

Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### **SECTION 1. IDENTIFICATION**

Product name	:	KAPA HyperPlus Kit (PCR-free	e)
Product code	:	07962410001	
Manufacturer or supplier's d	leta	ails	
Company name of supplier	:	Roche Diagnostics	
Address	:	9115 Hague Road Indianapolis, IN 46250 USA	
Telephone Emergency telephone	:	1-800-428-5074	
In case of emergencies:	:	CHEMTREC	1-800-424-9300 (U.S. or Ca- nada) 1-703-527-3887 (Internatio- nal)
<b>–</b>			

Recommended use of the chemical and restrictions on use

Restrictions on use :		For professional users only.
-----------------------	--	------------------------------

### **SECTION 2. HAZARDS IDENTIFICATION**

# GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

The product is a kit consisting of individual ingredients. The classification of the ingredients can be obtained from section 3. Section GHS Label elements contains the resulting labelling for the kit

#### **GHS** label elements

Hazard pictograms

nazaru piciograms	
Signal Word :	Warning
Hazard Statements :	H315 Causes skin irritation. H319 Causes serious eye irritation.
Precautionary Statements :	<b>Prevention:</b> P264 Wash skin thoroughly after handling. P280 Wear protective gloves/ eye protection/ face protection.
	<b>Response:</b> P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy



## KAPA HyperPlus Kit (PCR-free)

Version 3.1 Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

to do. Continue rinsing.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

#### Other hazards

None known.

#### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### KAPA Hyper Prep End Repair and A-Tailing Buffer

### **GHS Classification**

Skin irritation : Category 2

Eye irritation : Category 2A

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
1,3-Propanediol, 2-amino-2-	77-86-1	>= 5 - < 10
(hydroxymethyl)-		
2,3-Butanediol, 1,4-dimercapto-,	3483-12-3	>= 1 - < 5
(2R,3R)-rel-		
Hydrochloric acid	7647-01-0	>= 1 - < 5

Actual concentration is withheld as a trade secret

### KAPA Hyper Prep Ligation Buffer

#### **GHS Classification**

Not a hazardous substance or mixture.

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
Poly(oxy-1,2-ethanediyl), .alpha	25322-68-3	>= 20 - < 30
hydroomegahydroxy-		
1,3-Propanediol, 2-amino-2-	77-86-1	>= 1 - < 5
(hydroxymethyl)-		

Actual concentration is withheld as a trade secret

## KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

#### **GHS Classification**

Not a hazardous substance or mixture.

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
glycerol	56-81-5	>= 50 - < 70
Taq DNA Polymerase	123340-12-5	< 0.1
Actual concentration is withhel	d as a trade secret	

Actual concentration is withheld as a trade secret



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### KAPA Hyper Prep DNA Ligase

#### **GHS Classification**

Not a hazardous substance or mixture.

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
glycerol	56-81-5	>= 50 - < 70
Polynucleotide 5'-hydroxyl kinase	37211-65-7	>= 0.1 - < 1
Actual concentration is withheld as a	trada sacrat	

Actual concentration is withheld as a trade secret

### KAPA Frag Enzyme (5X)

#### **GHS Classification**

Not a hazardous substance or mixture.

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
glycerol	56-81-5	>= 30 - < 50
DNA-dependent DNA polymerase	9012-90-2	< 0.1
Deoxyribonuclease	9003-98-9	< 0.1

Actual concentration is withheld as a trade secret

### KAPA Frag Conditioning Solution

#### **GHS Classification**

Not a hazardous substance or mixture.

#### Components

No hazardous ingredients

### KAPA Frag Buffer (10X)

#### **GHS Classification**

Not a hazardous substance or mixture.

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
1,3-Propanediol, 2-amino-2-	77-86-1	>= 1 - < 5
(hydroxymethyl)-		

Actual concentration is withheld as a trade secret

### KAPA HyperPlus ER&AT Enzyme Mix

#### **GHS Classification**

Not a hazardous substance or mixture.

