

## 1. PRODUCT AND COMPANY INFORMATION

### Identification of the substance or mixture

#### Product Identifier

**Product Name** DNA T4 Ligase

#### Other means of identification

**Product Code(s)** A1113

**Synonyms** No information available

**Product Use** For Laboratory Research Use Only.

#### Supplier/Manufacturer

Biomatik Corporation  
9-140 McGovern Dr.  
Cambridge, Ontario N3H 4R7  
Canada

**Telephone Number** 1-519-489-7195

**E-mail Address** info@biomatik.com

**Emergency Telephone Number** Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

#### **Signal Word**

None

#### **Hazard pictograms**

No Pictogram

#### **Health hazards**

Not classified

#### **Physical hazards**

Not classified

#### **Hazard Statements**

Not Applicable

#### **Precautionary Statements**

#### **Prevention**

Not Applicable

**Response**

Not Applicable

**Storage**

Not Applicable

**Disposal**

Not Applicable

**Precautionary Statements**

Not Applicable

**Other hazards**

Not Applicable

**HMIS**

Health	0
Flammability	0
Reactivity	0

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

Component	CAS-No	EINECS-No	Weight %
Glycerol 56-81-5 ( 40-70 )	56-81-5	200-289-5	40-70

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**

<b>Skin contact</b>	Rinse cautiously with water for several minutes. Immediate medical attention is not required.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
<b>Ingestion</b>	Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.
<b>inhalation</b>	Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.
<b>Most important symptoms and effects, both acute and delayed</b>	
No data available	
Not Applicable	
<b>Notes to Physician</b>	Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

**Suitable extinguishing media**  
**Unsuitable extinguishing media**

Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.  
No information available.

**Special hazards arising from the substance or mixture** Not known.

### Advice for fire-fighters

Standard procedure for chemical fires.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Always wear recommended Personal Protective Equipment. Use personal protection equipment. See Section 8 for more detail.

### Environmental precautions

Prevent product from entering drains.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

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

### Specific end use(s)

Research Use Only. Not for use in diagnostic procedures.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Glycerol	15 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	None	None	None

### Engineering measures

Ensure adequate ventilation, especially in confined areas

### Exposure controls

#### Personal Protective Equipment

#### Respiratory protection

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

#### Hand protection

Wear suitable gloves Glove material: Compatible chemical-resistant gloves.

<b>Eye protection</b>	Tight sealing safety goggles
<b>Skin and Body Protection</b>	Wear suitable protective clothing
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice
<b>Environmental exposure controls</b>	
Prevent product from entering drains	

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Colorless, liquid	
<b>Odor</b>	odorless	
<b>Odor Threshold</b>	No data available	
<b>Melting point / melting range</b>	°C Mixture has not been tested	°F Mixture has not been tested
<b>Boiling point / boiling range</b>	°C Mixture has not been tested	°F Mixture has not been tested
<b>Flash point</b>	°C Mixture has not been tested	°F Mixture has not been tested
<b>Autoignition Temperature</b>	°C Mixture has not been tested	°F Mixture has not been tested
<b>Decomposition temperature</b>	°C Mixture has not been tested	°F Mixture has not been tested
<b>Evaporation rate</b>	No data available	
<b>Flammability (solid, gas)</b>	No data available	
<b>Upper explosion limit</b>	Mixture has not been tested	
<b>Lower explosion limit</b>	Mixture has not been tested	
<b>Vapor Pressure</b>	Mixture has not been tested	
<b>Relative density</b>	Mixture has not been tested	
<b>Specific gravity</b>	No data available	
<b>Solubility</b>	No data available	
<b>Partition coefficient: n-octanol/water</b>	No data available	
<b>Explosive properties</b>	Mixture has not been tested	
<b>Other information</b>	No data available	

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	None known.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported.
<b>Conditions to avoid</b>	No information available.
<b>Incompatible materials</b>	No dangerous reaction known under conditions of normal use.
<b>Hazardous decomposition products</b>	No data available.

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Glycerol	= 12600 mg/kg Oral	No data available	>570mg/m <sup>3</sup> (Rat)

### Principal Routes of Exposure,

<b>Irritation</b>	Conclusive but not sufficient for classification
<b>Corrosivity</b>	Conclusive but not sufficient for classification
<b>Sensitization</b>	Conclusive but not sufficient for classification
<b>STOT - Single Exposure</b>	Conclusive but not sufficient for classification
<b>STOT - Repeated Exposure</b>	Conclusive but not sufficient for classification
<b>Carcinogenicity</b>	Conclusive but not sufficient for classification
<b>Mutagenicity</b>	Conclusive but not sufficient for classification
<b>Reproductive Toxicity</b>	Conclusive but not sufficient for classification
<b>Aspiration Hazard</b>	Conclusive but not sufficient for classification

## 12. ECOLOGICAL INFORMATION

### Toxicity

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerol	No data available	Daphnia magna EC50>500 mg/L (24 h)	No data available	No data available	logPow-1.76

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other adverse effects** No information available.

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

## 14. TRANSPORT INFORMATION

### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations.

**UN number** Not Applicable

**UN proper shipping name** Not Applicable

**Transport hazard class(es)** Not Applicable

**Packing group** Not Applicable

**Environmental hazards** Not Applicable

**Special precautions for user** Not Applicable

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not Applicable.

