SDS No:886F

Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name	**RNA-direct SYBR® Green Realtime PCR Master Mix**
Product Code	QRT-201, QRT-201T
SUPPLIER	
Name	TOYOBO Co., Ltd.
Department	Biotech support Department
Address	2-2-8 Dojima Hama Kita-ku Osaka, 530-8230 Japan
Emergency Telephone No.	+81-6-6348-3786
Fax No.	+81-6-6348-3833
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℃ is contained.
Specific Hazards	Not available
GHS classification	Classification not possible

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3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Product (Substance/Mixture): Mixture

Chemical Nature: Aqueous solutions of enzyme, antibody and other compounds.

Parts Name	Main components	CAS No. (EC No.)	Concentration
<RNA-direct SYBR® Green 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	
	SYBR® GreenI	163795-75-3	<0.01%
<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™ SYBR® Green Realtime PCR Master Mix	50mM $Mn(OAc)_2$
Chemical formula	$CH_2OHCHOHCH_2$	$(CH_3COO)_2Mn$
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 Ether	
Contained Parts	RNA-direct SYBR® Green Realtime PCR Master Mix	
Chemical formula	C_8H_{17}-C_6H_4O-$(C_2H_4O)nH$	
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 feek 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℃
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	Glycerol	Manganese(II) acetate
JSOH OEL	not established	0.2mg/m^3
ACGIH TLV	10mg/m^3	0.2mg/m^3
OSHA PEL	total dust: 15mg/m^3TWA respirable fr.: 5mg/m^3TWA	not established

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℃.
Colour	colourless
Odour	none
pH	7.0～9.0
Flash Point	Not flammable due to aqueous solution, but glycerol whose flash point 160℃ in RNA-direct Realtime PCR Master Mix may stay behind after volatilization.
Density	1.0-1.2(g/cm^3)
Solubility	Soluble in water.

10 STABILITY AND REACTIVITY

Stability	Stable at less than -20℃.
Possible Hazardous Reactions	Nothing particular
Conditions to Avoid	High temperature, ignition sources, direct sunlight
Material to Avoid	Strong acids, strong alkalines and strong oxidizers
Hazardous Decomposition Product	Not available

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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: 12.6g/kg	Oral-rat: 2.94g/kg

	Polyethylene Glycol Mono-p-isooctylphenyl Ether
Acute toxicity (LD50)	Oral-rat: 1800mg/kg Rabbit-skin: ≧3g/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
	Follow all of the laws and regulations in your respective
Specific Precautions	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.