

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

### **1.1 Identification of the substance/preparation**

**Product name** : SMO-HiFi™ DNA Polymerase (include buffered aqueous solution)

**Product code** : TF1000

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

### **1.2 Company/Undertaking identification**

SMOBIO Technology, Inc.

3F, No.15, Industry E. 9th Rd., Science-Based Industrial Park, Hsinchu City 30075,  
Taiwan (R.O.C.)

Tel : +886 3 5799292

Fax : +886 3 5790202

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. **Except for Dithiothreitol.**

**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.

**Dithiothreitol** can be absorbed through skin; concentrated dithiothreitol may cause eye injuries, skin, respiratory and nervous system damages.

**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 SMO-HiFi DNA Polymerase**

<u>Chemical name</u>	<u>Concentration</u>	<u>EC No.</u>	<u>CAS No.</u>	<u>Classification</u>
Glycerol	> 50 %	200-289-5	56-81-5	Not classified
Dithiothreitol	< 0.02 %	222-468-7	3483-12-3	Xn;R22, 36-38 , AcuteTox.4; H302/H319/H315
KCl	< 0.4 %	231-211-8	7447-40-7	Not classified
Tris	< 0.5 %	201-064-4	77-86-1	Xi;R36-38 , H315/H319/H335

**3.1.2 10X Reaction Buffer**

<u>Chemical name</u>	<u>Concentration</u>	<u>EC No.</u>	<u>CAS No.</u>	<u>Classification</u>
Glycerol	> 50 %	200-289-5	56-81-5	Not classified
Tris	< 15 %	201-064-4	77-86-1	Xi;R36-38 , H315/H319/H335
KCl	< 15 %	231-211-8	7447-40-7	Not classified
Triton X-100	< 1.5 %	N.A.	9002-93-1	Xn;R22 , Xi;R41 , H318

**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>
Dithiothreitol	3483-12-3	No data available
Tris	77-86-1	No data available
KCl	7447-40-7	No data available
Triton X-100	9002-93-1	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 SMO HiFi 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.

**Chemical name****LD50 Oral****LD50 Dermal**

Glycerol

12600 mg/kg (Rat)

21900 mg/kg (Rat)

Tris

5900 mg/kg (Rat)

Dithiothreitol

400 mg/kg (Rat)

KCl

2600 mg/kg (Rat)

Triton X-100

4190 mg/kg (Rat)

&gt;3000 mg/kg (Rabbit)

**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.

R22 : Harmful if swallowed.

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

R41 : Risk of serious damage to eyes.

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

H302 : Harmful if swallowed.

H303 : May be harmful if swallowed.

H315 : Causes skin irritation.

H319 : Causes serious eye irritation.

H318 : Causes serious eye damage.

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.