



Safety Data Sheet

according to Regulation (EC) No. 1907/2006

SECTION 1 Identification of the substance/ mixture and of the company/ undertaking

1.1 Product identifier

Product name KOD -Multi&Epi-™
 2x Buffer for KOD -Multi&Epi-™

Product Code KME-101, KME-159, KME-1B1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended use and PCR kit
restrictions on use

1.3 Detail of the supplier of the safety data sheet

Company TOYOBO Co., Ltd.
Department Biotech support Department
Address 2-2-8 Dojima Hama Kita-ku Osaka, 530-8230 Japan
Telephone number +81-6-6348-3786
Fax No. +81-6-6348-3833

1.4 Emergency telephone number

+81-6-6348-3786 (9:00~17:00 Japan Time)

SECTION 2 Hazards identification

2.1 Classification of substance or mixture

Classification (REGULATION (EC) No 1272/2008)
Not classified or classification not possible

2.2 Label elements

Classification (REGULATION (EC) No 1272/2008)
No label elements are required.

2.3 Other hazards

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



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SECTION 3 Composition / information on Ingredients

Chemical Product
 (Substance/Mixture) Mixture

3.2 Mixture

Chemical Nature Aqueous solutions of enzyme and other compounds.

Harzadous components

Common Chemical	Glycerol	Trometamol
Synonyms	Glycerin	Tris(hydroxymethyl)aminomethane

Contained Parts	KOD -Multi&Epi-™	KOD -Multi&Epi-™, 2x Buffer for KOD -Multi&Epi-™
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Chemical formula	CH ₂ OHCHOHCH ₂ OH	C ₄ H ₁₁ NO ₃
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CAS No.	56-81-5	77-86-1
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EC No.	200-289-5	201-064-4
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Classification	Not classified	Skin Irrit. 2 H315, Eye Irrit. 2 H319, STOT SE 3 H335
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Concentration	<5%	<5%
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Common Chemical Name	Poly(oxyethylene)nonylphenyl ether	Additive1
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Synonyms	Nonidet P-40	-
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Contained Parts	KOD -Multi&Epi-™	2x Buffer for KOD -Multi&Epi-™
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Chemical formula	HO(C ₂ H ₄ O) _n -C ₆ H ₄ -C ₉ H ₁₉	-
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CAS No.	9016-45-9	-
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EC No.	500-024-6	-
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Classification	Skin Irrit. 2 H315, Eye Irrit. 2 H319, Aquatic Chronic 2 H411 PBT	Not classified
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Concentration	0.05%	<40%
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Common Chemical Name	Additive2
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Synonyms	-
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Contained Parts	2x Buffer for KOD -Multi&Epi-™
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Chemical formula	-
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CAS No.	-
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EC No.	-
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Classification	Skin Irrit. 2 H315, Eye Irrit. 2 H319, STOT SE 3 H335
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Concentration	<5%
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SECTION 4 First aid measures

4.1 Description of first aid measures

Inhalation In case of irritation by inhaling this product, remove person to fresh air and keep comfortable for breathing. Seek medical attention.

Skin Contact Wash with clean water, immediately.
Take off contaminated clothing and wash before reuse.
If skin irritation or rash occurs: Get medical advice/ attention.

Eye Contact Rinse cautiously with water for several minutes.

Ingestion Rinse mouth. Induce vomiting.
If indisposition continues, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5 Firefighting measures

5.1 Extinguishing media

Water, Carbon Dioxide, Foam, Dry Chemical Powder

5.2 Special hazards arising from the substance or mixture

Exposure to decomposition products may be a hazard to health.
Toxic gas (carbon monoxide, nitrogen oxides) and fumes maybe generated.

5.3 Advice for firefighters

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.

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipments and avoid eye/skin contact and inhalation.

6.2 Environmental precautions

Avoid disposition to the environment.

6.3 Methods and material for containment and cleaning up

Use cloth, paper, or anything similar to soak up to the solution leaking out of the container.

6.4 Reference to other sections

For personal protection see section 8.



