

SAFETY DATA SHEET



Taq2000 DNA Polymerase, Part Number 600198

Section 1. Identification

1.1 Product identifier

Product name : Taq2000 DNA Polymerase, Part Number 600198
Part No. (Chemical Kit) : 600198
Part No. : Taq2000 DNA Polymerase 600197-51
 10X Taq Polymerase Buffer 600131-82
Validation date : 5/26/2017

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

Material uses : Analytical reagent.
 Taq2000 DNA Polymerase 0.2 ml (1000 U 5 U/μl)
 10X Taq 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 : Taq2000 DNA Polymerase This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
 10X Taq 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

Taq2000 DNA Polymerase
 H320 EYE IRRITATION - Category 2B

Ingredients of unknown toxicity : Taq2000 DNA Polymerase Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%
 10X Taq Polymerase Buffer Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10%
 Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10%
 Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10%

2.2 GHS label elements

Signal word : Taq2000 DNA Polymerase Warning
 10X Taq Polymerase Buffer No signal word.

Section 2. Hazards identification

| | | |
|---|---|--|
| Hazard statements | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | H320 - Causes eye irritation. No known significant effects or critical hazards. |
| Precautionary statements | | |
| Prevention | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | P264 - Wash hands thoroughly after handling. Not applicable. |
| Response | : Taq2000 DNA Polymerase 10X Taq 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 attention. Not applicable. |
| Storage | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not applicable. Not applicable. |
| Disposal | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not applicable. Not applicable. |
| Supplemental label elements | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | None known. None known. |
| 2.3 Other hazards | | |
| Hazards not otherwise classified | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | None known. None known. |

Section 3. Composition/information on ingredients

| | | |
|--------------------------|---|--------------------|
| Substance/mixture | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Mixture Mixture |
|--------------------------|---|--------------------|

| Ingredient name | % | CAS number |
|---|-----------|------------|
| Taq2000 DNA Polymerase | | |
| Glycerol | ≥50 - ≤75 | 56-81-5 |
| 10X Taq Polymerase Buffer | | |
| Potassium chloride | ≤5 | 7447-40-7 |
| 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride | ≤2.9 | 1185-53-1 |

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 as hazardous to health or the environment and hence require reporting in this section.

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

| | | |
|--------------------|---|--|
| Eye contact | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | 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. 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. |
|--------------------|---|--|

Section 4. First aid measures

| | | |
|---------------------|---------------------------|---|
| Inhalation | : Taq2000 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 Taq 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 | : Taq2000 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 Taq Polymerase Buffer | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| Ingestion | : Taq2000 DNA Polymerase | Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. 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 Taq Polymerase Buffer | Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

| | | |
|--------------------|---|--|
| Eye contact | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Causes eye irritation. No known significant effects or critical hazards. |
| Inhalation | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |

Section 4. First aid measures

| | | |
|---------------------|---|--|
| Skin contact | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Ingestion | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |

Over-exposure signs/symptoms

| | | |
|---------------------|---|---|
| Eye contact | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Adverse symptoms may include the following: irritation watering redness No specific data. |
| Inhalation | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No specific data. No specific data. |
| Skin contact | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No specific data. No specific data. |
| Ingestion | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No specific data. No specific data. |

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

| | | |
|-----------------------------------|---|--|
| Notes to physician | : Taq2000 DNA Polymerase 10X Taq 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 | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No specific treatment. No specific treatment. |
| Protection of first-aiders | : Taq2000 DNA Polymerase 10X Taq 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

| | | |
|---------------------------------------|---|--|
| Suitable extinguishing media | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. |
| Unsuitable extinguishing media | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | None known. None known. |

5.2 Special hazards arising from the substance or mixture

| | | |
|---|---|--|
| Specific hazards arising from the chemical | : Taq2000 DNA Polymerase 10X Taq 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. Fire-fighting measures

| | | |
|---|---------------------------|--|
| Hazardous thermal decomposition products | : Taq2000 DNA Polymerase | Decomposition products may include the following materials: carbon dioxide carbon monoxide |
| | 10X Taq Polymerase Buffer | Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides |

5.3 Advice for firefighters

| | | |
|---|---------------------------|---|
| Special protective actions for fire-fighters | : Taq2000 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 Taq 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 | : Taq2000 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 Taq 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 | : Taq2000 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. |
| | 10X Taq 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. |
| For emergency responders | : Taq2000 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 Taq 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". |

Section 6. Accidental release measures

| | | |
|--------------------------------------|---------------------------|---|
| 6.2 Environmental precautions | : Taq2000 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 Taq 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). |

6.3 Methods and materials for containment and cleaning up

| | | |
|--------------------------------|---------------------------|---|
| Methods for cleaning up | : Taq2000 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 Taq 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

| | | |
|---|---------------------------|---|
| Protective measures | : Taq2000 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 Taq Polymerase Buffer | Put on appropriate personal protective equipment (see Section 8). |
| Advice on general occupational hygiene | : Taq2000 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 Taq 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. |

Section 7. Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

: Taq2000 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 Taq 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

: Taq2000 DNA Polymerase
10X Taq Polymerase Buffer

Industrial applications, Professional applications.
Industrial applications, Professional applications.

Industrial sector specific solutions

: Taq2000 DNA Polymerase
10X Taq Polymerase Buffer

Not applicable.
Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Taq2000 DNA Polymerase Glycerol | OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 6/2016). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust |
| 10X Taq Polymerase Buffer Potassium chloride 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride | None. None. |

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.

