chronic NOEC 7.5 mg/l Marine water | Algae - Phaeodactylum tricornutum - Exponential growth phase | 96 hours |
| 10X Paq5000 Hotstart 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 - Phaeodactylum tricornutum - Exponential growth phase | 48 hours 96 hours |

12.2 Persistence and degradability

Section 12. Ecological information

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

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

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| Paq5000 Hotstart DNA Polymerase Ammonium sulphate | -5.1 | - | low |
| 10X Paq5000 Hotstart 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.

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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 13. Disposal considerations

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 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

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Paq5000 Hotstart DNA Polymerase Not applicable.
10X Paq5000 Hotstart DNA Polymerase Not applicable.
Buffer

Composition/information on ingredients

Section 15. Regulatory information

| Name | % | Classification |
|--|------|--|
| Paq5000 Hotstart DNA Polymerase [2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]ammonium hydrogen sulphate | ≤10 | COMBUSTIBLE DUSTS |
| 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 | ≤3 | COMBUSTIBLE DUSTS SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |
| Dodecyldimethyl (3-sulphonatopropyl)ammonium | ≤3 | ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |
| Ammonium sulphate | ≤2.6 | EYE IRRITATION - Category 2A |
| 10X Paq5000 Hotstart DNA Polymerase Buffer 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 | % |
|--|--|------------|------|
| Form R - Reporting requirements | Paq5000 Hotstart DNA Polymerase Ammonium sulphate | 7783-20-2 | ≤2.6 |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer Ammonium sulphate | 7783-20-2 | ≤1.1 |
| Supplier notification | Paq5000 Hotstart DNA Polymerase Ammonium sulphate | 7783-20-2 | ≤2.6 |
| | 10X Paq5000 Hotstart DNA Polymerase Buffer 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: AMMONIUM SULFATE
- New York** : None of the components are listed.
- New Jersey** : None of the components are listed.
- Pennsylvania** : The following components are listed: SULFURIC ACID DIAMMONIUM SALT
- California Prop. 65**

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

International regulations

Section 15. Regulatory information

[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. |
| Europe | : 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

[Procedure used to derive the classification](#)

| Classification | Justification |
|-----------------|---------------|
| Not classified. | |

[History](#)

| | |
|--|--------------|
| Date of issue | : 03/10/2022 |
| Date of previous issue | : 07/29/2019 |
| Version | : 6 |

[Key to abbreviations](#)

| |
|---|
| : 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 |

✔ Indicates information that has changed from previously issued version.

Section 16. Other information

[Notice to reader](#)

Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.