Conforms to US OSHA Hazard Communication 29CFR1910.1200

# SAFETY DATA SHEET

Agilent Technologies

Cloned Pfu DNA Polymerase AD

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Cloned Pfu DNA Polymerase AD

**Part no. (chemical kit)** : 600355

**Part no.** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | 600355-51 |
| 10X Cloned Pfu Reaction Buffer AD | 600157-82 |

**Validation date** : 7/30/2024

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

**Identified uses** : Analytical reagent.

| | | |
|---|---|---|
| Cloned Pfu DNA Polymerase AD | 0.2 ml (500 U | 2.5 U/µl) |
| 10X Cloned Pfu Reaction Buffer AD | 2 x 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** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD<br>10X Cloned Pfu Reaction Buffer AD | This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). 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

**Cloned Pfu DNA Polymerase AD**

H320 EYE IRRITATION - Category 2B

| | |
|---|---|
| 10X Cloned Pfu Reaction Buffer AD | Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 2% |

### 2.2 GHS label elements

**Signal word** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD<br>10X Cloned Pfu Reaction Buffer AD | Warning<br>No signal word. |

**Hazard statements** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD<br>10X Cloned Pfu Reaction Buffer AD | H320 - Causes eye irritation.<br>No known significant effects or critical hazards. |

**Precautionary statements**

# Section 2. Hazards identification

| | | | |
|---|---|---|---|
| **Prevention** | : | Cloned Pfu DNA Polymerase AD | Not applicable. |
| | | 10X Cloned Pfu Reaction Buffer AD | Not applicable. |
| **Response** | : | Cloned Pfu DNA Polymerase AD | P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P337 + P313 - If eye irritation persists: Get medical advice or attention. |
| | | 10X Cloned Pfu Reaction Buffer AD | Not applicable. |
| **Storage** | : | Cloned Pfu DNA Polymerase AD | Not applicable. |
| | | 10X Cloned Pfu Reaction Buffer AD | Not applicable. |
| **Disposal** | : | Cloned Pfu DNA Polymerase AD | Not applicable. |
| | | 10X Cloned Pfu Reaction Buffer AD | Not applicable. |
| **Supplemental label elements** | : | Cloned Pfu DNA Polymerase AD | None known. |
| | | 10X Cloned Pfu Reaction Buffer AD | None known. |

## 2.3 Other hazards

| | | | |
|---|---|---|---|
| **Hazards not otherwise classified** | : | Cloned Pfu DNA Polymerase AD | None known. |
| | | 10X Cloned Pfu Reaction Buffer AD | None known. |

# Section 3. Composition/information on ingredients

| | | | |
|---|---|---|---|
| **Substance/mixture** | : | Cloned Pfu DNA Polymerase AD | Mixture |
| | | 10X Cloned Pfu Reaction Buffer AD | Mixture |

| Ingredient name | % | CAS number |
|---|---|---|
| **Cloned Pfu DNA Polymerase AD** | | |
| Glycerol | ≥50 - ≤75 | 56-81-5 |
| **10X Cloned Pfu Reaction Buffer AD** | | |
| Dodecyldimethyl(3-sulphonatopropyl)ammonium | ≤3 | 14933-08-5 |

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

| | | | |
|---|---|---|---|
| **Eye contact** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| **Ingestion** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | Causes eye irritation. |
| | | 10X Cloned Pfu Reaction Buffer AD | No known significant effects or critical hazards. |
| **Inhalation** | : | Cloned Pfu DNA Polymerase AD | No known significant effects or critical hazards. |
| | | 10X Cloned Pfu Reaction Buffer AD | No known significant effects or critical hazards. |