Section 8. Exposure controls/personal protection

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.
- 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

9.1 Information on basic physical and chemical properties

Appearance

| | | |
|----------------------------------|---|------------------------------------|
| Physical state | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Liquid. Liquid. |
| Color | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Odor | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Odor threshold | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| pH | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | 8 8.8 |
| Melting point | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Boiling point | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Flash point | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Evaporation rate | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Flammability (solid, gas) | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not applicable. Not applicable. |

Section 9. Physical and chemical properties

| | | |
|---|---|--|
| Lower and upper explosive (flammable) limits | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Vapor pressure | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Vapor density | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Relative density | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Solubility | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. |
| Partition coefficient: n-octanol/water | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Auto-ignition temperature | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Decomposition temperature | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |
| Viscosity | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Not available. Not available. |

Section 10. Stability and reactivity

| | | |
|--|---|--|
| 10.1 Reactivity | : Taq2000 DNA Polymerase 10X Taq 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. |
| 10.2 Chemical stability | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | The product is stable. The product is stable. |
| 10.3 Possibility of hazardous reactions | : Taq2000 DNA Polymerase 10X Taq 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. |
| 10.4 Conditions to avoid | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No specific data. No specific data. |
| 10.5 Incompatible materials | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. |
| 10.6 Hazardous decomposition products | : Taq2000 DNA Polymerase 10X Taq 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 |
|---|-----------|---------|-------------|----------|
| Taq2000 DNA Polymerase Glycerol | LD50 Oral | Rat | 12600 mg/kg | - |
| 10X Taq Polymerase Buffer Potassium chloride | LD50 Oral | Rat | 2600 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|----------------------|---------|-------|-------------------------|-------------------------|
| Taq2000 DNA Polymerase Glycerol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | | 24 hours 500 milligrams |
| 10X Taq Polymerase Buffer Potassium chloride | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|--|------------|-------------------|------------------------------|
| 10X Taq Polymerase Buffer 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride | Category 3 | Not applicable. | Respiratory tract irritation |


Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

 Taq2000 DNA Polymerase
 10X Taq Polymerase Buffer

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

Potential acute health effects

Section 11. Toxicological information

| | | |
|---------------------|---|--|
| Eye contact | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Causes eye irritation. No known significant effects or critical hazards. |
| Inhalation | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Skin contact | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Ingestion | : Taq2000 DNA Polymerase 10X Taq 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 | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | Adverse symptoms may include the following: irritation watering redness No specific data. |
| Inhalation | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No specific data. No specific data. |
| Skin contact | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No specific data. No specific data. |
| Ingestion | : Taq2000 DNA Polymerase 10X Taq 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 | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Carcinogenicity | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Mutagenicity | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Teratogenicity | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Developmental effects | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Fertility effects | : Taq2000 DNA Polymerase 10X Taq Polymerase Buffer | No known significant effects or critical hazards. No known significant effects or critical hazards. |

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|-----------------------------------|---------------|
| 10X Taq Polymerase Buffer Oral | 70270.3 mg/kg |

Section 11. Toxicological information

Section 12. Ecological information

12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|----------------------|
| Taq2000 DNA Polymerase Glycerol | Acute LC50 54000 mg/l Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| 10X Taq Polymerase Buffer Potassium chloride | Acute EC50 1337000 µg/l Fresh water Acute EC50 9.24 g/L Fresh water | Algae - Navicula seminulum Algae - Desmodesmus subspicatus | 96 hours 72 hours |
| | Acute EC50 141460 µg/l Fresh water Acute LC50 12.92 mg/l Fresh water | Daphnia - Daphnia magna Crustaceans - Pseudosida ramosa - Neonate | 48 hours 48 hours |
| | Acute LC50 880000 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |

12.2 Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|------------------|
| 10X Taq Polymerase Buffer Potassium chloride | - | - | Readily |

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| Taq2000 DNA Polymerase Glycerol | -1.76 | - | low |
| 10X Taq Polymerase Buffer Potassium chloride | -0.46 | - | 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. 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

Section 13. Disposal considerations

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 Annex II of MARPOL and the IBC Code : 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) PAIR:** Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-
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

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : **Taq2000 DNA Polymerase** Immediate (acute) health hazard
10X Taq Polymerase Buffer Not applicable.

Composition/information on ingredients

Section 15. Regulatory information

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|-----------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| <input checked="" type="checkbox"/> Taq2000 DNA Polymerase Glycerol | ≥50 - ≤75 | No. | No. | No. | Yes. | No. |
| <input checked="" type="checkbox"/> 10X Taq Polymerase Buffer Potassium chloride | ≤5 | No. | No. | No. | Yes. | No. |
| <input checked="" type="checkbox"/> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride | ≤2.9 | No. | No. | No. | Yes. | No. |

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; 1,2,3-PROPANETRIOL
- Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL
- California Prop. 65**

Not available.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

- Australia** : All components are listed or exempted.
- Canada** : All components are listed or exempted.
- China** : All components are listed or exempted.
- Europe** : All components are listed or exempted.
- Japan** : **Japan inventory (ENCS):** Not determined.
Japan inventory (ISHL): Not determined.
- Malaysia** : Not determined.
- New Zealand** : All components are listed or exempted.
- Philippines** : All components are listed or exempted.
- Republic of Korea** : Not determined.
- Taiwan** : All components are listed or exempted.
- Thailand** : Not determined.
- Turkey** : Not determined.
- United States** : All components are listed or exempted.
- Viet Nam** : Not determined.

Section 16. Other information

History

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Version : 4

✔ Indicates information that has changed from previously issued version.

Notice to reader

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