

## MSDS

Version 1.0  
Revision Date: 10/18/2013

### Product and Company Identification

**Product Name:** T7 High Yield In vitro Transcription Kit  
**Cat #:** T7HT-100, T7HT-200  
**Product Use:** For Research Use Only. Not for use in diagnostic procedures  
**Company:** Molecular Cloning Laboratories (MCLAB)  
320 Harbor Way  
South San Francisco  
CA 94080  
**Telephone:** 888-MCLAB-88  
650-871-8771  
**Fax:** 650-871-8796

**Product Name:**  
T7 Enzyme Mix

### Hazards identification

#### GHS - Classification

#### Signal Word

not hazardous

#### Health Hazard

not hazardous

#### Physical Hazards

not hazardous

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

#### Specific effects

Carcinogenic effects	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	none

#### Target Organ Effects

No known effects under normal use conditions.

#### HMIS

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Health	0
Flammability	0
Reactivity	0

## Composition/information on ingredients

Chemical Name	CAS-No	EINECS-No	Weight %
Glycerol	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.

## First aid measures

Skin contact	Rinse with plenty of water. If symptoms arise, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
Inhalation	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

## 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.

## 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.

## 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.

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## Exposure controls/personal protection

### Exposure limits

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		

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

Respiratory protection      In case of insufficient ventilation wear suitable respiratory equipment.

Hand protection              Impervious gloves.

Eye protection                Safety glasses with side-shields.

Skin and body protection.    Lightweight protective clothing.

Hygiene measures              Handle in accordance with good industrial hygiene and safety practice.

### Environmental exposure controls:

Prevent product from entering drains.

## Physical and chemical properties

### General Information

Form	liquid	
Appearance	No information available	
Odor	No information available	
Boiling Point/Range	°C no data available	°F no data available
Melting point/range	°C no data available	°F no data available
Flash point	°C no data available	°F no data available
Autoignition temperature	°C no data available	°F no data available
Oxidizing properties	No information available.	
Water solubility	soluble	

## Stability and reactivity

Stability	Stable under normal conditions.
Materials to avoid	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	None under normal use
polymerization	Hazardous polymerisation does not occur.

## Toxicological information

### Acute toxicity

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

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## 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

Target Organ Effects: No known effects under normal use conditions.

## Ecological information

Ecotoxicity effects	Daphnia magna (Water flea)
Mobility	see log Pow
Biodegradation	Inherently biodegradable
Bioaccumulation	Does not bioaccumulate.

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

## Disposal considerations

Dispose of in accordance with local regulations.

## 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

## Regulatory information

Component	TSCA
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Inhalation	May be harmful by inhalation.
Ingestion	May be harmful if swallowed

#### Specific effects

Carcinogenic effects	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	none

#### Target Organ Effects

No known effects under normal use conditions.

#### HMIS

Health	0
Flammability	0
Reactivity	0

## Composition/information on ingredients

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

## First aid measures

Skin contact	Rinse with plenty of water. If symptoms arise, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
Inhalation	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

## 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.

## 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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## 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.

## Exposure controls/personal protection

### Exposure limits

Engineering measures: Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment.
Hand protection	Impervious gloves.
Eye protection	Safety glasses with side-shields.
Skin and body protection.	Lightweight protective clothing.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

### Environmental exposure controls:

Prevent product from entering drains.

## Physical and chemical properties

### General Information

Form	liquid	
Appearance	No information available	
Odor	No information available	
Boiling Point/Range	°C no data available	°F no data available
Melting point/range	°C no data available	°F no data available
Flash point	°C no data available	°F no data available
Autoignition temperature	°C no data available	°F no data available
Oxidizing properties	No information available.	
Water solubility	soluble	

## Stability and reactivity

Stability	Stable under normal conditions.
Materials to avoid	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	None under normal use
polymerization	Hazardous polymerisation does not occur.