#### Components



Version 3.1

# Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

Chemical name	CAS-No.	Concentration (% w/w)
glycerol	56-81-5	>= 50 - < 70
Taq DNA Polymerase	123340-12-5	< 0.1
Actual concentration is withhal	d aa a trada aaarat	

Actual concentration is withheld as a trade secret

#### **SECTION 4. FIRST AID MEASURES**

General advice	:	Move out of dangerous area. Show this material safety data sheet to the doctor in atten- dance. Do not leave the victim unattended.
If inhaled	:	Move to fresh air. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Rinse mouth with water.
Most important symptoms and effects, both acute and delayed	:	None known.
Notes to physician	:	The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

#### **SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	No information available.
Further information	:	Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local cir-



Version 3.1	Revision [ 03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
		cumstances and	the surrounding environment.
Special protective equ for fire-fighters	ipment :	Wear self-contair necessary.	ned breathing apparatus for firefighting if

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- tive equipment and emer- gency procedures	:	Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

### SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapors/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the ap- plication area. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated pla- ce. Electrical installations / working materials must comply with the technological safety standards.
Further information on stor- age conditions	:	See label, package insert or internal guidelines
Further information on stor- age stability	:	No decomposition if stored and applied as directed.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## KAPA Hyper Prep End Repair and A-Tailing Buffer

### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Hydrochloric acid	7647-01-0	С	2 ppm	ACGIH
		С	5 ppm	NIOSH REL



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

	7 mg/m3	
C	5 ppm	OSHA Z-1
	7 mg/m3	
C	5 ppm 7 mg/m3	OSHA P0
	7 mg/m3	

### KAPA Hyper Prep Ligation Buffer

### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Poly(oxy-1,2- ethanediyl), .alphahydro- .omegahydroxy-	25322-68-3	TWA (aero- sol)	10 mg/m3	US WEEL

### KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1
		TWA (Mist - total dust)	10 mg/m3	OSHA P0
		TWA (Mist - respirable fraction)	5 mg/m3	OSHA P0
Taq DNA Polymerase	123340-12-5	IOEL	0.00006 mg/m3	Roche In- dustrial Hy- giene Com- mittee (RIHC)

## KAPA Hyper Prep DNA Ligase

### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1
		TWA (Mist - total dust)	10 mg/m3	OSHA P0
		TWA (Mist - respirable fraction)	5 mg/m3	OSHA P0
Polynucleotide 5'-hydroxyl kinase	37211-65-7	IOEL	0.00006 mg/m3	Roche In- dustrial Hy-



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

giene Cor mittee (RIHC)	۱-
-------------------------------	----

## KAPA Frag Enzyme (5X)

### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1
		TWA (Mist - total dust)	10 mg/m3	OSHA P0
		TWA (Mist - respirable fraction)	5 mg/m3	OSHA P0
DNA-dependent DNA poly- merase	9012-90-2	IOEL	0.00006 mg/m3	Roche In- dustrial Hy- giene Com- mittee (RIHC)
Deoxyribonuclease	9003-98-9	IOEL	0.00006 mg/m3	Roche In- dustrial Hy- giene Com- mittee (RIHC)

### KAPA Frag Conditioning Solution

### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

### KAPA Frag Buffer (10X)

### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

### KAPA HyperPlus ER&AT Enzyme Mix

### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1
		TWA (Mist - total dust)	10 mg/m3	OSHA P0
		TWA (Mist - respirable fraction)	5 mg/m3	OSHA P0



Version 3.1	Revision 03-25-2			issue: 10-11-2021 issue: 05-18-2016	
Taq DNA Polyme	erase	123340-12-5	IOEL	0.00006 mg/m3	Roche In- dustrial Hy- giene Com- mittee (RIHC)
Engineering me	asures	: No data avail	able		
Personal protection	tive equipme	nt			
Material Break through Glove thickne		In case of cor Nitrile rubber > 30 min > 0.11 mm	ntact through spl	ashing:	
Material Break through Glove thickne		In case of full butyl-rubber > 480 min > 0.4 mm	contact:		
Remarks Eye protection		Replace torn Eye wash bot Tightly fitting	or punctured glo tle with pure wa safety goggles		
Skin and body pr	otection		protection acco	rding to the amount ubstance at the work	
Hygiene measure	es	When using c		k. nd at the end of work	day.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

## KAPA Hyper Prep End Repair and A-Tailing Buffer

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
рН	:	7.9
Melting point/range	:	No data available



