

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

**Product name :** ExcelRT™ Reverse Transcription Kit

**Product code :** RP1300

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

**1.2 Company/Undertaking identification**

SMOBIO Technology, Inc.

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**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 ExcelRT Reverse Transcriptase

| Chemical name  | Concentration | EC No.    | CAS No.   | Classification                                |
|----------------|---------------|-----------|-----------|-----------------------------------------------|
| Glycerol       | < 50 %        | 200-289-5 | 56-81-5   | Not classified                                |
| Dithiothreitol | < 0.03 %      | 222-468-7 | 3483-12-3 | Xn;R22, 36-38 , AcuteTox.4;<br>H302/H319/H315 |
| EDTA           | < 0.03 %      | 200-449-4 | 60-00-4   | Xn;R20 , AcuteTox.5; H303/H319                |
| Tris           | < 2.5 %       | 201-064-4 | 77-86-1   | Xi;R36-38 , H315/H319/H335                    |

##### 3.1.2 RNAok RNase Inhibitor

| Chemical name  | Concentration | EC No.    | CAS No.   | Classification                                |
|----------------|---------------|-----------|-----------|-----------------------------------------------|
| Glycerol       | < 50 %        | 200-289-5 | 56-81-5   | Not classified                                |
| Dithiothreitol | < 0.2 %       | 222-468-7 | 3483-12-3 | Xn;R22, 36-38 , AcuteTox.4;<br>H302/H319/H315 |

##### 3.1.3 5X Reaction Buffer

| Chemical name  | Concentration | EC No.    | CAS No.   | Classification                                |
|----------------|---------------|-----------|-----------|-----------------------------------------------|
| Tris           | < 3.5 %       | 201-064-4 | 77-86-1   | Xi;R36-38 , H315/H319/H335                    |
| KCl            | < 3 %         | 231-211-8 | 7447-40-7 | Not classified                                |
| Dithiothreitol | < 1 %         | 222-468-7 | 3483-12-3 | Xn;R22, 36-38 , AcuteTox.4;<br>H302/H319/H315 |

#### 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. Firefighting 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          |
| EDTA                 | 60-00-4        | MAC : 2 mg/m <sup>3</sup>  |
| Tris                 | 77-86-1        | No data available          |
| KCl                  | 7447-40-7      | 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 ExcelRT Reverse Transcriptase

**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 RNAok RNase Inhibitor

**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.

#### 9.1.3 5X Reaction Buffer

**Appearance:** Liquid.

**Color:** Colourless.

**Odor:** Odorless or weak.

**pH-value at 25°C:** 8.3.

**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>.

Printed : 6/27/2025

Revised : 06/26/2025

**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.

Printed : 6/27/2025

Revised : 06/26/2025

| <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)  |                    |
| EDTA                                                                                                                                                                                                                                | 1700 mg/kg (Rat)  |                    |
| Dithiothreitol                                                                                                                                                                                                                      | 400 mg/kg (Rat)   |                    |
| KCl                                                                                                                                                                                                                                 | 2600 mg/kg (Rat)  |                    |
| <b>Chronic toxicity:</b><br>Product does not present a chronic toxicity hazard based on known or supplied information.                                                                                                              |                   |                    |
| <b>Carcinogenic effects:</b><br>Product does not present a carcinogenic effects based on known or supplied information.                                                                                                             |                   |                    |
| <b>Mutagenic effects:</b><br>Product does not present a c mutagenic effects based on known or supplied information.                                                                                                                 |                   |                    |
| <b>Reproductive toxicity:</b><br>Product does not present a reproductive toxicity hazard based on known or supplied information.                                                                                                    |                   |                    |
| <b>Sensitization:</b><br>Product does not present a sensitization hazard based on known or supplied information.                                                                                                                    |                   |                    |
| <b>Target organ effects:</b><br>Product does not present a target organ effects based on known or supplied information.                                                                                                             |                   |                    |
| <b>12. Ecological information</b>                                                                                                                                                                                                   |                   |                    |
| <b><u>12.1 Ecotoxicity</u></b><br>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. |                   |                    |
| <b><u>12.2 Persistence and degradability</u></b><br>The preparation is readily biodegradable.                                                                                                                                       |                   |                    |
| <b><u>12.3 Bioaccumulative potential</u></b><br>It is considered that the preparation does not accumulate in biota, and does not pass through the food chain.                                                                       |                   |                    |
| <b><u>12.4 Other adverse effects</u></b><br>Not applicable.                                                                                                                                                                         |                   |                    |
| <b>13. Disposal consideration</b>                                                                                                                                                                                                   |                   |                    |
| <b><u>13.1 Waste treatment methods</u></b>                                                                                                                                                                                          |                   |                    |

**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.

Printed : 6/27/2025

Revised : 06/26/2025

R22 : Harmful if swallowed.

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

**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.

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.