## 15. REGULATORY INFORMATION

Component	US TSCA
Glycerol 56-81-5 ( 40-70 )	Listed

### US Federal Regulations

#### **SARA 313**

This product is not regulated by SARA.

#### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product does not contains HAPs.

### US State Regulations

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

#### **WHMIS Hazard Class**

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

## 16. OTHER INFORMATION

For research use only. Not for use in diagnostic procedures.

#### **References**

- ECHA: <http://echa.europa.eu/>

- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database

**Disclaimer**

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**

## 1. PRODUCT AND COMPANY INFORMATION

### Identification of the substance or mixture

#### Product Identifier

**Product Name** 10 X T4 LIGASE BUFFER

#### Other means of identification

**Product Code(s)** A1113B

**Synonyms** No information available

**Product Use** For Laboratory Research Use Only.

#### Supplier/Manufacturer

Biomatik Corporation  
9-140 McGovern Dr.  
Cambridge, Ontario N3H 4R7  
Canada

**Telephone Number** 1-519-489-7195

**E-mail Address** info@biomatik.com

**Emergency Telephone Number** Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

#### **Signal Word**

WARNING

#### **Hazard pictograms**

No Pictogram

#### **Health hazards**

Not classified

#### **Physical hazards**

Not classified

#### **Hazard Statements**

H316 - Causes mild skin irritation

#### **Precautionary Statements**

#### **Prevention**



Not Applicable

**Response**

P332 + P313 - If skin irritation occurs: Get medical advice/attention

**Storage**

Not Applicable

**Disposal**

Not Applicable

**Precautionary Statements**

Not Applicable

**Other hazards**

Not Applicable

**HMIS**

Health	1
Flammability	0
Reactivity	0

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

Component	CAS-No	EINECS-No	Weight %
(DTT) 2,3-Butanediol, 1,4-dimercapto-, (theta, theta)- 3483-12-3 ( 1 - 5 )	3483-12-3	222-468-7	1 - 5

**4. FIRST AID MEASURES**

<b>Skin contact</b>	Rinse cautiously with water for several minutes. Immediate medical attention is not required.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
<b>Ingestion</b>	Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.
<b>inhalation</b>	Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.
<b>Most important symptoms and effects, both acute and delayed</b>	
H316 - Causes mild skin irritation	
<b>Notes to Physician</b>	Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Extinguishing media

**Suitable extinguishing media**  
**Unsuitable extinguishing media**

Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.  
No information available.

**Special hazards arising from the substance or mixture** Not known.

### Advice for fire-fighters

Standard procedure for chemical fires.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Always wear recommended Personal Protective Equipment. Use personal protection equipment. See Section 8 for more detail.

### Environmental precautions

Prevent product from entering drains.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

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## 7. HANDLING AND STORAGE

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### Specific end use(s)

Research Use Only. Not for use in diagnostic procedures.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
(DTT) 2,3-Butanediol, 1,4-dimercapto-, (theta, theta)-	None	None	None	None

### Engineering measures

Ensure adequate ventilation, especially in confined areas

### Exposure controls

#### Personal Protective Equipment

#### Respiratory protection

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

#### Hand protection

Wear suitable gloves Glove material: Compatible chemical-resistant gloves.

<b>Eye protection</b>	Tight sealing safety goggles
<b>Skin and Body Protection</b>	Wear suitable protective clothing
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<b>Flammability (solid, gas)</b>	No data available	
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<b>Vapor Pressure</b>	Mixture has not been tested	
<b>Relative density</b>	Mixture has not been tested	
<b>Specific gravity</b>	No data available	
<b>Solubility</b>	No data available	
<b>Partition coefficient: n-octanol/water</b>	No data available	
<b>Explosive properties</b>	Mixture has not been tested	
<b>Other information</b>	No data available	

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	None known.
<b>Chemical stability</b>	Stable under normal conditions.
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<b>Incompatible materials</b>	No dangerous reaction known under conditions of normal use.
<b>Hazardous decomposition products</b>	No data available.

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
(DTT) 2,3-Butanediol, 1,4-dimercapto-, (theta, theta)-	No data available	No data available	No data available

### Principal Routes of Exposure,

<b>Irritation</b>	Conclusive but not sufficient for classification
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### Toxicity

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
(DTT) 2,3-Butanediol, 1,4-dimercapto-, (theta, theta)-	No data available	No data available	No data available	No data available	No data available

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other adverse effects** No information available.

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### Waste treatment methods

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## 14. TRANSPORT INFORMATION

### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations.

**UN number** Not Applicable

**UN proper shipping name** Not Applicable

**Transport hazard class(es)** Not Applicable

**Packing group** Not Applicable

**Environmental hazards** Not Applicable

**Special precautions for user** Not Applicable

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not Applicable.

## 15. REGULATORY INFORMATION

Component	US TSCA
(DTT) 2,3-Butanediol, 1,4-dimercapto-, (theta, theta)-3483-12-3 ( 1 - 5 )	Listed

### US Federal Regulations

#### **SARA 313**

This product is not regulated by SARA.

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### US State Regulations

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**End of Safety Data Sheet**