# Section 4. First aid measures

| | | | |
|---|---|---|---|
| **Skin contact** | : | Cloned Pfu DNA Polymerase AD | No known significant effects or critical hazards. |
| | | 10X Cloned Pfu Reaction Buffer AD | No known significant effects or critical hazards. |
| **Ingestion** | : | Cloned Pfu DNA Polymerase AD | No known significant effects or critical hazards. |
| | | 10X Cloned Pfu Reaction Buffer AD | No known significant effects or critical hazards. |

**Over-exposure signs/symptoms**

| | | | |
|---|---|---|---|
| **Eye contact** | : | Cloned Pfu DNA Polymerase AD | Adverse symptoms may include the following:<br>irritation<br>watering<br>redness |
| | | 10X Cloned Pfu Reaction Buffer AD | No specific data. |
| **Inhalation** | : | Cloned Pfu DNA Polymerase AD | No specific data. |
| | | 10X Cloned Pfu Reaction Buffer AD | No specific data. |
| **Skin contact** | : | Cloned Pfu DNA Polymerase AD | No specific data. |
| | | 10X Cloned Pfu Reaction Buffer AD | No specific data. |
| **Ingestion** | : | Cloned Pfu DNA Polymerase AD | No specific data. |
| | | 10X Cloned Pfu Reaction Buffer AD | No specific data. |

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

| | | | |
|---|---|---|---|
| **Notes to physician** | : | Cloned Pfu DNA Polymerase AD | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | | 10X Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | No specific treatment. |
| | | 10X Cloned Pfu Reaction Buffer AD | No specific treatment. |
| **Protection of first-aiders** | : | Cloned Pfu DNA Polymerase AD | 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. |
| | | 10X Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | Use an extinguishing agent suitable for the surrounding fire. |
| | | 10X Cloned Pfu Reaction Buffer AD | Use an extinguishing agent suitable for the surrounding fire. |
| **Unsuitable extinguishing media** | : | Cloned Pfu DNA Polymerase AD | None known. |
| | | 10X Cloned Pfu Reaction Buffer AD | None known. |

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

# Section 5. Fire-fighting measures

| | | | |
|---|---|---|---|
| **Specific hazards arising from the chemical** | : | Cloned Pfu DNA Polymerase AD | In a fire or if heated, a pressure increase will occur and the container may burst. |
| | | 10X Cloned Pfu Reaction Buffer AD | In a fire or if heated, a pressure increase will occur and the container may burst. |
| **Hazardous thermal decomposition products** | : | Cloned Pfu DNA Polymerase AD | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide |
| | | 10X Cloned Pfu Reaction Buffer AD | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>nitrogen oxides<br>sulfur oxides<br>halogenated compounds |

## 5.3 Advice for firefighters

| | | | |
|---|---|---|---|
| **Special protective actions for fire-fighters** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | | 10X Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | Put on appropriate personal protective equipment (see Section 8). |
| **Advice on general occupational hygiene** | : | Cloned Pfu DNA Polymerase AD | 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 Cloned Pfu Reaction Buffer AD | 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 |

# Section 7. Handling and storage

contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities**

: Cloned Pfu DNA Polymerase AD

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 Cloned Pfu Reaction Buffer AD

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**

: Cloned Pfu DNA Polymerase AD
Industrial applications, Professional applications.

10X Cloned Pfu Reaction Buffer AD
Industrial applications, Professional applications.

**Industrial sector specific solutions**

: Cloned Pfu DNA Polymerase AD
Not available.

10X Cloned Pfu Reaction Buffer AD
Not available.

