Material Safety Data Sheet
Revision Date: 20-July-2022

Product and Company Information
Product Name                   pEASY®-T1 Simple Cloning Kit
Cat. No.                       CT111
Company                        TransBionovo Co., Ltd.
Technical Phone                +86-400-898-0321
Fax                            +86-10-57815011
E-mail Address                 trans@transgen.com.cn

The following TransGen products are included:

pEASY®-T1 Simple Cloning Vector (10 ng/µl)
Control Template (5 ng/µl)
Control Primers (10 µM)
M13 Forward Primers (10 µM)
M13 Reverse Primers (10 µM)
SR Primers (10 µM)

Trans1-T1 Phage Resistant Chemically Competent Cell
Material Safety Data Sheet
Revision Date: 20-July-2022

1. Product and Company Information
Product Name  
*pEASY*-T1 Simple Cloning Vector (10 ng/µl)
Cat. No.      
CT111-0101
Company       
TransBionovo Co., Ltd.
Technical Phone 
+86-400-898-0321
Fax           
+86-10-57815011
E-mail Address 
trans@transgen.com.cn

2. Hazards Identification
Not hazardous
Potential Health effects
| Eyes            | May cause eye irritation with susceptible persons. |
| Skin            | May cause skin irritation in susceptible persons. |
| Inhalation      | May be harmful by inhalation.                     |
| Ingestion       | May be harmful if swallowed.                     |

3. Composition
The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

4. First Aid Measures
General advice  
In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
Eye contact    
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact   
Wash off immediately with plenty of water for at least 15 minutes.
Inhalation     
Move to fresh air.
Ingestion

Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Not an expected route of exposure.

Notes to physician
Treat symptomatically.

5. Fire-Fighting Measures

Suitable extinguishing media
Water spray. Carbon dioxide (CO$_2$). Foam. Dry chemical

Special protective equipment for firefighters
Wear self-contained breathing apparatus and protective suit.

6. Accidental Release Measures

Personal precautions
Use personal protective equipment.

Methods for cleaning up
Soak up with inert absorbent material.

Environmental precautions
Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Precautions for safe handling
Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage
Keep in a dry, cool and well-ventilated place.

8. Exposure Controls/Personal Protection

Exposure limits: We are not aware of any national exposure limit.

9. Physical and Chemical Properties

General Information

Form:
Liquid

Water solubility:
Soluble

Others:
No information available.

10. Stability and Reactivity
Stability: Stable under normal conditions
Materials to avoid: Strong oxidizing agents, Hydrogen fluoride
Hazardous decomposition: no data available

11. Toxicological Information
Acute toxicity - No information available.

<table>
<thead>
<tr>
<th>Principle Routes of Exposure/ Potential Health effects</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>May cause eye irritation with susceptible persons.</td>
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<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Carcinogenic effects</td>
<td>No information available.</td>
</tr>
<tr>
<td>Mutagenic effects</td>
<td>No information available.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

12. Ecological Information
Ecotoxicity effects: No information available.
Mobility: No information available.
Biodegradation: Inherently biodegradable.
Bioaccumulation: Does not bioaccumulate.

13. Disposal Considerations
Dispose of in accordance with local regulations.

14. Transport Information
IATA: Not dangerous goods
Proper shipping name: Not classified as dangerous in the meaning of transport regulations
Hazard class: none
15. Regulatory Information

| International Inventories | Complies |

16. Other Information

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

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End of Safety Data Sheet
1. Product and Company Information

Product Name: Control Template (5 ng/µl)
Cat. No.: CT101-0102
Company: TransBionovo Co., Ltd.
Technical Phone: +86-400-898-0321
Fax: +86-10-57815011
E-mail Address: trans@transgen.com.cn

2. Hazards Identification

Not hazardous

Potential Health effects
- **Eyes**: May cause eye irritation with susceptible persons.
- **Skin**: May cause skin irritation in susceptible persons.
- **Inhalation**: May be harmful by inhalation.
- **Ingestion**: May be harmful if swallowed.

3. Composition

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

4. First Aid Measures

**General advice**: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

- **Eye contact**: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
- **Skin contact**: Wash off immediately with plenty of water for at least 15 minutes.
- **Inhalation**: Move to fresh air.
Ingestion

Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Not an expected route of exposure.

Notes to physician

Treat symptomatically.

5. **Fire-Fighting Measures**

Suitable extinguishing media

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical

Special protective equipment for firefighters

Wear self-contained breathing apparatus and protective suit.

