



# SAFETY DATA SHEET

Issue date 10 JANUARY 2023

Version 2

## 1. IDENTIFICATION

|                         |   |
|-------------------------|---|
| <b>Product name</b>     | Cesium Klentaq C LA   |
| <b>Product No</b>       | 290   |
| <b>Recommended use</b>  | Nucleic acid amplification  |
| <b>Supplier Address</b> | DNA Polymerase Technology Inc.<br>1508 South Grand Blvd.<br>Saint Louis MO 63014<br>USA |
| <b>Phone Number</b>     | 314 771 5566  |
| <b>Fax</b>              | 314 771 5581  |
| <b>E-mail address</b>   | enzyme@klentaq.com  |
| <b>Emergency Phone</b>  | 512 289 6324  |

## 2. HAZARDS IDENTIFICATION

**Classification** Not a hazardous substance or mixture

**GHS Label elements** Not a hazardous substance or mixture

### Hazard Statement

The product contains no substances which at their given concentration, are known to be hazardous to health.

**Hazards not otherwise classified (HNOC)** None

### 3.COMPOSITION/INFORMATION ON INGREDIENTS

#### Enzyme

| Ingredient   | % by weight | CAS #     |
|--|-------------|-----------|
| Glycerol<br>HOCH <sub>2</sub> CH(OH)CH <sub>2</sub> OH   | 63          | 56-81-5   |
| Ammonium sulfate<br>(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>  | 1.9         | 7783-20-2 |
| Tris HCl<br>NH <sub>2</sub> C(CH <sub>2</sub> OH) <sub>3</sub> . HCl<br>Tris(hydroxymethyl)aminomethane hydrochloride  | <1          | 1185-53-1 |
| 2-Mercaptoethanol<br>HSCH <sub>2</sub> CH <sub>2</sub> OH<br>β-mercaptoethanol, BME  | <1          | 60-24-2   |
| Brij® 58<br>HO(CH <sub>2</sub> CH <sub>2</sub> O) <sub>20</sub> C <sub>16</sub> H <sub>33</sub><br>Polyethylene glycol hexadecyl ether   | <1          | 9004-95-9 |
| EDTA<br>(HO <sub>2</sub> CCH <sub>2</sub> ) <sub>2</sub> NCH <sub>2</sub> CH <sub>2</sub> N(CH <sub>2</sub> CO <sub>2</sub> H) <sub>2</sub><br>Ethylenediaminetetraacetic acid | <1          | 60-00-4   |
| Cesium Klentaq C DNA Polymerase  | <1          | N/A       |
| Deep Vent DNA Polymerase   | <1          | N/A       |

#### Buffer

| Ingredient   | % by weight | CAS #     |
|--|-------------|-----------|
| Tris HCl<br>NH <sub>2</sub> C(CH <sub>2</sub> OH) <sub>3</sub> . HCl<br>Tris(hydroxymethyl)aminomethane hydrochloride                  | 6.1         | 1185-53-1 |
| Ammonium sulfate<br>(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>  | 1.4         | 7783-20-2 |
| Brij® 58<br>HO(CH <sub>2</sub> CH <sub>2</sub> O) <sub>20</sub> C <sub>16</sub> H <sub>33</sub><br>Polyethylene glycol hexadecyl ether | <1          | 9004-95-9 |
| Magnesium Chloride<br>MgCl <sub>2</sub>  | <1          | 7786-30-3 |

### 4.FIRST AID MEASURES

#### First Aid Instructions

- Inhalation** Remove to fresh air.
- Skin contact** Wash skin with soap and water.
- Eye contact** Flush eyes with water.

**Ingestion** Rinse mouth with water.

**Most important symptoms and effects, both acute and delayed** No information available.

**Recommendations for medical care** Treat symptomatically.

## 5.FIRE-FIGHTING MEASURES

### **Suitable extinguishing equipment**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide, as indicated by local circumstances and the surrounding environment.

### **Specific hazards arising from the chemical**

No information available.

