



## Safety Data Sheet

### 1 PRODUCT AND COMPANY IDENTIFICATION

Product Name	<b>KOD -Multi &amp; Epi-™</b>
Product Code	KME-101
<b>SUPPLIER</b>	
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	PCR kit for DNA amplification (Reagent for research)

### 2 HAZARDS IDENTIFICATION

Most Important Hazards	Few adverse human health effects are anticipated.
Specific Hazards	Classification not possible

#### GHS Classification

##### Hazard class and category

Physical Hazards Not Applicable

##### Health Hazards

	KOD -Multi & Epi-™	2x PCR Buffer for KOD -Multi & Epi-™
Acute toxicity - oral	Classification not possible	Category 5
Skin corrosion/Irritation	Category 3	Category 3
Serious eye damage/Eye irritation	Category 2B	Classification not possible

Environmental Hazards Not Applicable

#### Label elements

##### <KOD -Multi & Epi-™>

Pictograms or symbols	—
Signal word	Warning
Hazard statements	Causes mild skin irritation. Causes eye irritation.
Precautionary statement(s)	
Prevention	—
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.

##### <2x PCR Buffer for KOD -Multi & Epi-™>

Pictograms or symbols	—
Signal word	Warning
Hazard statements	May be harmful if swallowed. Causes mild skin irritation.
Precautionary statement(s)	
Prevention	—
Response	Call a POISON CENTER or doctor / physician if you feel unwell. If skin irritation occurs: Get medical advice / attention.



## Safety Data Sheet

### 3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Product (Substance/Preparation)	Mixture	
Chemical Nature	Aqueous solution of enzyme, substrate, etc.	
Parts Name	Main components	CAS No. (EC NO.)
KOD -Multi & Epi-™	DNA polymerase	(EC 2.7.7.7)
	monoclonal antibody	-
2× PCR Buffer for KOD - Multi & Epi-™	Glycerol	56-81-5
	Poly(oxyethylene)	9016-45-9
	Nonylphenylether	
	Tris(Hydroxymethyl)aminomethane	77-86-1
	Magnesium sulfate	7487-88-9
	Deoxyadenosine triphosphate	1927-31-7
	Deoxycytidine triphosphate	102783-51-7
Deoxyguanosine triphosphate	93919-41-6	
Deoxythymidine triphosphate	18423-43-3	
Additive	Nondisclosure	

#### Components Contributing to the Hazard

Common Chemical Name (or Generic Name)	Glycerol	Poly(oxyethylene) Nonylphenylether	Additive
Synonyms	Glycerin	Nonidet P-40	Nondisclosure
Contained Parts:Percentage	KOD -Multi & Epi-™ :50%	KOD -Multi & Epi-™ :0.05%	2×PCR Buffer for KOD -Multi & Epi-™ :<3%
Chemical formula	CH <sub>2</sub> OHCHOHCH <sub>2</sub> OH	HO(C <sub>2</sub> H <sub>4</sub> O) <sub>n</sub> -C <sub>6</sub> H <sub>4</sub> -C <sub>9</sub> H <sub>19</sub>	Nondisclosure
CAS No.	56-81-5	9016-45-9	Nondisclosure
Concentration	50%	0.05%	<3%

### 4 FIRST-AID MEASURES

Inhalation	Remove person to fresh air. Call a 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 If eye irritation persists: Get medical advice / attention.
Ingestion	If swallowed: Rinse mouth. Do NOT 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 area. Fire-fighters should wear proper protective equipment in case of large scale fire.



## Safety Data Sheet

### 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 system.
Precautions	Avoid substance contact .After handling, wash with clean water.
Safe Handling Advice	Always keeping things tidy and in order, and keep laboratory Clean..

#### STORAGE

Technical Measures	Store in the laboratory bottle
Storage Conditions	Store at about -20°C
Incompatible Products	Oxidizers
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		Glycerol	Poly(oxyethylene) Nonylphenylether	Additive
JSOH	OEL	Not established	Not established	Not established
ACGIH	TLV	10mg/m <sup>3</sup>	Not established	Not established
OSHA	PEL	total dust:15mg/m <sup>3</sup> TWA respirable fr.: 5mg/m <sup>3</sup> TWA	Not established	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	KOD -Multi & Epi-™ and 2x PCR Buffer for KOD -Multi & Epi-™ are liquid over -20°C
Colour	None
Odour	None
pH	7.0-9.0
Flash Point	No flammability due to aqueous solution, but glycerol whose flash point 160°C may stay behind after volatilization KOD -Multi & Epi-™.
Boiling Point	Classification not possible
Melting Point	Classification not possible
Decomposition Temperature	Classification not possible
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 and Direct sunlight
Material to Avoid	strong oxidizers and strong reducers
Hazardous Decomposition Product	Classification not possible



## Safety Data Sheet

### 11 TOXICOLOGICAL INFORMATION

<KOD -Multi & Epi-™>

Acute Toxicity Classification not possible  
Local Effects May cause eye and skin irritation. May cause respiratory tract irritation.  
Toxicological information on the component of this product

	Glycerol	Poly(oxyethylene) Nonylphenylether
Acute toxicity (LD50)	Oral-mouse: 4090mg/kg Oral-rat: 12.6g/kg	Oral-mouse: 3500mg/kg Oral-rat: 4190mg/kg
Skin corrosion/Irritation	Category 3	Category 3
Serious eye damage/Eye irritation	Category 2B	Category 2A

<2x PCR Buffer for KOD -Multi & Epi-™>

Acute Toxicity Classification not possible  
Local Effects May cause eye and skin irritation. May cause respiratory tract irritation.  
Toxicological information on the component of this product

	Additive
Acute toxicity (LD50)	Oral-rat: 50mg/kg*
Skin corrosion/Irritation	Category 2
Serious eye damage/Eye irritation	Category 3

\*Acute toxicity (LD50) of Additive is estimated from similar agent.

### 12 ECOLOGICAL INFORMATION

Mobility Soluble in water and diffusible into water environment.  
Persistence/Degradability Classification not possible  
Bioaccumulation Classification not possible

### 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. Store at about -20°C when it is transported.

### 15 REGULATORY INFORMATION

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 with caution. The SDS is subject to revision as new information becomes available.