

# Material Safety Data Sheet

Revision Date: 1-June-2016



## Product and Company Information

Product Name	Fast Mutagenesis System
Cat. No.	FM111
Company	TransGen Biotech Co., Ltd.
Technical Phone	+86-400-898-0321
Fax	+86-10-57815011
E-mail Address	trans@transgen.com.cn

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### The following TransGen products are included:

*2*×*TransStart*<sup>®</sup> *FastPfu* Fly PCR SuperMix

Nuclease-free Water

DMT Enzyme

SControl Plasmid (5 ng/μl)

SControl Primers (10 μM)

DMT Chemically Competent Cell

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# Material Safety Data Sheet

Revision Date: 1-June-2016



## 1. Product and Company Information

Product Name                    2×TransStart<sup>®</sup> FastPfu Fly PCR SuperMix  
Cat. No.                           AS231  
Company                          TransGen Biotech Co., Ltd.  
Technical Phone                +86-400-898-0321  
Fax                                 +86-10-57815011  
E-mail Address                 trans@transgen.com.cn

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## 2. Hazards Identification

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

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## 3. Composition

This kit consist of Hazardous/Non-hazardous Components

Chemical Name	CAS-No	Weight %
Glycerol	56-81-5	>50

Other components:

Components not listed here are not hazardous or their concentrations do not exceed the limits specified in the OSHA Hazard Communication Standard 29 CFR 1910.1200.

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.

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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.

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## 5. Fire-Fighting Measures

Suitable extinguishing media      Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical

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

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## 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.

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## 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 properly labeled containers.

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## 8. Exposure Controls/Personal Protection

Exposure limits:

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	15 mg/m <sup>3</sup> total dust 5 mg/m <sup>3</sup> respirable fraction	none	10 mg/m <sup>3</sup>	none

## 9. Physical and Chemical Properties

General Information

Form: Liquid

Water solubility: soluble

Others: No information available.

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## 10. Stability and Reactivity

Stability	Stable under normal conditions
Materials to avoid	No information available
Hazardous decomposition	No information available
Products polymerization	Hazardous polymerisation does not occur

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## 11. Toxicological Information

### Acute toxicity - Component Information

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Glycerol	12600 mg/kg (Rat)	10 g/kg (Rabbit)	570 mg/m <sup>3</sup> (Rat)

### Principle Routes of Exposure/ Potential

#### Health effects

Eyes No information available.

Skin No information available.

Inhalation No information available.

Ingestion No information available.

Carcinogenic effects No information available.

Mutagenic effects No information available.

Reproductive toxicity No information available.

Sensitization No information available.

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## 12. Ecological Information

Ecotoxicity effects No information available.

Mobility No information available.

Biodegradation No information available.

Bioaccumulation No information available.

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## 13. Disposal Considerations

Dispose of in accordance with local regulations.

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## 14. Transport Information

IATA

Proper shipping name      Not classified as dangerous in the meaning of transport regulations

Hazard class                      none

Subsidiary Class                  none

Packing group                    none

UN-No                                none

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## 15. Regulatory Information

International Inventories	Complies
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## 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. THE INFORMATION IN THIS MSDS DOES NOT CONSTITUTE A WARRENTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PUPOSE

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**End of Safety Data Sheet**

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# Material Safety Data Sheet

Revision Date: 1-June-2016



## 1. Product and Company Information

Product Name	Nuclease-free Water
Cat. No.	GI101-01
Company	TransGen Biotech Co., Ltd.
Technical Phone	+86-400-898-0321
Fax	+86-10-57815011
E-mail Address	trans@transgen.com.cn

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## 2. Hazards Identification

Not hazardous

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## 3. Composition

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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.

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## 5. Fire-Fighting Measures

Suitable extinguishing media	Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical
Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.

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## 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.

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## 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.

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## 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

Form: Liquid

Water solubility: soluble

Others: No information available.

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## 10. Stability and Reactivity

Stability	Stable under normal conditions
Materials to avoid	No information available
Hazardous decomposition	No information available
Products polymerization	Hazardous polymerisation does not occur

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## 11. Toxicological Information

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Acute toxicity	Not hazardous
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Principle Routes of Exposure/ Potential

Health effects

Eyes

May cause eye irritation with susceptible persons.

Skin

May cause skin irritation with 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.

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## 12. Ecological Information

Ecotoxicity effects    No information available.

Mobility                No information available.

Biodegradation        Inherently biodegradable.

Bioaccumulation       Does not bioaccumulate.

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## 13. Disposal Considerations

Dispose of in accordance with local regulations.

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## 14. Transport Information

IATA

Proper shipping name    Not classified as dangerous in the meaning of transport regulations

Hazard class            none

Subsidiary Class        none

Packing group           none

UN-No                    none

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## 15. Regulatory Information

International Inventories	Complies
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## 16. Other Information

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**End of Safety Data Sheet**

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# Material Safety Data Sheet

Revision Date: 1-June-2016



## 1. Product and Company Information

Product Name DMT Enzyme  
Cat. No. GD111-01  
Company TransGen Biotech Co., Ltd.  
Technical Phone +86-400-898-0321  
Fax +86-10-57815011  
E-mail Address trans@transgen.com.cn

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## 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.

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## 3. Composition

Chemical Name	CAS-No	Weight %
Glycerol	56-81-5	>50

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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.

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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.

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## 5. Fire-Fighting Measures

Suitable extinguishing media      Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical

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

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## 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.

