



SYBR® Green Realtime PCR Master Mix -Plus-

First issue : Jun. 25, 2014

Second issue : Jan, 25, 2016

SDS No:1166F

Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name **SYBR® Green Realtime PCR Master Mix -Plus-**

Product Code **QPK-212,QPK-212T**

SUPPLIER

Name **TOYOBO Co., Ltd.**

Address **2-2-8 Dojima Hama Kita-ku Osaka, 530-8230 Japan**

Department **Biotech support Department**

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Recommended use and restrictions on use **realtime PCR kit**



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2 HAZARDS IDENTIFICATION

Important Hazards

Physical and chemical hazards Glycerol whose flash point 160°C and formamide whose flash point 154°C are contained.
Adverse effects on human health Plus solution contains formamid. It may be harmful if swallowed, in contact with skin or if inhaled. It may also cause eye and skin irritation and damage fertility or the unborn child.

GHS Classification

Hazard class and category

SYBR® Green Realtime PCR Master Mix -Plus- Plus solution

Physical Hazards	Flammable liquids	Not classified	Not classified
Health Hazards	Acute toxicity (Oral)	Not classified	Category 5
	Acute toxicity (Dermal)	Not classified	Category 5
	Acute toxicity (Inhalation)	Not classified	Category 5
	Skin corrosion /Irritation	Not classified	Category 2
	Serious eye damage /Eye irritation	Not classified	Category 2B
	Toxic to reproduction	Classification not possible	Category 1
Environmental Hazards	Hazards to the aquatic environment (Acute, long-term)	Classification not possible	Not classified

Label elements

Pictogram or symbol



Signal word

Danger

Hazard statements

May be harmful if swallowed, in contact with skin or if inhaled.
Causes skin and eye irritation
May damage fertility or the unborn child

Precautionary statements

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and
Wear protective gloves/protective clothing/eye protection/face protection
Wash hands thoroughly after handling.

Response

If ON SKIN: Wash with plenty of water.
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.
Call a POISON CENTER or doctor, if you feel unwell.
IF exposed or concerned : Get medical advice/attention.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national and international regulation.



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3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Product	Mixture		
(Substance/Mixture)			
Chemical Nature	Enzyme and substrate aqueous solution		
Parts Name	Main components	CAS No. (EC No.)	Concentration
SYBR® Green Realtime PCR Master Mix -Plus-	Taq DNA polymerase	(EC 2.7.7.7)	<0.1%
	Monoclonal antibody	-	<0.1%
	Bovine Serum	-	<0.1%
	Albumin		
	Glycerol	56-81-5	Ca. 2%
	Tris(hydroxymethyl)	77-86-1	<1%
	aminomethane		
	Magnesium chloride	7791-18-6	<1%
	Potassium chloride	7447-40-7	<1%
	deoxyadenosine	1927-31-7	<0.1%
	5'triphosphate		
	deoxycytidine	102783-51-7	
	5'triphosphate		
	deoxyguanosine	93919-41-6	
	5'triphosphate		
	deoxythymidine	18423-43-3	
	5'triphosphate		
Plus solution	SYBR® Green I	163795-75-3	<0.001%
	ROX Reference Dye	-	<0.001%
Components Contributing to the Hazard	Formamide	75-12-7	10~30%
Common Chemical Name	Glycerol	Formamide	
Synonyms	Glycerin		
Contained Parts	SYBR® Green	Plus solution	
	Realtime PCR		
	Master Mix -Plus-		
Chemical formula	CH ₂ OHCHOHCH 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 feel unwell.
Skin Contact	Wash with plenty of clean water, immediately. Rinse cautiously with water for several minutes. Remove contact
Eye 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. Wash hands thoroughly after handling.
Precautions	Handle with ventilation and local exhaust system.
Safe Handling Advice	Keep the handling area always clean.

STORAGE

Proper Storage Conditions	Store at -20°C. In the case of several days, store at 4°C.
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 -20°C (-4°F).
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°C in SYBR® Green Realtime PCR Master Mix -Plus- and formamide whose flash point 154°C 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 lower than -20°C (-4°F).
Possible Hazardous	None
Reactions	
Conditions to Avoid	High temperature, direct sunlight
Material to Avoid	Strong acids, strong alkalines and strong oxidizers
Hazardous Decomposition Product	Oxidative decomposition products of glycerol

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	mouse:3150mg/kg
	rat:12.6g/kg	rat:6000mg/kg
Acute toxicity (LD50:Derma)	rabbit:>10g/kg	rabbit:6000mg/kg
Acute toxicity (Inhalation)	rat: LC50 >570mg/m ³ /1hr	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	rabbit : 500 mg/24hr:Mild	Slight transient skin irritations was admitted in the test using the guinea-
Serious eye damage/eye irritation	rabbit : 500 mg/24hr:Mild	Causes eye irritation (ICSC)
Germ cell mutagenicity	-	The micronucleus test using mouse reticulocyte test was negative. (NTP DB(2005))
Reproductive toxicity	-	May damage fertility or the unborn child (ICSC)

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	Foramide is not water-insoluble (aqueous solubility = 1.00x10 ⁻⁶ mg/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.

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.



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15 REGULATORY INFORMATION

Follow all of the laws and regulations in your country.

16 OTHER INFORMATION

References

The International Chemical Safety Cards (ICSC) No.0891

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.