# KAPA HyperPlus Kit (PCR-free)

/ersion 5.1	Revision [ 03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
Boiling point/boiling ra	nge :	No da	ata available
Flash point	:	does	not flash
Evaporation rate	:	No da	ata available
Flammability (liquids)	:	Does	not sustain combustion.
Self-ignition	:	Not a	pplicable
Upper explosion limit / flammability limit	Upper :	No da	ata available
Lower explosion limit / flammability limit	Lower :	No da	ata available
Vapor pressure	:	No da	ata available
Relative vapor density	:	No da	ata available
Relative density	:	No da	ata available
Density	:	1.045	g/cm3
Solubility(ies) Water solubility	:	comp	letely miscible
Solubility in other s	olvents :	No da	ata available
Partition coefficient: n- octanol/water	:	No da	ata available
Autoignition temperatu	ire :	No da	ata available
Decomposition temper	rature :	No da	ata available
Viscosity Viscosity, dynamic	:	No da	ata available
Viscosity, kinematio	:	No da	ata available
Explosive properties	:	Not e	xplosive
Oxidizing properties	:	The s	substance or mixture is not classified as oxidizing

## KAPA Hyper Prep Ligation Buffer

Appearance	:	liquid
Color	:	colorless



# KAPA HyperPlus Kit (PCR-free)

/ersion .1	Revision 03-25-20			Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
Odor	:	: (	odorless	
Odor Threshold	:	: 1	No data available	
рН	:	: 8	3.1	
Melting point/range	:	: 1	No data available	
Boiling point/boiling	range :	: 1	lo data available	
Flash point	:	: 0	loes not flash	
Evaporation rate	:	: 1	No data available	
Flammability (liquids	) :	: [	Does not sustain o	combustion.
Self-ignition	:	: 1	Not applicable	
Upper explosion limi flammability limit	t / Upper :	: 1	No data available	
Lower explosion limi flammability limit	t / Lower :	: 1	No data available	
Vapor pressure	:	: 1	No data available	
Relative vapor densi	ty :	: 1	No data available	
Relative density	:	: 1	No data available	
Density	:	: 1	.053 g/cm3	
Solubility(ies) Water solubility	:	: 0	completely miscib	le
Solubility in other	solvents :	: 1	No data available	
Partition coefficient: octanol/water	n- :	: 1	No data available	
Autoignition tempera	iture :	: 1	No data available	
Decomposition temp	erature :	: 1	No data available	
Viscosity Viscosity, dynami	ic :	: 1	No data available	
Viscosity, kinema	tic :	: 1	No data available	
Explosive properties	:	: 1	Not explosive	
Oxidizing properties	:	: 7	The substance or	mixture is not classified as oxidizing



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

## KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
рН	:	6.8
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Does not sustain combustion.
Flammability (liquids)	:	Does not sustain combustion.
Self-ignition	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	1.148 g/cm3
Solubility(ies) Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n- octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available



Version 3.1	Revision Date: 03-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
Viscosity Viscosity, dynami	c : No data av	vailable
Viscosity, kinema	tic : No data av	vailable
Explosive properties	: Not explos	sive
Oxidizing properties	: The substa	ance or mixture is not classified as oxidizing

## KAPA Hyper Prep DNA Ligase

:	liquid
:	colorless
:	odorless
:	No data available
:	6.5
:	No data available
:	No data available
:	does not flash
:	No data available
:	Does not sustain combustion.
	The product is not flammable.
:	Not applicable
:	No data available
:	1.148 g/cm3



# KAPA HyperPlus Kit (PCR-free)

Version 3.1		Revision Date: 03-25-2022		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
	ubility(ies) Water solubility	:	completely misc	cible
S	Solubility in other so	olvents :	No data availab	le
	tition coefficient: n- anol/water	:	No data availab	le
Auto	Autoignition temperature		No data availab	le
Dec	Decomposition temperature		No data availab	le
	cosity Viscosity, dynamic	:	No data availab	le
V	Viscosity, kinematic	: :	No data availab	le
Expl	losive properties	:	Not explosive	
Oxic	dizing properties	:	The substance	or mixture is not classified as oxidizing.