### **Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

## 6.ACCIDENTAL RELEASE MEASURES

### **Personal precautions and emergency procedures**

Enzyme: Avoid breathing vapors.

Enzyme and Buffer: Use of standard laboratory Personal Protective Equipment (PPE) such as a lab coat, gloves, and safety glasses is recommended. No evacuation, expert consultation, or additional PPE is required for dealing with accidental release.

### **Environmental precautions**

Do not flush this product down the drain.

### **Containment and cleanup**

Absorb with inert absorbent material and dispose with dry waste.

## 7.HANDLING AND STORAGE

**Precautions for safe handling** Handle in accordance with good industrial hygiene and safety practice.

### **Conditions for safe storage**

**Storage temperature** -20° F

**Storage Conditions** Store in original containers with lids closed.

**Incompatible materials** unknown

## 8.EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

### Exposure Guidelines

All ingredients with occupational exposure limits are listed below.

| Ingredient   | Basis | Control Parameters (TWA PEL)   | Concentration in this product (Enzyme) |
|--|-------|--|--|
| Glycerol<br>HOCH <sub>2</sub> CH(OH)CH <sub>2</sub> OH<br>CAS 56-81-5                              | OSHA  | 3<br>5 mg/m mist, total particulate<br>5 mg/m <sup>3</sup> mist, respirable fraction | 3<br>5 mg/m                            |
| 2-Mercaptoethanol<br>HSCH <sub>2</sub> CH <sub>2</sub> OH<br>β-mercaptoethanol, BME<br>CAS 60-24-2 | WEEL  | 0.2 ppm Skin   | 780 ppm                                |

### Engineering controls

Standard lab safety components such as showers, eyewash stations, and standard ventilation systems are recommended.

### Personal protection measures

Use of standard laboratory Personal Protective Equipment (PPE) such as a lab coat, gloves, and safety glasses is recommended. Keep laboratory well ventilated. Handle product in accordance with good industrial hygiene and safety practice.

## 9.PHYSICAL AND CHEMICAL PROPERTIES

|                                |                               |
|--------------------------------|-------------------------------|
| Physical state                 | liquid                        |
| Appearance                     | colorless/cloudy              |
| Odor                           | none/mild                     |
| Vapor pressure                 | No information available      |
| pH                             | <b>Enzyme 8.5, Buffer 9.2</b> |
| Relative density               | No information available      |
| Melting point / freezing point | No information available      |
| Water solubility               | No information available      |
| Solubility in other solvents   | No information available      |
| Boiling point / boiling range  | No information available      |
| Flash point                    | No information available      |
| Evaporation rate               | No information available      |
| Flammability (solid, gas)      | No information available      |
| Partition coefficient          | No information available      |
| Auto-ignition temperature      | No information available      |
| Decomposition temperature      | No information available      |
| Viscosity                      | No information available      |

## 10.STABILITY AND REACTIVITY

**Reactivity** No data available.

**Chemical stability** Stable under recommended storage conditions.

**Other** **Possibility of hazardous reactions**  
No hazardous reactions are known or expected. The product is not known to react or polymerize resulting in excess pressure, heat, or any other hazardous conditions.

**Conditions to avoid**

None

**Incompatible materials**

Strong oxidizing agents.

**Hazardous decomposition products**

None are known or expected.

**11. TOXICOLOGICAL INFORMATION****Likely routes of exposure****Inhalation** Avoid breathing vapors or mists. May cause irritation of respiratory tract.**Ingestion** Avoid ingestion.**Skin contact** Prolonged contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking.**Eye contact** Avoid eye contact. May cause redness and irritation.**Delayed, immediate, or chronic effects from short and long-term exposure** None are known or expected.**Numerical measures of toxicity****Enzyme**