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## Toxicological information

### 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

Target Organ Effects: No known effects under normal use conditions.

## Ecological information

Ecotoxicity effects	Daphnia magna (Water flea)
Mobility	see log Pow
Biodegradation	Inherently biodegradable
Bioaccumulation	Does not bioaccumulate.

## Disposal considerations

Dispose of in accordance with local regulations.

## 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

## Regulatory information

### U.S. 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.

### U.S. State Regulations

#### California Proposition 65



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This product does not contain chemicals listed under Proposition 65

**WHMIS Hazard Class**

Non-controlled

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

## Other Information

**For research use only.** 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 WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

## Product Name:

**CTP Solution**

## Hazards identification

### GHS - Classification

#### Signal Word

not hazardous

#### Health Hazard

not hazardous

#### Physical Hazards

not hazardous

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

#### Specific effects

Carcinogenic effects	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	none

#### Target Organ Effects

No known effects under normal use conditions.

#### HMIS

Health	0
Flammability	0

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Reactivity 0

## Composition/information on ingredients

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

## First aid measures

Skin contact	Rinse with plenty of water. If symptoms arise, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
Inhalation	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

## 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.

## 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.

## 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.

## Exposure controls/personal protection

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment.
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Hand protection                      Impervious gloves.  
 Eye protection                      Safety glasses with side-shields.  
 Skin and body protection.      Lightweight protective clothing.  
 Hygiene measures                  Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls:**

Prevent product from entering drains.

## Physical and chemical properties

### General Information

Form	liquid	
Appearance	No information available	
Odor	No information available	
Boiling Point/Range	°C no data available	°F no data available
Melting point/range	°C no data available	°F no data available
Flash point	°C no data available	°F no data available
Autoignition temperature	°C no data available	°F no data available
Oxidizing properties	No information available.	
Water solubility	soluble	

## Stability and reactivity

Stability	Stable under normal conditions.
Materials to avoid	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	None under normal use
polymerization	Hazardous polymerisation does not occur.

## Toxicological information

### 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

Target Organ Effects: No known effects under normal use conditions.

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## Ecological information

Ecotoxicity effects	Daphnia magna (Water flea)
Mobility	see log Pow
Biodegradation	Inherently biodegradable
Bioaccumulation	Does not bioaccumulate.

## Disposal considerations

Dispose of in accordance with local regulations.

## 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

## Regulatory information

### U.S. 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 contain HAPs.

### California Proposition 65

This product does not contain chemicals listed under Proposition 65

### WHMIS Hazard Class

Non-controlled

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

## Other Information

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**Product Name:**  
**GTP Solution**

## Hazards identification

### GHS - Classification

#### Signal Word

not hazardous

#### Health Hazard

not hazardous

#### Physical Hazards

not hazardous

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

#### Specific effects

Carcinogenic effects	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	none

#### Target Organ Effects

No known effects under normal use conditions.

#### HMIS

Health	0
Flammability	0
Reactivity	0

## Composition/information on ingredients

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

## First aid measures

Skin contact	Rinse with plenty of water. If symptoms arise, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
Inhalation	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

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## 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.

## 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.

## 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.

## Exposure controls/personal protection

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment.
Hand protection	Impervious gloves.
Eye protection	Safety glasses with side-shields.
Skin and body protection.	Lightweight protective clothing.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

### Environmental exposure controls:

Prevent product from entering drains.

## Physical and chemical properties

### General Information

Form	liquid	
Appearance	No information available	
Odor	No information available	
Boiling Point/Range	°C no data available	°F no data available
Melting point/range	°C no data available	°F no data available
Flash point	°C no data available	°F no data available

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Autoignition temperature	°C no data available	°F no data available
Oxidizing properties	No information available.	
Water solubility	soluble	

## Stability and reactivity

Stability	Stable under normal conditions.
Materials to avoid	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	None under normal use
polymerization	Hazardous polymerisation does not occur.