6. **Accidental Release Measures**

Personal precautions

Use personal protective equipment.

Methods for cleaning up

Soak up with inert absorbent material.

Environmental precautions

Prevent further leakage or spillage if safe to do so.

7. **Handling and Storage**

Precautions for safe handling

Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage

Keep in a dry, cool and well-ventilated place.

8. **Exposure Controls/Personal Protection**

Exposure limits: We are not aware of any national exposure limit.

9. **Physical and Chemical Properties**

General Information

Form: Liquid

Water solubility: Soluble

Others: No information available.

10. **Stability and Reactivity**
Stability | Stable under normal conditions
---|---
Materials to avoid | Strong oxidizing agents, Hydrogen fluoride
Hazardous decomposition | no data available

### 11. Toxicological Information

**Acute toxicity** - No information available.

- **Principle Routes of Exposure**/
  **Potential Health effects**
  - **Eyes**: May cause eye irritation with susceptible persons.
  - **Skin**: May cause skin irritation in susceptible persons.
  - **Inhalation**: May be harmful by inhalation.
  - **Ingestion**: May be harmful if swallowed.
  - **Carcinogenic effects**: No information available.
  - **Mutagenic effects**: No information available.
  - **Reproductive toxicity**: No information available.
  - **Sensitization**: No information available.

### 12. Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxicity effects</th>
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<tbody>
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<tr>
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</table>

### 13. Disposal Considerations

Dispose of in accordance with local regulations.

### 14. Transport Information

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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Hazard class</td>
<td>none</td>
</tr>
</tbody>
</table>
15. Regulatory Information

International Inventories | Complies

16. Other Information

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End of Safety Data Sheet
Material Safety Data Sheet
Revision Date: 20-July-2022

1. Product and Company Information
Product Name  Control Primers (10 µM)
Cat. No. CT101-0103
Company TransBionovo Co., Ltd.
Technical Phone +86-400-898-0321
Fax +86-10-57815011
E-mail Address trans@transgen.com.cn

2. Hazards Identification
Not hazardous

Potential Health effects
- **Eyes**: May cause eye irritation with susceptible persons.
- **Skin**: May cause skin irritation in susceptible persons.
- **Inhalation**: May be harmful by inhalation.
- **Ingestion**: May be harmful if swallowed.

3. Composition
The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

4. First Aid Measures
- **General advice**: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- **Eye contact**: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
- **Skin contact**: Wash off immediately with plenty of water for at least 15 minutes.
- **Inhalation**: Move to fresh air.
**Ingestion**

Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Not an expected route of exposure.

**Notes to physician**

Treat symptomatically.

---

### 5. Fire-Fighting Measures

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Water spray. Carbon dioxide (CO₂). Foam. Dry chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special protective equipment for firefighters</td>
<td>Wear self-contained breathing apparatus and protective suit.</td>
</tr>
</tbody>
</table>

---

### 6. Accidental Release Measures

<table>
<thead>
<tr>
<th>Personal precautions</th>
<th>Use personal protective equipment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods for cleaning up</td>
<td>Soak up with inert absorbent material.</td>
</tr>
<tr>
<td>Environmental precautions</td>
<td>Prevent further leakage or spillage if safe to do so.</td>
</tr>
</tbody>
</table>

---

### 7. Handling and Storage

<table>
<thead>
<tr>
<th>Precautions for safe handling</th>
<th>Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions for safe storage</td>
<td>Keep in a dry, cool and well-ventilated place.</td>
</tr>
</tbody>
</table>

---

### 8. Exposure Controls/Personal Protection

Exposure limits: We are not aware of any national exposure limit.

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### 9. Physical and Chemical Properties

**General Information**

<table>
<thead>
<tr>
<th>Form:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water solubility:</td>
<td>Soluble</td>
</tr>
<tr>
<td>Others:</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

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### 10. Stability and Reactivity
Stability | Stable under normal conditions
---|---
Materials to avoid | Strong oxidizing agents, Hydrogen fluoride
Hazardous decomposition | no data available

### 11. Toxicological Information

**Acute toxicity** - No information available.

**Principle Routes of Exposure/ Potential Health effects**

- **Eyes** | May cause eye irritation with susceptible persons.
- **Skin** | May cause skin irritation in susceptible persons.
- **Inhalation** | May be harmful by inhalation.
- **Ingestion** | May be harmful if swallowed.
- **Carcinogenic effects** | No information available.
- **Mutagenic effects** | No information available.
- **Reproductive toxicity** | No information available.
- **Sensitization** | No information available.

