



Safety Data Sheet

1 Chemical product and company identification

Identification of the product	Thermo T7 RNA Polymerase
Product Code	TRL-201, TRL-201X5, TRL-252
SUPPLIER	
Name	TOYOBO Co., Ltd.
Address	2-2-8 Dojima Hama Kita-ku Osaka, 530-8230 Japan
Department	Biotech support Department
Emergency Telephone No.	+81-6-6348-3786
Fax No.	+81-6-6348-3833
Recommended use and restrictions on use	Synthesis of RNA(Research reagents)

2 HAZARDS IDENTIFICATION

Most Important Hazards	Few adverse human health effects are anticipated.	
GHS Classification		
Hazard class and category		
Physical Hazards	Not classified	
Health Hazards	ThermoT7 RNA Polymerase	10× Buffer
Skin corrosion/Irritation	Category 3	Not classified
Serious eye damage/Eye irritation	Category 2B	Not classified
Environmental Hazards	Classification not possible	
Label elements		
<ThermoT7 RNA Polymerase>		
Pictograms or symbols	—	
Signal word	Warning	
Hazard statements	Causes mild skin irritation.Causes eye irritation.	
Precautionary statement(s)		
Prevention	Wash hands thoroughly after handling.	
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.If eye irritation persists: Get medical advice / attention.	

<10×Buffer>

There is no label element.



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3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Product (Substance/Mixture)	Mixture	
Chemical Nature	Aqueous solution of enzyme, substrate, etc.	
Parts Name		
<ThermoT7 RNA Polymerase>	Main components	CAS No. (EC NO.)
	Ethylenediaminetetraacetic acid disodium salt,2-hydrate	6381-92-6
	Dithiothreitol	3483-12-3
	Polyethylene Glycol Mono-p- isooctylphenyl Ether	9002-93-1
	Glycerol	56-81-5
<10× Buffer>	Tris(Hydroxymethyl)aminomethane	77-86-1
	Magnesium chloride	7786-30-3

Components Contributing to the Hazard

Common Chemical Name (or Generic Name)	Glycerol	Polyethylene Glycol Mono-p- isooctylphenyl Ether
Synonyms	Glycerin	Triton X-100, Polyethylene Glycol-p-(1,1,3,3- tetramethylbutyl) phenyl Ether
Contained Parts:Percentage	ThermoT7 RNA Polymerase:50%	ThermoT7 RNA Polymerase:0.01%

Chemical formula

$\text{CH}_2\text{OHCHOHCH}_2\text{OH}$

$\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{-C}_6\text{H}_4\text{-C}_8\text{H}_{17}$

CAS No.

56-81-5

9002-93-1

4 FIRST-AID MEASURES

Inhalation	In case of irritation by inhaling this product, move affected person to fresh air and await recovery. If irritation persists, seek immediate medical attention.
Skin Contact	Wash with clean water, immediately.
Eye Contact	Rinse cautiously with water for several minutes.
Ingestion	Induce vomiting. If indisposition continues, seek medical at

5 FIRE-FIGHTING MEASURES

Extinguishing Media	Water, Carbon Dioxide, Foam, Dry Chemical Powder
Protection of fire-fighters	Fire-fighting should be done from the windward side of fire area. Fire-fighters should wear proper protective equipment in case of large scale fire.



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6 ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear protective gear to avoid eye/skin contact and inhalation.
Environmental Precautions	Avoid disposition to the environment.
Methods for Cleaning up	Use cloth, paper or anything similar to soak up the solution leaking out of the container. Take up under vacuum using dust collecting filter.

7 HANDLING AND STORAGE

HANDLING

Technical Measures	Wear protective equipments and avoid contact with eyes and skin. Handle with ventilation and local exhaust.
Precautions	After handling, wash with clean water.
Safe Handling Advice	Good laboratory technique should be used when handling.

STORAGE

Storage Conditions	Store at about -20°C
Packaging Materials	Store in the original package

8 EXPOSURE CONTROLS/ PERSONAL PROTECTION

ENGINEERING MEASURES Set up good ventilation and exhaust system in the work area

Control Parameter

Limit Values

JSOH OEL
ACGIH TLV
OSHA PEL

Glycerol	Polyethylene Glycol Mono-p- isooctylphenyl
Not established	Not established
10mg/m ³	Not established
total dust:	Not established
15mg/m ³ TWA	
respirable fr.:	
5mg/m ³ TWA	

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection	Wear a dust mask.
Hand Protection	Chemical safety gloves.
Eye Protection	Chemical safety goggles.
Skin and Body Protection	Long sleeves to prevent contact with skin.



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9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid. ThermoT7 RNA Polymerase is liquid over -20°C. Liquid. 10×Buffer is Liquid at room temperature, and
Colour	None
Odour	None
pH	7.0-9.0
Flash Point	Not flammable due to aqueous solution, but Glycerol whose flash point 160°C may also stay behind after volatilization ThermoT7 RNA Polymerase.
Boiling Point	Not available
Melting Point	Not available
Decomposition Temperature	Not available
Specific gravity	1.0-1.2
Solubility	Soluble in water

10 STABILITY AND REACTIVITY

Stability	Stable at -20°C
Possible Hazardous Reactions	None
Conditions to Avoid	Strong heat
Material to Avoid	Direct sunlight, strong oxidizers and strong reducers
Hazardous Decomposition Product	Not classified

11 TOXICOLOGICAL INFORMATION

<ThermoT7 RNA Polymerase>

Acute Toxicity	Not classified
Local Effects	Causes mild skin irritation. Causes eye irritation.
Toxicological information on the component of this product	

	Glycerol	Polyethylene Glycol Mono-p-isooctylphenyl Ether
Acute toxicity (LD50)	Oral-mouse: 4090mg/kg Oral-rat: 12.6g/kg	Oral-rat: 1800mg/kg

12 ECOLOGICAL INFORMATION

Mobility	Soluble in water and diffusible into water environment.
Persistence/Degradability	Polyethylene Glycol Mono-p-isooctylphenyl Ether isn't biodegradable. Enzyme and glycerol are biodegradable.
Bioaccumulation	Not classified

13 DISPOSAL CONSIDERATIONS

Waste from Residues	Dispose of in accordance with all applicable local and national laws and regulations.
Contaminated Packaging	Dispose of in accordance with all applicable local and national laws and regulations.



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14 TRANSPORT INFORMATION

International Regulations

UN Classification Number

Not classified

Specific Precautions

Follow all of the laws and regulations in your respective
To prevent packages from breaking, handle with
care.Store at about -20°C when it is transported.

15 REGULATORY INFORMATION

Regulations, Evaluation, Authorization
and Restriction of Chemicals(EU)

Common Chemical name

Concentration or concentration range

Chemical formula

CAS#

Regulations

The following ingredients are included in

SVHC(Candidate list of authorization)

Polyethylene Glycol Mono-p-isooctylphenyl Ether(Triton
ca. 0.01% (W/W)

$\text{HO}(\text{C}_2\text{H}_4\text{O})_n\text{-C}_6\text{H}_4\text{-C}_8\text{H}_{17}$

9002-93-1

Follow all of the laws and regulations in your country.

16 OTHER INFORMATION

Notice

This product is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. The information in this SDS, to the best of our knowledge, is accurate and correct. However, TOYOBO makes no warranty and assumes no liability whatsoever in connection with any use of this information. The information shall not be taken as being all inclusive and is to be used only a guide. All materials and mixtures may be present unknown hazards and should be used