## KAPA Frag Enzyme (5X)

Appearance	:	liquid
Color	:	colorless
Odor	:	No data available
Odor Threshold	:	No data available
рН	:	7.8
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	does not flash
Evaporation rate	:	No data available
Flammability (liquids)	:	Does not sustain combustion.
		The product is not flammable.
Self-ignition	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available



# KAPA HyperPlus Kit (PCR-free)

Version 3.1		Revision [ 03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
	ver explosion limit / nmability limit	Lower :	No data	available
Vap	oor pressure	:	No data	available
Rela	ative vapor density	:	No data	available
Rela	ative density	:	No data	available
Der	nsity	:	1.090 g	/cm3
	ubility(ies) Water solubility	:	comple	tely miscible
ç	Solubility in other so	olvents :	No data	available
	tition coefficient: n- anol/water	:	No data	available
Auto	oignition temperatu	re :	No data	available
Dec	composition temper	ature :	No data	available
	cosity Viscosity, dynamic	:	No data	available
١	Viscosity, kinematic	; :	No data	available
Exp	blosive properties	:	Not exp	losive
Oxid	dizing properties	:	The sub	ostance or mixture is not classified as oxidizing

## KAPA Frag Conditioning Solution

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
рН	:	9.0
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	does not flash



# KAPA HyperPlus Kit (PCR-free)

Vers 3.1	sion	Revision E 03-25-202			Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
	Evaporation rate	:		No data availabl	e
	Flammability (liquids)	:		Does not sustair	n combustion.
			-	The product is n	ot flammable.
	Self-ignition	:	l	Not applicable	
	Upper explosion limit / flammability limit	Upper :	l	No data availabl	e
	Lower explosion limit / flammability limit	Lower :		No data availabl	e
	Vapor pressure	:		No data availabl	e
	Relative vapor density	:		No data availabl	e
	Relative density	:		No data availabl	e
	Density	:	(	0.990 g/cm3	
	Solubility(ies) Water solubility	:		completely misc	ible
	Solubility in other se	olvents :	I	No data availabl	e
	Partition coefficient: n- octanol/water	:	l	No data availabl	e
	Autoignition temperatu	re :	I	No data availabl	e
	Decomposition temper	ature :	I	No data availabl	e
	Viscosity Viscosity, dynamic	:		No data availabl	e
	Viscosity, kinematio	; ;	l	No data availabl	e
	Explosive properties	:	I	Not explosive	
	Oxidizing properties	:	-	The substance c	or mixture is not classified as oxidizing.
KA	PA Frag Buffer (10	X)			
	Appearance	:	I	liquid	

Odor

: odorless



# KAPA HyperPlus Kit (PCR-free)

/ersion 3.1	Revision E 03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016	
Odor Threshold	:	No data ava	ilable	
рН	:	8.3		
Melting point/range	:	No data ava	ilable	
Boiling point/boiling	range :	No data ava	ilable	
Flash point	:	does not flas	sh	
Evaporation rate	:	No data ava	ilable	
Flammability (solid,	gas) :	Does not su	stain combustion.	
Flammability (liquid	s) :	Does not su	stain combustion.	
Self-ignition	:	Not applicat	le	
Upper explosion lim flammability limit	it / Upper :	No data ava	ilable	
Lower explosion lim flammability limit	it / Lower :	No data ava	ilable	
Vapor pressure	:	No data ava	ilable	
Relative vapor dens	sity :	No data ava	ilable	
Relative density	:	No data ava	ilable	
Density	:	0.998 g/cm3	6	
Solubility(ies) Water solubility	:	completely r	niscible	
Solubility in othe	r solvents :	No data ava	ilable	
Partition coefficient: octanol/water	n- :	No data ava	ilable	
Autoignition temper	ature :	No data ava	ilable	
Decomposition tem	perature :	No data ava	ilable	
Viscosity Viscosity, dynam	nic :	No data ava	ilable	
Viscosity, kinem	atic :	No data ava	ilable	
Explosive properties	s :	Not explosiv	e	
Oxidizing properties	s :	The substan	ce or mixture is not classified as oxidizing	



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

## KAPA HyperPlus ER&AT Enzyme Mix

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
рН	:	ca. 5.5
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Does not sustain combustion.
Flammability (liquids)	:	Does not sustain combustion.
Self-ignition	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	ca. 1.15 g/cm3
Solubility(ies) Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n- octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available



Version 3.1	Revision Date: 03-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
Viscosity Viscosity, dynamic	: No data availabl	e
Viscosity, kinematic	: No data availabl	e
Explosive properties	: No data availabl	e
Oxidizing properties	: The substance of	or mixture is not classified as oxidizing.

### SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reac- tions	:	No decomposition if stored and applied as directed.

### SECTION 11. TOXICOLOGICAL INFORMATION

## KAPA Hyper Prep End Repair and A-Tailing Buffer

#### Acute toxicity

Not classified based on available information.

#### Components:

1,3-Propanediol, 2-amino-2-(hy	/droxymethyl)-:				
Acute oral toxicity :	LD50 (Rat, female): > 5,000 mg/kg Method: OECD Test Guideline 425 GLP: yes				
Acute dermal toxicity :	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402 GLP: yes				
2,3-Butanediol, 1,4-dimercapto-, (2R,3R)-rel-:					
Acute oral toxicity :	LD50 (Rat, female): > 300 - < 2,000 mg/kg Method: OECD Test Guideline 423 GLP: yes				
Acute toxicity (other routes of : administration)	Symptoms: May cause cardiac arrhythmia., Convulsions, Vomiting				

### Skin corrosion/irritation

Causes skin irritation.

#### **Components:**

## 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Species : Rabbit



Version
3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

#### 2,3-Butanediol, 1,4-dimercapto-, (2R,3R)-rel-:

Species Exposure time Method Result GLP	 human keratinocytes 4 h OECD Test Guideline 431 Irritating to skin. yes
Species Exposure time Method Result GLP	 reconstructed human epidermis (RhE) 60 min OECD Test Guideline 439 Irritating to skin. yes

#### Hydrochloric acid:

Result : Causes burns.

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### **Components:**

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Species	:	Rabbit
Result	:	No eye irritation
Exposure time	:	72 h
Method	:	OECD Test Guideline 405
GLP	:	yes

#### 2,3-Butanediol, 1,4-dimercapto-, (2R,3R)-rel-:

Species Result Exposure time Method GLP	 Chicken eye Risk of serious damage to eyes. 10 s OECD Test Guideline 438 yes
Species Result Exposure time Method GLP	 Human Risk of serious damage to eyes. 6 h OECD Test Guideline 492 yes
Hydrochloric acid:	

: Risk of serious damage to eyes.



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

#### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### **Components:**

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Test Type Assessment GLP Remarks	:	Direct Peptide Reactivity Assay (DPRA) Does not cause skin sensitization. yes Based on data from similar materials Expert judgment
Test Type Species Method GLP Remarks		Buehler Test Guinea pig OECD Test Guideline 406 no Based on data from similar materials
Test Type Species GLP Remarks	::	Intracutaneous test Guinea pig no Based on data from similar materials

#### 2,3-Butanediol, 1,4-dimercapto-, (2R,3R)-rel-:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Assessment	:	Does not cause skin sensitization.
Method	:	OECD Test Guideline 429
GLP :	:	yes

#### Germ cell mutagenicity

Not classified based on available information.

#### Components:

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Genotoxicity in vitro :	:	Test Type: Chromosome aberration test in vitro Test system: Chinese hamster lung cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative GLP: yes
		Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative GLP: yes



Version	
3.1	

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: yes Remarks: Based on data from similar materials

### 2,3-Butanediol, 1,4-dimercapto-, (2R,3R)-rel-:

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay) Result: negative GLP: yes

Test Type: Microbial mutagenesis assay (Ames test) Test system: Escherichia coli Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: yes

### Carcinogenicity

Not classified based on available information.

- **IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
- **NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

#### **Reproductive toxicity**

Not classified based on available information.

