

**1. Identification of the substance/mixture and of the company/undertaking****1.1 Identification of the substance/preparation**

**Product name** : ExcelTaq™ Klen-Taq DNA Polymerase (include buffered aqueous solution)

**Product code** : TK1000

**Recommended use** : For laboratory use. Suitable for DNA dependent DNA polymerisation / amplification.

**1.2 Company/Undertaking identification**

SMOBIO Technology, Inc.

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E-mail : [support@smobio.com](mailto:support@smobio.com)

**1.3 Emergency telephone number**

**Emergency telephone** : +886 3 5799292 (09.00-18.00 TST)

**2. Hazards identification****2.1 Classification of the substance or mixture**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS) Classification to Regulation (EC) No 1272/2008

**2.2 Label elements**

**Symbol(s)** : Void

**Signal Word** : Not dangerous

**2.3 Other information**

**Hazards deriving from physical-chemical properties** : The data available do not support any physical or chemical hazard.

**Human health hazards** : Inappropriate handling may cause formation of aerosols.

Inhalation of aerosols may cause allergic type reactions in sensitized individuals.

Prolonged skin contact may cause minor irritation.

**Caution**: Avoid inhalation, ingestion, and skin contacts.

**Environmental hazards** : The data available do not support any environmental hazard.

### 3. Composition/information on ingredient

#### 3.1 Ingredients

##### 3.1.1 ExcelTaq Klen-Taq DNA Polymerase

Chemical name	Concentration	EC No.	CAS No.	Classification
Glycerol	> 50 %	200-289-5	56-81-5	Not classified
EDTA	< 0.03 %	200-449-4	60-00-4	Xn;R20 , Acute Tox.5;H303/H319
KCl	< 0.4 %	231-211-8	7447-40-7	Not classified
Tris	< 5 %	201-064-4	77-86-1	Xi;R36-38 , H315/H319/H335

##### 3.1.2 10X Reaction Buffer

Chemical name	Concentration	EC No.	CAS No.	Classification
Tricine	< 5 %	227-193-6	5704-04-1	Not classified

#### 3.2 Other components

Components not listed here are not dangerous or their concentrations do not exceed the limits specified in the EU directive 1272/2008/EC.

#### 3.3 Additional information

For the wording of the listed risk phrases refer to section 16.

### 4. First aid measures

#### 4.1 General information

No special measures required.

#### 4.2 Description of first aid measures

**In case of ingestion :** If swallowed, rinse mouth and throat thoroughly with water.

Consult a doctor in event of any complaints.

**In case of inhalation :** If inhaled, remove victim from area of exposure. If symptoms of irritation or respiratory allergy occur, consult a doctor.

**In case of skin contact :** Generally, the product does not irritate the skin. If symptoms of irritation after prolonged exposure occur, consult a doctor.

**In case of eye contact :** Wash out opened eyes with plenty of water for several minutes. Consult a doctor in event of any complaints.

### 5. Fire fighting measures

#### 5.1 Suitable extinguishing agents

Water spray, Carbon dioxide (CO<sub>2</sub>), dry chemical powder or appropriate foam.

### 5.2 Not suitable extinguishing agents

None.

### 5.3 Special exposure hazards from decomposition products

Not thoroughly investigated.

### 5.4 Protective equipment

Wear self-contained breathing apparatus and protective clothing.

## **6. Accidental release measures**

### 6.1 Personal precautions

Wear appropriate gloves (see Section 8), safety glasses to clean small releases/spillage.

In case of vapor/aerosol formation, wear suitable respiratory protection means. Ventilate the area.

### 6.2 Environmental precautions

No special measures required.

### 6.3 Methods for cleaning up

Absorb spillages with liquid-binding material. Ventilate and wash the area after the spillage is completely removed.

### 6.4 Additional information

No dangerous substances are released.

## **7. Handling and storage**

### 7.1 Handling

No further requirements. Use appropriate personal protection measures (see Section 8). Avoid any contact with the liquid. Avoid the formation of aerosols. Ventilate area.

### 7.2 Storage

Store at - 20°C. No other specific requirements relating to the preparation.

## **8. Exposure controls/personal protection**

### 8.1 Control parameters

<u>Chemical name</u>	<u>CAS No.</u>	<u>Exposure limits</u>
Glycerol	56-81-5	TWA : 10 mg/m <sup>3</sup>
Tris	77-86-1	No data available
KCl	7447-40-7	No data available

Tricine 5704-04-1 No data available

### 8.2 Exposure controls

**Engineering measures** : Ensure adequate ventilation, especially in confined areas.

### 8.3 Personal protection

**Respiratory protection** : No special measures required.

**Hand protection** : Wear rubber gloves. No special requirements to rubber.

**Eye protection** : Safety glasses (goggles) are recommended during ordinary operations with the preparation.

**Skin protection** : The usual precautionary measures accepted in research laboratories, e.g. protective clothes (gowns). No specific requirements.