| Ingredient   | % by weight | CAS #     | LD50   |
|--|-------------|-----------|--|
| Glycerol<br>HOCH <sub>2</sub> CH(OH)CH <sub>2</sub> OH   | 63          | 56-81-5   | Oral (rat) 27,200 mg/kg<br>Dermal (rabbit) > 10,000 mg/kg  |
| Ammonium sulfate<br>(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>  | 1.9         | 7783-20-2 | Oral (rat) 4,250 mg/kg<br>Dermal (rat) 2,000 mg/kg   |
| Tris HCl<br>NH <sub>2</sub> C(CH <sub>2</sub> OH) <sub>3</sub> · HCl<br>Tris(hydroxymethyl)aminomethane hydrochloride  | <1          | 1185-53-1 | Oral (rat) >5,000 mg/kg<br>Dermal (rat) >5,000 mg/kg   |
| 2-Mercaptoethanol<br>HSCH <sub>2</sub> CH <sub>2</sub> OH<br>β-mercaptoethanol, BME  | <1          | 60-24-2   | Oral (mouse) 190 mg/kg<br>Inhalation (rat) 2.05 mg/L at 4 hours<br>Dermal (rabbit) 112-224 mg/kg |
| Brij® 58<br>HO(CH <sub>2</sub> CH <sub>2</sub> O) <sub>20</sub> C <sub>16</sub> H <sub>33</sub><br>Polyethylene glycol hexadecyl ether   | <1          | 9004-95-9 | Oral (rat) 2,500 mg/kg   |
| EDTA<br>(HO <sub>2</sub> CCH <sub>2</sub> ) <sub>2</sub> NCH <sub>2</sub> CH <sub>2</sub> N(CH <sub>2</sub> CO <sub>2</sub> H) <sub>2</sub><br>Ethylenediaminetetraacetic acid | <1          | 60-00-4   | Oral (rat) 4,500 mg/kg   |
| Cesium Klentaq C DNA Polymerase  | <1          | N/A       | No information   |
| Deep Vent DNA Polymerase   | <1          | N/A       | No information   |

## Buffer

| Ingredient   | % by weight | CAS #     | LD50   |
|--|-------------|-----------|--|
| Tris HCl<br>NH <sub>2</sub> C(CH <sub>2</sub> OH) <sub>3</sub> · HCl<br>Tris(hydroxymethyl)aminomethane hydrochloride                  | 6.1         | 1185-53-1 | Oral (rat) >5,000 mg/kg<br>Dermal (rat) >5,000 mg/kg |
| Ammonium sulfate<br>(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>  | 1.4         | 7783-20-2 | Oral (rat) 4,250 mg/kg<br>Dermal (rat) 2,000 mg/kg   |
| Brij® 58<br>HO(CH <sub>2</sub> CH <sub>2</sub> O) <sub>20</sub> C <sub>16</sub> H <sub>33</sub><br>Polyethylene glycol hexadecyl ether | <1          | 9004-95-9 | Oral (rat) 2,500 mg/kg                               |
| Magnesium Chloride<br>MgCl <sub>2</sub>  | <1          | 7786-30-3 | Oral (rat) >5,000 mg/kg<br>Dermal (rat) >2,000 mg/kg |

**Symptoms of exposure** No information available.

## Potential carcinogen status

|                                  |   |
|----------------------------------|---|
| <b>NTP Report on Carcinogens</b> | Not a known or anticipated carcinogen             |
| <b>IARC Monographs</b>           | Not a probable, possible, or confirmed carcinogen |
| <b>OSHA</b>                      | Not listed  |

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Marine pollutant:** Components of this product known to be toxic to fish, aquatic invertebrates, algae, and/or bacteria are listed below.