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## 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

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## 8. Exposure Controls/Personal Protection

Exposure limits:

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	10 mg/m <sup>3</sup>	none	10 mg/m <sup>3</sup>	none

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## 9. Physical and Chemical Properties

General Information

Form: liquid

Color: transparent

Water solubility: soluble

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Others: No information available.

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## 10. Stability and Reactivity

Stability	Stable under normal conditions
Materials to avoid	No information available
Polymerization	None under normal processing.

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## 11. Toxicological Information

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Glycerol	= 12600 mg/kg Oral	no data available	no data 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	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	none

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## 12. Ecological Information

Ecotoxicity effects	No information available.
Mobility	See log Pow
Biodegradation	No information available.
Bioaccumulation	No information available.

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Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol 56-81-5		Daphnia species EC50=500 mg/L (24 h)			logPow-1.76

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### 13. Disposal Considerations

Dispose of in accordance with local regulations.

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### 14. Transport Information

IATA	Not dangerous goods
Proper shipping name	Not classified as dangerous in the meaning of transport regulations
Hazard class	none
Subsidiary Class	none
Packing group	none
UN-No	none

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### 15. Regulatory Information

Chemical Name	TSCA
Glycerol	-

### 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**

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# Material Safety Data Sheet

Revision Date: 1-June-2016



## 1. Product and Company Information

Product Name	SControl Plasmid (5 ng/ $\mu$ l)
Cat. No.	FM111-0101
Company	TransGen Biotech Co., Ltd.
Technical Phone	+86-400-898-0321
Fax	+86-10-57815011
E-mail Address	trans@transgen.com.cn

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## 2. Hazards Identification

Not hazardous

### Potential Health effects

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

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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.

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Ingestion	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Not an expected route of exposure.
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Notes to physician	Treat symptomatically.
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## 5. Fire-Fighting Measures

Suitable extinguishing media	Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical
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Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.
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## 6. Accidental Release Measures

Personal precautions	Use personal protective equipment.
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Methods for cleaning up	Soak up with inert absorbent material.
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Environmental precautions	Prevent further leakage or spillage if safe to do so.
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## 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.
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Conditions for safe storage	Keep in a dry, cool and well-ventilated place.
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## 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

Form:	Liquid
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Water solubility:	Soluble
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Others:	No information available.
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## 10. Stability and Reactivity

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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

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



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Subsidiary Class	none
Packing group	none
UN-No	none

## 15. Regulatory Information

International Inventories	Complies
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## 16. Other Information

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**End of Safety Data Sheet**

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# Material Safety Data Sheet



Revision Date: 1-June-2016

## 1. Product and Company Information

Product Name	SControl Primers (10 $\mu$ M)
Cat. No.	FM111-0102
Company	TransGen Biotech Co., Ltd.
Technical Phone	+86-400-898-0321
Fax	+86-10-57815011
E-mail Address	trans@transgen.com.cn

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## 2. Hazards Identification

Not hazardous

### Potential Health effects

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

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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.

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Ingestion	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Not an expected route of exposure.
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Notes to physician	Treat symptomatically.
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## 5. Fire-Fighting Measures

Suitable extinguishing media	Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical
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Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.
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## 6. Accidental Release Measures

Personal precautions	Use personal protective equipment.
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Methods for cleaning up	Soak up with inert absorbent material.
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Environmental precautions	Prevent further leakage or spillage if safe to do so.
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## 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.
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Conditions for safe storage	Keep in a dry, cool and well-ventilated place.
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## 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

Form:	Liquid
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Water solubility:	Soluble
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Others:	No information available.
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## 10. Stability and Reactivity

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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

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

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Subsidiary Class	none
Packing group	none
UN-No	none

## 15. Regulatory Information

International Inventories	Complies
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## 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**

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# Material Safety Data Sheet



Revision Date: 1-June-2016

## 1. Product and Company Information

Product Name                    DMT Chemically Competent Cell  
Cat. No.                         CD511  
Company                         TransGen Biotech Co., Ltd.  
Technical Phone                +86-400-898-0321  
Fax                                +86-10-57815011  
E-mail Address                 trans@transgen.com.cn

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## 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.

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## 3. Composition

Chemical Name	CAS-No	Weight %
Glycerol	56-81-5	5-10

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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.

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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.

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## 5. Fire-Fighting Measures

Suitable extinguishing media      Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical

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

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## 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.

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## 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

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## 8. Exposure Controls/Personal Protection

Exposure limits:

Chemical Name	OSHA PEL (TWA)	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	10 mg/m <sup>3</sup>	none	10 mg/m <sup>3</sup>	none

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## 9. Physical and Chemical Properties

General Information

Form: liquid

Color: transparent

Water solubility: soluble

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Others: No information available.

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## 10. Stability and Reactivity

Stability	Stable under normal conditions
Materials to avoid	No information available
Polymerization	None under normal processing.

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## 11. Toxicological Information

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Glycerol	= 12600 mg/kg Oral	no data available	no data 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 if inhalation.
Ingestion	May be harmful if swallowed.
Carcinogenic effects	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	none

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## 12. Ecological Information

Ecotoxicity effects	No information available.
Mobility	See log Pow
Biodegradation	No information available.
Bioaccumulation	No information available.

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Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol 56-81-5		Daphnia species EC50=500 mg/L (24 h)			logPow-1.76



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### 13. Disposal Considerations

Dispose of in accordance with local regulations.

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### 14. Transport Information

IATA	Not dangerous goods
Proper shipping name	Not classified as dangerous in the meaning of transport regulations
Hazard class	none
Subsidiary Class	none
Packing group	none
UN-No	none

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### 14. Regulatory Information

Chemical Name	TSCA
Glycerol	-

### 16. Other Information

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

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