# Section 8. Exposure controls/personal protection

**8.1 Control parameters**

**Occupational exposure limits**

| Ingredient name | Exposure limits |
|---|---|
| **Cloned Pfu DNA Polymerase AD** | |
| Glycerol | **OSHA PEL 1989 (United States, 3/1989).**<br>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction<br>TWA: 10 mg/m³ 8 hours. Form: Total dust<br>**OSHA PEL (United States, 5/2018).**<br>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction<br>TWA: 15 mg/m³ 8 hours. Form: Total dust<br>**CAL OSHA PEL (United States, 5/2018).**<br>TWA: 5 mg/m³ 8 hours. Form: respirable fraction<br>TWA: 10 mg/m³ 8 hours. Form: total dust |
| **10X Cloned Pfu Reaction Buffer AD** | |
| Dodecyldimethyl(3-sulphonatopropyl)ammonium | None. |

# Section 8. Exposure controls/personal protection

## 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.

**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** : | Cloned Pfu DNA Polymerase AD | Liquid. |
| | 10X Cloned Pfu Reaction Buffer AD | Liquid. |
| **Color** : | Cloned Pfu DNA Polymerase AD | Not available. |
| | 10X Cloned Pfu Reaction Buffer AD | Not available. |
| **Odor** : | Cloned Pfu DNA Polymerase AD | Not available. |
| | 10X Cloned Pfu Reaction Buffer AD | Not available. |

# Section 9. Physical and chemical properties and safety characteristics

**Odor threshold** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not available. |
| 10X Cloned Pfu Reaction Buffer AD | Not available. |

**pH** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | 8.2 |
| 10X Cloned Pfu Reaction Buffer AD | 8.8 |

**Melting point/freezing point** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not available. |
| 10X Cloned Pfu Reaction Buffer AD | Not available. |

**Boiling point, initial boiling point, and boiling range** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not available. |
| 10X Cloned Pfu Reaction Buffer AD | Not available. |

**Flash point** :

| Ingredient name | Closed cup °C | Closed cup °F | Closed cup Method | Open cup °C | Open cup °F | Open cup Method |
|---|---|---|---|---|---|---|
| **Cloned Pfu DNA Polymerase AD** | | | | | | |
| Glycerol | - | - | - | 177 | 350.6 | - |

**Evaporation rate** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not available. |
| 10X Cloned Pfu Reaction Buffer AD | Not available. |

**Flammability** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not applicable. |
| 10X Cloned Pfu Reaction Buffer AD | Not applicable. |

**Lower and upper explosion limit/flammability limit** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not available. |
| 10X Cloned Pfu Reaction Buffer AD | Not available. |

**Vapor pressure** :

| Ingredient name | Vapor Pressure at 20˚C mm Hg | Vapor Pressure at 20˚C kPa | Vapor Pressure at 20˚C Method | Vapor pressure at 50˚C mm Hg | Vapor pressure at 50˚C kPa | Vapor pressure at 50˚C Method |
|---|---|---|---|---|---|---|
| **Cloned Pfu DNA Polymerase AD** | | | | | | |
| water | 17.5 | 2.3 | - | 92.258 | 12.3 | - |
| Glycerol | 0.000075 | 0.00001 | - | 0.0025 | 0.00033 | - |
| **10X Cloned Pfu Reaction Buffer AD** | | | | | | |
| water | 17.5 | 2.3 | - | 92.258 | 12.3 | - |

**Relative vapor density** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not available. |
| 10X Cloned Pfu Reaction Buffer AD | Not available. |

**Relative density** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not available. |
| 10X Cloned Pfu Reaction Buffer AD | Not available. |

**Solubility(ies)** :

| Media | Result |
|---|---|
| **Cloned Pfu DNA Polymerase AD** | |
| water | Soluble |
| **10X Cloned Pfu Reaction Buffer AD** | |
| water | Soluble |

# Section 9. Physical and chemical properties and safety characteristics

**Partition coefficient: n-octanol/water** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not applicable. |
| 10X Cloned Pfu Reaction Buffer AD | Not applicable. |

**Auto-ignition temperature** :

| Ingredient name | °C | °F | Method |
|---|---|---|---|
| **Cloned Pfu DNA Polymerase AD** | | | |
| Glycerol | 370 | 698 | - |

**Decomposition temperature** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not available. |
| 10X Cloned Pfu Reaction Buffer AD | Not available. |