### 12. Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxicity effects</th>
<th>No information available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>No information available.</td>
</tr>
<tr>
<td>Biodegradation</td>
<td>Inherently biodegradable.</td>
</tr>
<tr>
<td>Bioaccumulation</td>
<td>Does not bioaccumulate.</td>
</tr>
</tbody>
</table>

### 13. Disposal Considerations

Dispose of in accordance with local regulations.

### 14. Transport Information

<table>
<thead>
<tr>
<th>IATA</th>
<th>Not dangerous goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name</td>
<td>Not classified as dangerous in the meaning of transport regulations</td>
</tr>
<tr>
<td>Hazard class</td>
<td>none</td>
</tr>
</tbody>
</table>

TransBionovo Co., Ltd.
15. Regulatory Information
International Inventories | Complies

16. Other Information
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End of Safety Data Sheet
Material Safety Data Sheet
Revision Date: 20-July-2022

1. Product and Company Information
Product Name: M13 Forward Primers (10 µM)
Cat. No.: GJ101-01
Company: TransBionovo Co., Ltd.
Technical Phone: +86-400-898-0321
Fax: +86-10-57815011
E-mail Address: trans@transgen.com.cn

2. Hazards Identification
Not hazardous

Potential Health effects
- **Eyes**: May cause eye irritation with susceptible persons.
- **Skin**: May cause skin irritation in susceptible persons.
- **Inhalation**: May be harmful by inhalation.
- **Ingestion**: May be harmful if swallowed.

3. Composition
The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

4. First Aid Measures
General advice: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- **Eye contact**: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
- **Skin contact**: Wash off immediately with plenty of water for at least 15 minutes.
- **Inhalation**: Move to fresh air.
5. **Fire-Fighting Measures**

- **Suitable extinguishing media**: Water spray. Carbon dioxide (CO₂). Foam. Dry chemical
- **Special protective equipment for firefighters**: Wear self-contained breathing apparatus and protective suit.

6. **Accidental Release Measures**

- **Personal precautions**: Use personal protective equipment.
- **Methods for cleaning up**: Soak up with inert absorbent material.
- **Environmental precautions**: Prevent further leakage or spillage if safe to do so.

7. **Handling and Storage**

- **Precautions for safe handling**: Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.
- **Conditions for safe storage**: Keep in a dry, cool and well-ventilated place.

8. **Exposure Controls/Personal Protection**

- **Exposure limits**: We are not aware of any national exposure limit.

9. **Physical and Chemical Properties**

- **General Information**
  - **Form**: Liquid
  - **Water solubility**: Soluble
  - **Others**: No information available.

10. **Stability and Reactivity**
<table>
<thead>
<tr>
<th>Stability</th>
<th>Stable under normal conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials to avoid</td>
<td>Strong oxidizing agents, Hydrogen fluoride</td>
</tr>
<tr>
<td>Hazardous decomposition</td>
<td>no data available</td>
</tr>
</tbody>
</table>

### 11. Toxicological Information

**Acute toxicity - No information available.**

<table>
<thead>
<tr>
<th>Principle Routes of Exposure/ Potential Health effects</th>
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<tbody>
<tr>
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<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Carcinogenic effects</td>
<td>No information available.</td>
</tr>
<tr>
<td>Mutagenic effects</td>
<td>No information available.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>No information available.</td>
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### 12. Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxicity effects</th>
<th>No information available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>No information available.</td>
</tr>
<tr>
<td>Biodegradation</td>
<td>Inherently biodegradable.</td>
</tr>
<tr>
<td>Bioaccumulation</td>
<td>Does not bioaccumulate.</td>
</tr>
</tbody>
</table>

### 13. Disposal Considerations

Dispose of in accordance with local regulations.

### 14. Transport Information

<table>
<thead>
<tr>
<th>IATA</th>
<th>Not dangerous goods</th>
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<tbody>
<tr>
<td>Proper shipping name</td>
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</tr>
<tr>
<td>Hazard class</td>
<td>none</td>
</tr>
</tbody>
</table>

TransBionovo Co., Ltd.
15. Regulatory Information
International Inventories | Complies

16. Other Information
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End of Safety Data Sheet
Material Safety Data Sheet
Revision Date: 20-July-2022

1. **Product and Company Information**

Product Name: M13 Reverse Primers (10 µM)
Cat. No.: GJ101-11
Company: TransBionovo Co., Ltd.
Technical Phone: +86-400-898-0321
Fax: +86-10-57815011
E-mail Address: trans@transgen.com.cn

2. **Hazards Identification**

Not hazardous

**Potential Health effects**

<table>
<thead>
<tr>
<th>Eyes</th>
<th>May cause eye irritation with susceptible persons.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>May cause skin irritation in susceptible persons.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>May be harmful by inhalation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
</tbody>
</table>

3. **Composition**

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

4. **First Aid Measures**

**General advice**

In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**Eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact**

Wash off immediately with plenty of water for at least 15 minutes.