## Toxicological information

### 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

Target Organ Effects: No known effects under normal use conditions.

## Ecological information

Ecotoxicity effects	Daphnia magna (Water flea)
Mobility	see log Pow
Biodegradation	Inherently biodegradable
Bioaccumulation	Does not bioaccumulate.

## Disposal considerations

Dispose of in accordance with local regulations.

## Transport information

### IATA

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

## Regulatory information

### U.S. 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.

### California Proposition 65

This product does not contain chemicals listed under Proposition 65

### WHMIS Hazard Class

Non-controlled

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

## Other Information

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## Product Name:

**UTP Solution**

## Hazards identification

### GHS - Classification

#### Signal Word

not hazardous

#### Health Hazard

not hazardous

#### Physical Hazards

not hazardous

Principle Routes of Exposure/

### Potential Health effects

Eyes May cause eye irritation with susceptible persons.



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

#### Specific effects

Carcinogenic effects	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	none

#### Target Organ Effects

No known effects under normal use conditions.

#### HMIS

Health	0
Flammability	0
Reactivity	0

## Composition/information on ingredients

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

## First aid measures

Skin contact	Rinse with plenty of water. If symptoms arise, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
Inhalation	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

## 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.

## 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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## 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.

## Exposure controls/personal protection

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment.
Hand protection	Impervious gloves.
Eye protection	Safety glasses with side-shields.
Skin and body protection.	Lightweight protective clothing.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

### Environmental exposure controls:

Prevent product from entering drains.

## Physical and chemical properties

### General Information

Form	liquid	
Appearance	No information available	
Odor	No information available	
Boiling Point/Range	°C no data available	°F no data available
Melting point/range	°C no data available	°F no data available
Flash point	°C no data available	°F no data available
Autoignition temperature	°C no data available	°F no data available
Oxidizing properties	No information available.	
Water solubility	soluble	

## Stability and reactivity

Stability	Stable under normal conditions.
Materials to avoid	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	None under normal use
polymerization	Hazardous polymerisation does not occur.

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## Toxicological information

### 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

Target Organ Effects: No known effects under normal use conditions.

## Ecological information

Ecotoxicity effects	Daphnia magna (Water flea)
Mobility	see log Pow
Biodegradation	Inherently biodegradable
Bioaccumulation	Does not bioaccumulate.

## Disposal considerations

Dispose of in accordance with local regulations.

## 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

## Regulatory information

### U.S. 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 contain HAPs.

### California Proposition 65

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This product does not contain chemicals listed under Proposition 65

**WHMIS Hazard Class**

Non-controlled

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

## Other Information

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## Product Name:

**10X Transcription Buffer**

## Hazards identification

**GHS - Classification**

**Signal Word**

WARNING

**Health Hazard**

Skin Corrosion/Irritation	Category 3
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**Physical Hazards**

not hazardous

**Hazard statements**

H316 - Causes mild skin irritation

**Precautionary statements**

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

**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

**Specific effects**

Carcinogenic effects	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	none

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### Target Organ Effects

No known effects under normal use conditions.

### HMIS

Health	0
Flammability	0
Reactivity	0

## Composition/information on ingredients

Chemical Name	CAS-No	EINECS-No	Weight %
(DTT) DITHIOTHREITOL	3483-12-3	-	1 - 5

We recommend handling all chemicals with caution.

## First aid measures

Skin contact	Rinse with plenty of water. If symptoms arise, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
Inhalation	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.
Notes to physician	Treat symptomatically.

## 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.

## 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.

## 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.

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## Exposure controls/personal protection

### Exposure limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
(DTT) DITHIOTHRE-ITOL	none	none	none	none

Engineering measures: Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment.
Hand protection	Impervious gloves.
Eye protection	Safety glasses with side-shields.
Skin and body protection.	Lightweight protective clothing.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

### Environmental exposure controls:

Prevent product from entering drains.