| Component   | Fish   | Aquatic Invertebrates                    | Fresh water Algae           | Bacteria   |
|---|--|--|-----------------------------|--|
| Ammonium sulfate<br>(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub><br>CAS 7783-20-2  | LC50 (rainbow trout) 53 mg/L at 96 hours     | EC50 (water flea) 121.7 mg/L at 48 hours | ErC50 2,700 mg/L at 18 days | EC50 (activated sludge) 1,618 mg/L at 30 minutes |
| Glycerol<br>HOCH <sub>2</sub> CH(OH)CH <sub>2</sub> OH<br>CAS 56-81-5   | LC50 (rainbow trout) 54,000 mg/L at 96 hours | --                                       | --                          | --   |
| 2-Mercaptoethanol<br>HSCH <sub>2</sub> CH <sub>2</sub> OH<br>β-mercaptoethanol, BME,<br>CAS 60-24-2   | LC50 (golden orfe) 37 mg/L at 96 hours       | EC50 (water flea) 0.4 mg/L at 48 hours   | ErC50 19 mg/L at 72 hours   | EC50 (Pseudomonas putida) 113 mg/L at 17 hours   |
| EDTA<br>(HO <sub>2</sub> CCH <sub>2</sub> ) <sub>2</sub> NCH <sub>2</sub> CH <sub>2</sub> N(CH <sub>2</sub> CO <sub>2</sub> H) <sub>2</sub><br>Ethylenediaminetetraacetic acid<br>CAS 60-00-4 | LC50 (bluegill sunfish) 41 mg/L at 96 hours  | EC50 (Water flea) 625 mg/L at 24 hours   | --                          | --   |

**Persistence and degradability**

Glycerol (CAS 56-81-5) is 90% readily biodegradable.  
 2-Mercaptoethanol (CAS 60-24-2) is 69% biodegradable in 60 days  
 EDTA (CAS 60-00-4) is 0-20% biodegradable in 20 days  
 No information available about other components.

**Bioaccumulation**

EDTA (CAS 60-00-4) 80 ug/L Bluegill sunfish in 28 days  
 No information available about other components

**Mobility from soil to groundwater**

No information available

**Other adverse effects**

No information available

**13.DISPOSAL CONSIDERATIONS**

**Disposal guidelines** Dispose with dry waste, do not flush down drains. Refer to Section 8 for PPE recommendations.

**14.TRANSPORT INFORMATION**

DOT Not regulated

**15.REGULATORY INFORMATION****US Federal Regulations****SARA 311/312 Hazards**

| Chemical Name   | CAS #   | SARA 311/312 Hazards             |
|---|---------|----------------------------------|
| 2-Mercaptoethanol<br>HSCH <sub>2</sub> CH <sub>2</sub> OH<br>β-mercaptoethanol, BME | 60-24-2 | Fire Hazard, Acute Health Hazard |

**SARA 313**

The following product components are subject to reporting requirements:

| Chemical Name    | CAS #     | SARA 313 Threshold Value | Concentration in this product (Enzyme) |
|------------------|-----------|--------------------------|--|
| Ammonium sulfate | 7783-20-2 | 1.00%                    | 1.90%                                  |

**US State Regulations**

**California Proposition 65** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**Massachusetts Right To Know Components**

Ammonium sulphate CAS-No. 7783-20-2

**Pennsylvania Right To Know Components**

Polyethylene glycol hexadecyl ether CAS-No. 9004-95-9

Ammonium sulphate CAS-No. 7783-20-2

Magnesium chloride CAS-No. 7786-30-3

**New Jersey Right To Know Components** Polyethylene glycol hexadecyl ether CAS-No. 9004-95-9  
Ammonium sulphate CAS-No. 7783-20-2  
Magnesium chloride CAS-No. 7786-30-3

## **16.OTHER INFORMATION**

This document was prepared on 10JANUARY2023

### **Disclaimer**

**IMPORTANT:** The information in this SDS is provided in good faith based on our knowledge as of the issue date (or subsequent revision date, if any), and is to be used only as a guide. This SDS does not constitute a guarantee (express or implied) of any kind and we make no warranties or merchantability or fitness for a particular purpose. This information relates only to the designated product as shipped and may not be valid if the product is used in combination with any other materials or is not used in accordance with our instructions. It is the responsibility of the buyer/user to ensure that its activities comply with all applicable governmental requirements. Since conditions of use of the product are not under the control of DNA Polymerase Technology, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. DNA Polymerase Technology will not be liable for any damages resulting from handling or contact with the product.

**End of Safety  
Data Sheet**