**Inhalation**

Move to fresh air.
Ingestion
Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Not an expected route of exposure.

Notes to physician Treat symptomatically.

5. Fire-Fighting Measures

Suitable extinguishing media Water spray. Carbon dioxide (CO₂). Foam. Dry chemical
Special protective equipment for firefighters Wear self-contained breathing apparatus and protective suit.

6. Accidental Release Measures

Personal precautions Use personal protective equipment.
Methods for cleaning up Soak up with inert absorbent material.
Environmental precautions Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Precautions for safe handling Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.
Conditions for safe storage Keep in a dry, cool and well-ventilated place.

8. Exposure Controls/Personal Protection

Exposure limits: We are not aware of any national exposure limit.

9. Physical and Chemical Properties

General Information
Form: Liquid
Water solubility: Soluble
Others: No information available.

10. Stability and Reactivity
Stability
Materials to avoid
Hazardous decomposition

Stable under normal conditions
Strong oxidizing agents, Hydrogen fluoride
no data available

11. Toxicological Information
Acute toxicity - No information available.

Principle Routes of Exposure/ Potential Health effects
Eyes
Skin
Inhalation
Ingestion
Carcinogenic effects
Mutagenic effects
Reproductive toxicity
Sensitization
May cause eye irritation with susceptible persons.
May cause skin irritation in susceptible persons.
May be harmful by inhalation.
May be harmful if swallowed.
No information available.
No information available.
No information available.
No information available.

12. Ecological Information
Ecotoxicity effects
Mobility
Biodegradation
Bioaccumulation
No information available.
No information available.
Inherently biodegradable.
Does not bioaccumulate.

13. Disposal Considerations
Dispose of in accordance with local regulations.

14. Transport Information
IATA
Proper shipping name
Hazard class
Not dangerous goods
Not classified as dangerous in the meaning of transport regulations
none
15. Regulatory Information

International Inventories | Complies

16. Other Information

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End of Safety Data Sheet
1. Product and Company Information

Product Name: SR Primers (10 µM)
Cat. No.: GJ401-01
Company: TransBionovo Co., Ltd.
Technical Phone: +86-400-898-0321
Fax: +86-10-57815011
E-mail Address: trans@transgen.com.cn

2. Hazards Identification

Not hazardous

Potential Health effects

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3. Composition

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

4. First Aid Measures

General advice: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact: Wash off immediately with plenty of water for at least 15 minutes.

Inhalation: Move to fresh air.
Ingestion: Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Not an expected route of exposure.

Notes to physician: Treat symptomatically.

5. Fire-Fighting Measures
- Suitable extinguishing media: Water spray. Carbon dioxide (CO₂). Foam. Dry chemical
- Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit.

6. Accidental Release Measures
- Personal precautions: Use personal protective equipment.
- Methods for cleaning up: Soak up with inert absorbent material.
- Environmental precautions: Prevent further leakage or spillage if safe to do so.

7. Handling and Storage
- Precautions for safe handling: Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.
- Conditions for safe storage: Keep in a dry, cool and well-ventilated place.

8. Exposure Controls/Personal Protection
Exposure limits: We are not aware of any national exposure limit.

9. Physical and Chemical Properties
   General Information
   - Form: Liquid
   - Water solubility: Soluble
   - Others: No information available.

10. Stability and Reactivity
Stability | Stable under normal conditions
---|---
Materials to avoid | Strong oxidizing agents, Hydrogen fluoride
Hazardous decomposition | no data available

11. Toxicological Information
Acute toxicity - No information available.

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<td>Inhalation</td>
<td>May be harmful by inhalation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Carcinogenic effects</td>
<td>No information available.</td>
</tr>
<tr>
<td>Mutagenic effects</td>
<td>No information available.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

12. Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxicity effects</th>
<th>No information available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>No information available.</td>
</tr>
<tr>
<td>Biodegradation</td>
<td>Inherently biodegradable.</td>
</tr>
<tr>
<td>Bioaccumulation</td>
<td>Does not bioaccumulate.</td>
</tr>
</tbody>
</table>

