Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name	**SYBR® Green Realtime PCR Master Mix -Plus-**
Product Code	QPK-212
SUPPLIER	
Name	TOYOBO Co., Ltd.
Address	2-8 Dojima Hama 2-chome, Kita-Ku OSAKA 530-8230 JAPAN
Department	Life Science Department
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: May cause eye and skin irritation. Glycerol whose flash point 160℃ and formamide whose flash point 154℃ are contained.

Specific Hazards: Not available

GHS Classification

Hazard class and category

		<SYBR® Green Realtime PCR Master	<Plus solution>
Physical Hazards	Flammable liquids	Not classified	Not classified
Health Hazards	Skin corrosion	Not classified	Category 3
	Serious eye damage /Eye irritation	Not classified	Category 2B
Environmental Hazards		Not classified	Not classified

Label elements	Plus solution
Pictogram or symbol	-
Signal word	Warning
Hazard statements	Causes mild skin irritation Causes eye irritation
Precautionary statements	
Prevention	Wash hands thoroughly after handling
Response	If skin irritation occurs: Get medical advice/attention. 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.

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3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Product (Substance/Mixture): Mixture

Chemical Nature

Parts Name	Main components	CAS No. (EC No.)	Concentration
SYBR® Green Realtime PCR Master Mix -Plus-	Taq DNA polymerase	(EC 2.7.7.7)	<1%
	Protein (Bovine Serum Albumin, Monoclonal antibody)	-	<0.1%
	Glycerol	56-81-5	Ca. 2%
	Tris(hydroxymethyl) aminomethane	77-86-1	<1%
	Magnesium chloride	7791-18-6	<1%
	Potassium chloride	7447-40-7	<1%
	deoxyadenosine 5'triphosphate	1927-31-7	<0.1%
	deoxycytidine 5'triphosphate	102783-51-7	
	deoxyguanosine 5'triphosphate	93919-41-6	
	deoxythymidine 5'triphosphate	18423-43-3	
	SYBR® Green I	163795-75-3	<0.001%
	ROX Reference Dye	-	<0.001%
Plus solution	Formamide	75-12-7	10～30%

Components Contributing to the Hazard

Common Chemical Name	Glycerol	Formamide
Synonyms	Glycerin	
Contained Parts	SYBR® Green Realtime PCR Master Mix -Plus-	Plus solution
Chemical formula	$CH_2OHCHOHCH_2$	$HCONH_2$
CAS No.	56-81-5	75-12-7
Concentration	2%	10～30%

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 plenty of 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	Try to get the affected person to vomit as much as possible. Seek medical attention, immediately.

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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.

6 ACCIDENTAL RELEASE MEASURES

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

STORAGE

Proper Storage Conditions	Store at -20℃. In the case of several days, store at 4℃.
Packaging Materials	Store in the original package

8 EXPOSURE CONTROLS/ PERSONAL PROTECTION

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

Control Parameter

Limit Values	Glycerol	Formamide
JSOH OEL	not established	not established
ACGIH TLV	10mg/m^3	30mg/m^3

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection	Wear a dust mask when needed.
Hand Protection	Wear chemical safety
Eye Protection	Wear protective eyeglasses or chemical safety goggles.
Skin and Body Protection	Wear lab coat when needed.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State	liquid. SYBR® Green Realtime PCR Master Mix -Plus- and Plus solution freeze at less than -20℃.
Colour	SYBR® Green Realtime PCR Master Mix -Plus- : very pale red Plus solution : colourless
Odour	none
pH	6.0-9.0
Flash Point	Not flammable due to aqueous solution, but glycerol whose flash point 160℃ in SYBR® Green Realtime PCR Master Mix -Plus- and formamide whose flash point 154℃ may stay behind after volatilization.
Density	1.0-1.2(g/cm^3)
Solubility	Soluble in water.

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10 STABILITY AND REACTIVITY

Stability	Stable at less than -20℃.
Possible Hazardous Reactions	None
Conditions to Avoid	High temperature, ignition sources, direct sunlight
Material to Avoid	Strong acids, strong alkalines and strong oxidizers
Hazardous Decomposition Product	Not available

11 TOXICOLOGICAL INFORMATION

Acute Toxicity	Not available
Local Effects	May cause eye and skin irritation.

Toxicological information on the component of this product

	Glycerol	Formamide
Acute toxicity (LD50:Oral)	mouse:4090mg/kg rat:12.6g/kg	mouse:3150mg/kg rat:6000mg/kg
Acute toxicity (LD50:Dermal)		rabbit:6000mg/kg
Acute toxicity (Inhalation)		No toxic symptom was observed on rats inhaling 3900 ppm of mist for 6 hours (4-hour conversion : 10.75mg/L). (Report of
Skin corrosion/irritation		Mild transient irritation was observed on marmot skin.(Report of ACGIH(7th,2001))
Serious eye damage/eye irritation		Mild transient irritation was observed on rabbit eye. (Report of ACGIH(7th,2001))
Germ cell mutagenicity		The micronucleus test using mouse reticulocyte test was negative. (NTP DB(2005))
Reproductive toxicity		No reproductive toxicity was observed on oral administration test using pregnant rats and mouse. (Result of NTP DB(2005)) No reproductive toxicity was observed on percutaneous administration test using pregnant mouse and rat. (Report of ACGIH(7th,2001))

12 ECOLOGICAL INFORMATION

Mobility	Soluble in water and diffusible into water environment.
Persistence/Degradability	Glycerol, formamide, deoxynucleotides, protein, and enzyme are biodegradable.
Acute aquatic toxicity (LC50)	Foramide : Fish (Oryzias latipes)>100mg/l-96h (Result of Eco-toxicity tests of chemicals conducted by Ministry of the Environment, 1998)
Chronic aquatic toxicity (LC50)	Foramide is not water-insoluble (aqueous solubility = 1.00x10^6mg/L (PHYSPROP Database,2005), and is less acute toxicity.

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

Follow all of the laws and regulations in your respective country.

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.