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### 9.1.1 ExcelTaq Klen-Taq DNA Polymerase

**Appearance**: Liquid.

**Color**: Colourless.

**Odor**: Odorless or weak.

**pH-value at 25°C**: ~7.5.

**Boiling point**: ~100°C.

**Flash Point**: Not applicable.

**Flammability / autoflammability**: The preparation is not flammable/self-igniting.

**Explosive properties**: The preparation does not possess explosive properties.

**Oxidizing properties**: Not applicable.

**Vapor pressure**: Not applicable.

**Relative density at 20°C**: ~1 g/cm<sup>3</sup>.

**Solubility in/miscibility with water**: Fully miscible.

**Fat solubility**: Not applicable.

**Vapor density**: Not applicable.

**Evaporation rate**: Not applicable.

**Conductivity**: Not applicable.

**Viscosity**: Slightly viscous.

#### 9.1.2 10X Reaction Buffer

**Appearance**: Liquid.

**Color**: Colourless.

**Odor**: Odorless or weak.

**pH-value at 25°C:** ~9.2.

**Boiling point:** ~100°C.

**Flash Point:** Not applicable.

**Flammability / autoflammability:** The preparation is not flammable/self-igniting.

**Explosive properties:** The preparation does not possess explosive properties.

**Oxidizing properties:** Not applicable.

**Vapor pressure:** Not applicable.

**Relative density at 20°C:** ~1 g/cm<sup>3</sup>.

**Solubility in/miscibility with water:** Fully miscible.

**Fat solubility:** Not applicable.

**Vapor density:** Not applicable.

**Evaporation rate:** Not applicable.

**Conductivity:** Not applicable.

**Viscosity:** Slightly viscous.

#### **9.2 Other information**

No further relevant information available.

### **10. Stability and reactivity**

#### **10.1 Stability**

Stable under storage conditions (see section 7).

#### **10.2 Reactivity**

No information available.

#### **10.3 Possibility of hazardous reactions**

No dangerous reactions known.

#### **10.4 Conditions to avoid**

No conditions which may cause dangerous reactions.

#### **10.5 Incompatible materials**

No in particular.

#### **10.6 Hazardous decomposition products**

No dangerous decomposition products known.

### **11. Toxicological information**

#### **11.1 Information on toxicology effects**

**Acute toxicity:**

Not hazardous.

**Inhalation:**

Inhalation of aerosols may cause allergic type reactions in sensitized individuals.

**Ingestion:**

Repeated ingestion or excessive dosage may cause irritation of the gastrointestinal tract.

**Skin and eye contact:**

Generally, the product does not irritate the skin and eyes. Prolonged skin or eye contact may cause minor irritation.

<u>Chemical name</u>	<u>LD50 Oral</u>	<u>LD50 Dermal</u>
Glycerol	12600 mg/kg (Rat)	21900 mg/kg (Rat)
Tris	5900 mg/kg(Rat)	
KCl	2600 mg/kg(Rat)	

**Chronic toxicity:**

Product does not present a chronic toxicity hazard based on known or supplied information.

**Carcinogenic effects:**

Product does not present a carcinogenic effects based on known or supplied information.

**Mutagenic effects:**

Product does not present a c mutagenic effects based on known or supplied information.

**Reproductive toxicity:**

Product does not present a reproductive toxicity hazard based on known or supplied information.

**Sensitization:**

Product does not present a sensitization hazard based on known or supplied information.

**Target organ effects:**

Product does not present a target organ effects based on known or supplied information.

**12. Ecological information****12.1 Ecotoxicity**

The preparation is considered not dangerous to the environment with respect to mobility, persistence and degradability, bioaccumulation, aquatic toxicity and other data relating to ecotoxicity.

**12.2 Persistence and degradability**

The preparation is readily biodegradable.

**12.3 Bioaccumulative potential**

It is considered that the preparation does not accumulate in biota, and does not pass through the food chain.

**12.4 Other adverse effects**

Not applicable.

**13. Disposal consideration**

**13.1 Waste treatment methods**

**Waste from residues / unused products:** Dispose of in accordance with local regulation.

**Contaminated packaging:** Empty containers should be taken to an approved waste handling site for recycling or disposal.

**14. Transport information**

**IMDG/IMO:** Non-hazardous for sea freight.

**RID:** Non-hazardous for rail transport.

**ARD:** Non-hazardous for road transport.

**ICAO/IATA:** Non-hazardous for air transport.

**Other information:** The preparation may be stored in ice during the transportation.

**15. Regulatory information**

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

No information available.

**15.2 Chemical safety assessment**

No information available.

**15.3 Regulatory information**

**US :**

**Labelling according to US Regulations:** Caution: Avoid contact and inhalation.

**US Regulatory information:** SARA LISTED: No.

**EU :**

**Labelling according to EU Guidelines:** The preparation is not dangerous within the meaning of Directives 1272/2008/EC, and is not labelled with danger symbols or indications of danger.

**Canada :**

**WHMIS classification:** This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

**DSL:** No.

NDSL: No.

**16. Other information**

**16.1 Full text of R-phrases referred to under sections 3**

R20 : Harmful by inhalation.

R36-38 : Irritating to eyes, respiratory system and skin.

**16.2 Full text of physical and health hazards referred to under sections 3**

H303 : May be harmful if swallowed.

H315 : Causes skin irritation.

H319 : Causes serious eye irritation.

H335 : May cause respiratory irritation.

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. SMOBIO shall not be held liable for any damage resulting from handling or from contact with the above product.