13. Disposal Considerations
Dispose of in accordance with local regulations.

14. Transport Information

<table>
<thead>
<tr>
<th>IATA</th>
<th>Not dangerous goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name</td>
<td>Not classified as dangerous in the meaning of transport regulations</td>
</tr>
<tr>
<td>Hazard class</td>
<td>none</td>
</tr>
</tbody>
</table>
15. Regulatory Information
International Inventories | Complies

16. Other Information
For research use only. Not intended for human or animal diagnostic or therapeutic uses.

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End of Safety Data Sheet
Material Safety Data Sheet
Revision Date: 20-July-2022

1. Product and Company Information

Product Name  Trans1-T1 Phage Resistant Chemically Competent Cell
Cat. No. CD501
Company TransBionovo Co., Ltd.
Technical Phone +86-400-898-0321
Fax +86-10-57815011
E-mail Address trans@transgen.com.cn

2. Hazards Identification

Not hazardous

Potential Health effects

| Eyes       | May cause eye irritation with susceptible persons. |
| Skin      | May cause skin irritation in susceptible persons. |
| Inhalation | May be harmful by inhalation. |
| Ingestion  | May be harmful if swallowed. |

3. Composition

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>5-10</td>
</tr>
</tbody>
</table>

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

4. First Aid Measures

General advice In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash off immediately with plenty of water for at least 15 minutes.

Inhalation Move to fresh air.
Ingestion

Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Not an expected route of exposure.

Notes to physician

Treat symptomatically.

5. Fire-Fighting Measures

Suitable extinguishing media
Water spray. Carbon dioxide (CO₂). Foam. Dry chemical

Special protective equipment for firefighters
Wear self-contained breathing apparatus and protective suit.

6. Accidental Release Measures

Personal precautions
Use personal protective equipment.

Methods for cleaning up
Soak up with inert absorbent material.

Environmental precautions
Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Handling
Always wear recommended Personal Protective Equipment. No special handling advice required.

Storage
Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers

8. Exposure Controls/Personal Protection

Exposure limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL (TWA)</th>
<th>OSHA (Ceiling)</th>
<th>PEL</th>
<th>ACGIH OEL (TWA)</th>
<th>ACGIH OEL (STEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>10 mg/m³</td>
<td>none</td>
<td></td>
<td>10 mg/m³</td>
<td>none</td>
</tr>
</tbody>
</table>

9. Physical and Chemical Properties

General Information

Form: liquid

Color: transparent

Water solubility: soluble
Others: No information available.

10. Stability and Reactivity

<table>
<thead>
<tr>
<th>Stability</th>
<th>Stable under normal conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials to avoid</td>
<td>No information available</td>
</tr>
<tr>
<td>Polymerization</td>
<td>None under normal processing.</td>
</tr>
</tbody>
</table>

11. Toxicological Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 (oral, rat/mouse)</th>
<th>LD50 (dermal, rat/rabbit)</th>
<th>LC50 (inhalation, rat/mouse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>= 12600 mg/kg Oral</td>
<td>no data available</td>
<td>no data available</td>
</tr>
</tbody>
</table>

Principle Routes of Exposure/ Potential Health effects

- **Eyes**: May cause eye irritation with susceptible persons.
- **Skin**: May cause skin irritation in susceptible persons.
- **Inhalation**: May be harmful if inhalation.
- **Ingestion**: May be harmful if swallowed.

Carcinogenic effects: none

Mutagenic effects: none

Reproductive toxicity: none

Sensitization: none

12. Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxicity effects</th>
<th>No information available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>See log Pow</td>
</tr>
<tr>
<td>Biodegradation</td>
<td>No information available.</td>
</tr>
<tr>
<td>Bioaccumulation</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Freshwater Algae Data</th>
<th>Water Flea Data</th>
<th>Freshwater Fish Species Data</th>
<th>Microtox Data</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 56-81-5</td>
<td></td>
<td>Daphnia species EC50=500 mg/L (24 h)</td>
<td></td>
<td></td>
<td>logPow-1.76</td>
</tr>
</tbody>
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</tr>
<tr>
<td>Hazard class</td>
<td>none</td>
</tr>
<tr>
<td>Subsidiary Class</td>
<td>none</td>
</tr>
<tr>
<td>Packing group</td>
<td>none</td>
</tr>
<tr>
<td>UN-No</td>
<td>none</td>
</tr>
</tbody>
</table>

15. Regulatory Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>-</td>
</tr>
</tbody>
</table>

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End of Safety Data Sheet