**Viscosity** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not available. |
| 10X Cloned Pfu Reaction Buffer AD | Not available. |

**Particle characteristics**

**Median particle size** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Not applicable. |
| 10X Cloned Pfu Reaction Buffer AD | Not applicable. |

# Section 10. Stability and reactivity

**10.1 Reactivity** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | No specific test data related to reactivity available for this product or its ingredients. |
| 10X Cloned Pfu Reaction Buffer AD | No specific test data related to reactivity available for this product or its ingredients. |

**10.2 Chemical stability** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | The product is stable. |
| 10X Cloned Pfu Reaction Buffer AD | The product is stable. |

**10.3 Possibility of hazardous reactions** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Under normal conditions of storage and use, hazardous reactions will not occur. |
| 10X Cloned Pfu Reaction Buffer AD | Under normal conditions of storage and use, hazardous reactions will not occur. |

**10.4 Conditions to avoid** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | No specific data. |
| 10X Cloned Pfu Reaction Buffer AD | No specific data. |

**10.5 Incompatible materials** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | May react or be incompatible with oxidizing materials. |
| 10X Cloned Pfu Reaction Buffer AD | May react or be incompatible with oxidizing materials. |

**10.6 Hazardous decomposition products** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| 10X Cloned Pfu Reaction Buffer AD | 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 |
|---|---|---|---|---|
| **Cloned Pfu DNA Polymerase AD**<br>Glycerol | LD50 Oral | Rat | 12600 mg/kg | - |

### Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| **Cloned Pfu DNA Polymerase AD**<br>Glycerol | Eyes - Mild irritant<br>Skin - Mild irritant | Rabbit<br>Rabbit | -<br>- | 24 hours 500 mg<br>24 hours 500 mg | -<br>- |

### 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 |
|---|---|---|---|
| **10X Cloned Pfu Reaction Buffer AD**<br>Dodecyldimethyl(3-sulphonatopropyl)ammonium | Category 3 | - | Respiratory tract irritation |

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** :
- Cloned Pfu DNA Polymerase AD: Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
- 10X Cloned Pfu Reaction Buffer AD: Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** :
- Cloned Pfu DNA Polymerase AD: Causes eye irritation.
- 10X Cloned Pfu Reaction Buffer AD: No known significant effects or critical hazards.

**Inhalation** :
- Cloned Pfu DNA Polymerase AD: No known significant effects or critical hazards.
- 10X Cloned Pfu Reaction Buffer AD: No known significant effects or critical hazards.

# Section 11. Toxicological information

| | | | |
|---|---|---|---|
| **Skin contact** | : | Cloned Pfu DNA Polymerase AD | No known significant effects or critical hazards. |
| | | 10X Cloned Pfu Reaction Buffer AD | No known significant effects or critical hazards. |
| **Ingestion** | : | Cloned Pfu DNA Polymerase AD | No known significant effects or critical hazards. |
| | | 10X Cloned Pfu Reaction Buffer AD | No known significant effects or critical hazards. |

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

| | | | |
|---|---|---|---|
| **Eye contact** | : | Cloned Pfu DNA Polymerase AD | Adverse symptoms may include the following:<br>irritation<br>watering<br>redness |
| | | 10X Cloned Pfu Reaction Buffer AD | No specific data. |
| **Inhalation** | : | Cloned Pfu DNA Polymerase AD | No specific data. |
| | | 10X Cloned Pfu Reaction Buffer AD | No specific data. |
| **Skin contact** | : | Cloned Pfu DNA Polymerase AD | No specific data. |
| | | 10X Cloned Pfu Reaction Buffer AD | No specific data. |
| **Ingestion** | : | Cloned Pfu DNA Polymerase AD | No specific data. |
| | | 10X Cloned Pfu Reaction Buffer AD | 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** | : | Cloned Pfu DNA Polymerase AD | No known significant effects or critical hazards. |
| | | 10X Cloned Pfu Reaction Buffer AD | No known significant effects or critical hazards. |
| **Carcinogenicity** | : | Cloned Pfu DNA Polymerase AD | No known significant effects or critical hazards. |
| | | 10X Cloned Pfu Reaction Buffer AD | No known significant effects or critical hazards. |
| **Mutagenicity** | : | Cloned Pfu DNA Polymerase AD | No known significant effects or critical hazards. |
| | | 10X Cloned Pfu Reaction Buffer AD | No known significant effects or critical hazards. |
| **Reproductive toxicity** | : | Cloned Pfu DNA Polymerase AD | No known significant effects or critical hazards. |
| | | 10X Cloned Pfu Reaction Buffer AD | No known significant effects or critical hazards. |