## Physical and chemical properties

### General Information

Form	liquid	
Appearance	No information available	
Odor	No information available	
Boiling Point/Range	°C no data available	°F no data available
Melting point/range	°C no data available	°F no data available
Flash point	°C no data available	°F no data available
Autoignition temperature	°C no data available	°F no data available
Oxidizing properties	No information available.	
Water solubility	soluble	

## Stability and reactivity

Stability	Stable under normal conditions.
Materials to avoid	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	None under normal use
polymerization	Hazardous polymerisation does not occur.

## Toxicological information

### Acute toxicity

Chemical Name	LD50 (oral,rat/mouse)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat/mouse)
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(DTT) DITHIOTHREITOL	no data available	no data available	no data available
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**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

Target Organ Effects: No known effects under normal use conditions.

### Ecological information

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

### Disposal considerations

Dispose of in accordance with local regulations.

### 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

### Regulatory information

Component	TSCA
(DTT) DITHIOTHREITOL 3483-12-3 ( 1 - 5 )	Listed

**U.S. Federal Regulations**

**SARA 313**

This product is not regulated by SARA.

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Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)  
This product does not contains HAPs.

**U.S. State Regulations**

Chemical Name	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK	Illinois - RTK	Rhode Island - RTK
(DTT) DITHIO-THREITOL	-	-	-	-	-

**California Proposition 65**

This product does not contain chemicals listed under Proposition 65

**WHMIS Hazard Class**

Non-controlled

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

**Other Information**

**For research use only.** 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 WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

**Product Name:**

**Nuclease-free Water**

**Hazards identification**

**GHS - Classification**

**Signal Word**

not hazardous

**Health Hazard**

not hazardous

**Physical Hazards**

not hazardous

**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

**Specific effects**

- Carcinogenic effects none



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Mutagenic effects            none  
Reproductive toxicity       none  
Sensitization                none

### Target Organ Effects

No known effects under normal use conditions.

### HMIS

Health                        0  
Flammability                0  
Reactivity                    0

## Composition/information on ingredients

Chemical Name	CAS-No	EINECS-No	Weight %
Water	7732-18-5	231-791-2	100

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

## First aid measures

Skin contact                Rinse with plenty of water. If symptoms arise, call a physician.  
Eye contact                 Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.  
Ingestion                    Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.  
Inhalation                    Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.  
Notes to physician        Treat symptomatically.

## 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.

## 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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## 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.

## Exposure controls/personal protection

### Exposure limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Water	none	none	none	none

Engineering measures: Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment.
Hand protection	Impervious gloves.
Eye protection	Safety glasses with side-shields.
Skin and body protection.	Lightweight protective clothing.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

### Environmental exposure controls:

Prevent product from entering drains.

## Physical and chemical properties

### General Information

Form	liquid	
Appearance	clear	
Odor	Water	
Boiling Point/Range	°C 100	°F 212
Melting point/range	°C 0	°F 32
Flash point	°C no data available	°F no data available
Autoignition temperature	°C no data available	°F no data available
Oxidizing properties	No information available.	
Water solubility	soluble	
pH VALUE	7	

## Stability and reactivity

Stability	Stable under normal conditions.
Materials to avoid	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	None under normal use

polymerization	Hazardous polymerisation does not occur.
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## Toxicological information

### Acute toxicity

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Water	> 90 mL/kg (Rat)	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

Target Organ Effects: No known effects under normal use conditions.

## Ecological information

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

## Disposal considerations

Dispose of in accordance with local regulations.

## 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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## Regulatory information

Component TSCA  
Water Listed  
7732-18-5 ( 100 )

### U.S. Federal Regulations

SARA 313

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

This product does not contains HAPs.

### U.S. State Regulations

Chemical Name	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK	Illinois - RTK	Rhode Island - RTK
Water -	-	-	-	-	-

### California Proposition 65

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### WHMIS Hazard Class

Non-controlled

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