



Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name RNA-direct Realtime PCR Master Mix

Product Code QRT-101, QRT-101T

SUPPLIER

Name TOYOBO Co., Ltd.

Department Biotech support Department

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Recommended use and restrictions on use realtime PCR kit

2 HAZARDS IDENTIFICATION

Most Important Hazards Few adverse human health effects are anticipated. Glycerol whose flash point 160°C is contained.

Specific Hazards Not available

GHS classification Classification not possible



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3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Product	Mixture		
(Substance/Mixture)			
Chemical Nature	Aqueous solutions of enzyme, antibody and other compounds.		
Parts Name	Main components	CAS No. (EC No.)	Concentration
<RNA-direct™ Realtime PCR Master Mix>	DNA polymerase	-	<1%
	Bovine Serum Albumin	-	<1%
	Monoclonal antibody	-	<1%
	Bicine [N,N-Bis(2-hydroxyethyl)glycine]	150-25-4	<1%
	Potassium Acetate	127-08-2	<1%
	Polyethylene Glycol Mono-p- isooctylphenyl Ether	9002-93-1	≤0.02%
	Glycerol	56-81-5	<20%
	deoxyadenosine 5'triphosphate	1927-31-7	<1%
	deoxycytidine 5'triphosphate	102783-51-7	
	deoxyguanosine 5'triphosphate	93919-41-6	
	deoxythymidine 5'triphosphate	18423-43-3	
<50mM Mn(OAc) ₂ >	Manganese(II) acetate	638-38-0	50mM
Components Contributing to the Hazard			
Common Chemical Name	Glycerol	Manganese(II) acetate	
Synonyms	Glycerin		
Contained Parts	RNA-direct™ Realtime PCR Master Mix	50mM Mn(OAc) ₂	
Chemical formula	CH ₂ OHCHOHCH ₂	(CH ₃ COO) ₂ Mn	
CAS No.	56-81-5	638-38-0	
Concentration	2%	0.9% (<0.3% as Mn)	
Common Chemical Name	Polyethylene Glycol Mono-p- isooctylphenyl Ether		
Synonyms	Triton X-100, Polyethylene Glycol-p-(1,1,3,3- tetramethylbutyl) phenyl		
Contained Parts	RNA-direct Realtime PCR Master Mix		
Chemical formula	C ₈ H ₁₇ -C ₆ H ₄ O-(C ₂ H ₄ O) _n H		
CAS No.	9002-93-1		
Concentration	≤0.02%		



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4 FIRST-AID MEASURES

Inhalation	In case of irritation by inhaling this product, move affected person to fresh air and await recovery. Call a POISON CENTER or doctor if you feel unwell.
Skin Contact	Wash with clean water, immediately.
Eye Contact	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
Ingestion	Induce vomiting. If indisposition continues, seek medical attention.

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 Fire-fighters should wear proper protective equipment in case of large scale fire.

6 ACCIDENTAL RELEASE MEASURES

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

7 HANDLING AND STORAGE

HANDLING

Technical Measures	Avoid substance contact. Wear protective equipments and avoid contact with eyes and skin. After handling, wash hands completely.
Precautions	Handle with ventilation and local exhaust system.
Safe Handling Advice	Keep the handling area always clean.

STORAGE

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



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8 EXPOSURE CONTROLS/ PERSONAL PROTECTION ENGINEERING MEASURES

Set up good ventilation and exhaust system in the work area.

Control Parameter

Limit Values

JSOH OEL

Glycerol

not established

Manganese(II) acetate

0.2mg/m³

ACGIH TLV

10mg/m³

0.2mg/m³

OSHA PEL

total dust: 15mg/m³TWA

respirable fr.: 5mg/m³TWA

Limit Values

Polyethylene Glycol Mono-p-

isooctylphenyl Ether

JSOH OEL

not established

ACGIH TLV

not established

OSHA PEL

not established

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.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State

liquid RNA-direct™ Realtime PCR Master Mix and 50mM
Mn(OAc)₂ freezes at less than -20°C.

Colour

colourless

Odour

none

pH

7.0~9.0

Flash Point

Not flammable due to aqueous solution, but glycerol whose
flash point 160°C in RNA-direct Realtime PCR Master Mix
may stay behind after volatilization.

Density

1.0-1.2(g/cm³)

Solubility

Soluble in water.

10 STABILITY AND REACTIVITY

Stability

Stable at less than -20°C.

Possible Hazardous

Nothing particular

Reactions

Conditions to Avoid

High temperature, ignition sources, direct sunlight

Material to Avoid

Strong acids, strong alkalines and strong oxidizers

Hazardous Decomposition

Not available

Product



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11 TOXICOLOGICAL INFORMATION

Acute Toxicity Not available
Reproduction Toxicity Not available
Local Effects May cause eye and skin irritation.
Toxicological information on the component of this product

	Glycerol	Manganese(II) acetate
Acute toxicity (LD50)	Oral-mouse: 4090mg/kg	Oral-rat: 2.94g/kg
	Oral-rat: 12.6g/kg	
	Polyethylene Glycol Mono-p-	
	isooctylphenyl Ether	
Acute toxicity (LD50)	Oral-rat: 1800mg/kg	
	Rabbit-skin: ≥ 3 g/kg	

12 ECOLOGICAL INFORMATION

Mobility Soluble in water and diffusible into water environment.
Persistence/Degradability Glycerol, enzyme, antibody, and deoxynucleotide are biodegradable
Bioaccumulation Not available

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.

14 TRANSPORT INFORMATION

International Regulations
UN Classification Number Not classified
Specific Precautions Follow all of the laws and regulations in your respective country
To prevent packages from breaking, handle with care.

15 REGULATORY INFORMATION

Follow all of the laws and regulations in your country.

16 OTHER INFORMATION

Notice 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 SDS is subject to revision as new information becomes available.