## Numerical measures of toxicity

### Acute toxicity estimates

# Section 11. Toxicological information

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|---|---|---|---|---|
| **Cloned Pfu DNA Polymerase AD** | | | | | |
| Glycerol | 12600 | N/A | N/A | N/A | N/A |
| **10X Cloned Pfu Reaction Buffer AD** | | | | | |
| 10X Cloned Pfu Reaction Buffer AD | 22432.9 | 55000.0 | N/A | 550.0 | N/A |
| Dodecyldimethyl(3-sulphonatopropyl)ammonium | 500 | 1100 | N/A | 11 | N/A |

# Section 12. Ecological information

## 12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| **Cloned Pfu DNA Polymerase AD** | | | |
| Glycerol | Acute LC50 54000 mg/l Fresh water | Fish - *Oncorhynchus mykiss* | 96 hours |

## 12.2 Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| **Cloned Pfu DNA Polymerase AD** | | | | |
| Glycerol | 301D Ready Biodegradability - Closed Bottle Test | 93 % - 30 days | - | - |

## 12.3 Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| **Cloned Pfu DNA Polymerase AD** | | | |
| Glycerol | -1.76 | - | 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

## Section 13. Disposal considerations

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**: EDTA

**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** :

| | |
|---|---|
| Cloned Pfu DNA Polymerase AD | EYE IRRITATION - Category 2B |
| 10X Cloned Pfu Reaction Buffer AD | Not applicable. |

**Composition/information on ingredients**

# Section 15. Regulatory information

| Name | % | Classification |
|---|---|---|
| **Cloned Pfu DNA Polymerase AD**<br>Glycerol | ≥50 - ≤75 | EYE IRRITATION - Category 2B |
| **10X Cloned Pfu Reaction Buffer AD**<br>Dodecyldimethyl (3-sulphonatopropyl)ammonium | ≤3 | ACUTE TOXICITY (oral) - Category 4<br>ACUTE TOXICITY (dermal) - Category 4<br>ACUTE TOXICITY (inhalation) - Category 4<br>SKIN IRRITATION - Category 2<br>EYE IRRITATION - Category 2A<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |

## SARA 313

| | Product name | CAS number | % |
|---|---|---|---|
| **Form R - Reporting requirements** | **10X Cloned Pfu Reaction Buffer AD**<br>Ammonium sulphate | 7783-20-2 | ≤3 |
| **Supplier notification** | **10X Cloned Pfu Reaction Buffer AD**<br>Ammonium sulphate | 7783-20-2 | ≤3 |

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)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

## Inventory list

**Australia** : Not determined.

**Canada** : Not determined.

**China** : Not determined.

**Japan** : **Japan inventory (CSCL)**: Not determined.
**Japan inventory (ISHL)**: Not determined.

**New Zealand** : Not determined.

## Section 15. Regulatory information

**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 |
|---|---|
| **Cloned Pfu DNA Polymerase AD**<br>EYE IRRITATION - Category 2B | Calculation method |

**History**

**Date of issue/Date of revision** : 07/30/2024

**Date of previous issue** : 07/20/2021

**Version** : 7

**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.**

**Notice to reader**

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