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SECTION 7 Handling and storage

7.1 Precautions for safe handling

Technical Measures Avoid substance contact. Wear protective equipments and avoid contact with eyes and skin. Handle with ventilation and local exhaust system.

Precautions Keep the handling area always clean.

Hygiene measures Wash hands thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions Store at about -20°C

Packaging Materials Store in the original package

7.3 Specific end uses (s)

Laboratory chemicals

SECTION 8 Exposure controls/ personal protection

8.1 Control Parameter

Occupational Exposure Limits

	Glycerol
JSOH OEL	Not established
OSHA PEL	Total dust: 15mg/m ³ TWA
	Respirable fraction: 5mg/m ³ TWA
	Inhalable fraction: 200 mg/m ³
DFG MAK	Peak limitation category: I(2)

8.2 Exposure controls

Appropriate engineering controls

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

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.



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SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Colour	Colourless
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 of KOD -Multi&Epi-™.
Density	1.0-1.2
Solubility	Soluble in water.

9.2 Other data

None

SECTION 10 Stability and reactivity

10.1 Reactivity

No hazardous reaction if stored and applied as directed.

10.2 Chemical stability

Stable at -20°C.

10.3 Possibility of hazardous reactions

Nothing particular

10.4 Conditions to avoid

High temperature, ignition sources, direct sunlight

10.5 Incompatible materials

Strong acids, strong alkalines and strong oxidizers

10.6 Hazardous decomposition products

Not available



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SECTION 11 Toxicological information

11.1 Information on toxicological effects

Acute Toxicity Not available
 Skin corrosion/ May cause skin irritation.
 Serious eye damage/ May cause eye irritation.
 irritation

Toxicological information on the component of this product

	Glycerol	Poly(oxyethylene)nonylphenyl ether
Acute toxicity	Oral-rat: LD50 12.6g/kg Dermal-rabbit: LD50 >10g/kg Inhalation-rat: LC50>570mg/m3 (1hr)	—
Skin corrosion/ irritation	—	Irritating to skin.
Eye damage/ irritation	—	Irritating to eyes.
	Trometamol	Additive1
Skin corrosion/ irritation	Irritating to skin.	May cause irritate skin.
Eye damage/ irritation	Irritating to eyes.	May cause irritate the eyes
Specific target organ toxicity(single	May cause respiratory irritation	—
	Additive2	
Skin corrosion/ irritation	Irritating to skin.	
Eye damage/ irritation	Irritating to eyes.	
Specific target organ toxicity(single	May cause respiratory irritation	



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SECTION 12 Ecological information

12.1 Toxicity

	Poly(oxyethylene)nonylphenyl ether
Acute	Crustacea (Mysidopsis bahia); LC50/48H 0.71-2.2mg/L
Aquatic chronic	Fishes (Pimephales promelas); NOEC/7D 1mg/L

12.2 Persistence and degradability

Glycerol and enzyme are biodegradable.

12.3 Bioaccumulative potential

Glycerol and enzyme are not bioaccumulative.

12.4 Mobility in soil

Soluble in water and diffusible into water environment.

12.5 Results of PBT and vPvB assessment

This product does not contain any PBT and vPvB substances at levels of 0.1% or higher.

SECTION 13 Disposal considerations

13.1 Waste treatment methods

Product	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.

SECTION 14 Transport information

14.1 UN number

No

14.2 UN proper shipping name

No

14.3 Transport hazard class(es)

No

14.4 Packing group

No

14.5 Environmental hazards

Not classified as environmental hazards.

14.6 Special precautions for user

To prevent packages from breaking, handle with care.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.



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SECTION 15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals

Not applicable

REACH - Authorization List of Substances of Very High Concern for Authorisation (Annex Poly(oxyethylene)nonylphenyl ether

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer

Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants

Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

15.2 Chemical Safety Assessment

No data available

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

SECTION 16 Other information

Full text of H-

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

H411: Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Skin Irrit. : Skin irritation

Eye Irrit. : Eye irritation

STOT SE: Specific target organ toxicity - single exposure

Aquatic Chronic: Chronic aquatic toxicity

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.