#### Components:

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Effects on fertility	:	Test Type: reproductive and developmental toxicity study Species: Rat, male and female Application Route: Oral Dose: 100, 300, 1000 mg/kg bw/day General Toxicity Parent: NOAEL: > 1,000 mg/kg body weight General Toxicity F1: NOAEL: > 1,000 mg/kg body weight Method: OECD Test Guideline 421 Result: Animal testing did not show any effects on fertility. GLP: yes
Effects on fetal development	:	Test Type: Pre-natal Species: Rat, female Strain: wistar



## KAPA HyperPlus Kit (PCR-free)

Version 3.1 Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

Application Route: Oral Dose: 100, 300, 1000 mg/kg bw/day General Toxicity Maternal: NOAEL: > 1,000 mg/kg body weight Developmental Toxicity: NOAEL: 1,000 mg/kg body weight Method: OECD Test Guideline 414 Result: No effects on fetal development. GLP: yes Remarks: Based on data from similar materials

#### STOT-single exposure

Not classified based on available information.

### Components:

#### Hydrochloric acid:

Assessment

May cause respiratory irritation.

#### STOT-repeated exposure

Not classified based on available information.

#### Repeated dose toxicity

#### **Components:**

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Species :	Rat, male and female
NOAEL :	250 mg/kg
LOAEL :	1,000 mg/kg
Application Route :	Oral
Exposure time :	90 d
Number of exposures :	daily
Dose :	62.5, 250, 1000 mg/kg bw
Method :	OECD Test Guideline 408
GLP :	yes
Remarks :	Based on data from similar materials

5

#### Aspiration toxicity

Not classified based on available information.

### KAPA Hyper Prep Ligation Buffer

Acute toxicity

Not classified based on available information.

#### Components:

Poly(oxy-1,2-ethanediyl), .alphahydroomegahydroxy-:		
Acute oral toxicity	:	LD50 Oral (Rat): 28,000 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 5.1 mg/l Test atmosphere: dust/mist Method: Expert judgment
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 20,000 mg/kg



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Acute oral toxicity	:	LD50 (Rat, female): > 5,000 mg/kg Method: OECD Test Guideline 425 GLP: yes
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402 GLP: yes

#### Skin corrosion/irritation

Not classified based on available information.

#### Components:

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

#### Serious eye damage/eye irritation

Not classified based on available information.

#### Components:

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Species	:	Rabbit
Result	:	No eye irritation
Exposure time	:	72 h
Method	:	OECD Test Guideline 405
GLP	:	yes

#### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### Components:

i,s-Propanedioi, z-amino-z-(	ny	aroxymethyl)-:
Test Type Assessment GLP Remarks	:	Direct Peptide Reactivity Assay (DPRA) Does not cause skin sensitization. yes Based on data from similar materials Expert judgment
Test Type Species Method GLP	:	Buehler Test Guinea pig OECD Test Guideline 406 no

### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:



Version 3.1	Revision Date: 03-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
Remarks	: Based on data fr	om similar materials
Test Type Species GLP Remarks	: Intracutaneous te : Guinea pig : no : Based on data fr	est om similar materials

#### Germ cell mutagenicity

Not classified based on available information.

#### **Components:**

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Genotoxicity in vitro :	Test Type: Chromosome aberration test in vitro Test system: Chinese hamster lung cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative GLP: yes
	Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative GLP: yes
	Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: yes Remarks: Based on data from similar materials

#### Carcinogenicity

Not classified based on available information.

- **IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
- **NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

#### Reproductive toxicity

Not classified based on available information.

#### Components:

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Effects on fertility

: Test Type: reproductive and developmental toxicity study Species: Rat, male and female Application Route: Oral



Version 3.1	Revision   03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
		General Toxicity General Toxicity Method: OECD T	1000 mg/kg bw/day Parent: NOAEL: > 1,000 mg/kg body weight F1: NOAEL: > 1,000 mg/kg body weight Fest Guideline 421 esting did not show any effects on fertility.
Effects on fetal develo	pment :	Species: Rat, fer Strain: wistar Application Route Dose: 100, 300, General Toxicity weight Developmental T Method: OECD T Result: No effect GLP: yes	nale

#### STOT-single exposure

Not classified based on available information.

#### STOT-repeated exposure

Not classified based on available information.

#### **Repeated dose toxicity**

#### **Components:**

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

-		
Species	:	Rat, male and female
NOAEL	:	250 mg/kg
LOAEL	:	1,000 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Number of exposures	:	daily
Dose	:	62.5, 250, 1000 mg/kg bw
Method	:	OECD Test Guideline 408
GLP	:	yes
Remarks	:	Based on data from similar materials

#### Aspiration toxicity

Not classified based on available information.

### KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

#### Acute toxicity

Not classified based on available information.

#### **Components:**

#### glycerol:

Acute oral toxicity

: LC50 (Mouse): 11,500 mg/kg



## KAPA HyperPlus Kit (PCR-free)

Versic 3.1	n	Revision I 03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
,	Acute inhalation toxicit	ty :	Exposure time: 7 Test atmosphere GLP: no	e: vapor e component/mixture is minimally toxic after
,	Acute dermal toxicity	:	LD50 (Guinea pi GLP: no	g, male and female): 56,750 mg/kg
-	Taq DNA Polymerase	e:		
/	Acute oral toxicity	:	Acute toxicity est Method: Expert j	timate: > 5,001 mg/kg udgment
,	Acute inhalation toxici	ty :	Acute toxicity est Test atmosphere Method: Expert j	e: dust/mist
/	Acute dermal toxicity	:	Acute toxicity est Method: Expert j	timate: > 5,001 mg/kg judgment

#### Skin corrosion/irritation

Not classified based on available information.

#### **Components:**

#### glycerol:

Species	:	Rabbit
Exposure time	:	24 h
Result	:	No skin irritation
GLP	:	no

#### Serious eye damage/eye irritation

Not classified based on available information.

#### Components:

glycerol:	
Species	: Rabbit
Result	: No eye irritation
Exposure time	: 7 d
GLP	: no

#### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### **Components:**

#### glycerol:

Assessment

: Mild eye irritant, Mild respiratory irritant, No skin irritation



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

#### Germ cell mutagenicity

Not classified based on available information.

#### **Components:**

#### glycerol:

 Genotoxicity in vitro
 : Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative GLP: No information available.

 Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476

GLP: No information available.

Result: negative

Carcinogenicity

Not classified based on available information.

#### **Components:**

#### glycerol:

Species Application Rou Exposure time GLP Remarks	<ul> <li>Rat, male and female</li> <li>Oral</li> <li>2 Years</li> <li>No information available.</li> <li>No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.</li> </ul>
IARC	lo ingredient of this product present at levels greater than or equal to 0.1% is dentified as probable, possible or confirmed human carcinogen by IARC.
OSHA	lo component of this product present at levels greater than or equal to 0.1% is n OSHA's list of regulated carcinogens.
NTP	Io ingredient of this product present at levels greater than or equal to 0.1% is dentified as a known or anticipated carcinogen by NTP.

#### **Reproductive toxicity**

Not classified based on available information.

#### Components:

#### glycerol:

Effects on fertility	:	Test Type: Two-generation study
		Species: Rat, male and female
		Application Route: Oral
		Dose: 2000 mg/kg bw/day
		Fertility: NOAEL: 2,000 mg/kg body weight
		GLP: no



Version	Revision Date:	Date of last issue: 10-11-2021
3.1	03-25-2022	Date of first issue: 05-18-2016

Effects on fetal development		Species: Rabbit, female Application Route: Oral
		11
		Dose: 11.8, 54.8, 254.5, 1180 mg/kg bw/day
		Duration of Single Treatment: 29 d
		Developmental Toxicity: NOAEL: 1,180 mg/kg bw/day
		GLP: no

#### STOT-single exposure

Not classified based on available information.

:

#### Components:

#### Taq DNA Polymerase:

Assessment

The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### STOT-repeated exposure

Not classified based on available information.

### Components:

#### Taq DNA Polymerase:

Assessment

: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### Repeated dose toxicity

#### **Components:**

#### glycerol:

Species NOAEL NOAEL Application Route Exposure time Number of exposures Dose GLP	 Rat, male and female 4580 mg/kg 4,580 mg/kg Oral 90 d daily 4580 - 25,800 mg/kg/day no
Species Application Route Test atmosphere Exposure time Number of exposures Dose GLP	 Rat, male and female Inhalation dust/mist 13 Weeks 6 hours/day, 5 days/week 33, 165 and 660 mg/m3 No information available.
Species NOAEL NOAEL Application Route Exposure time Number of exposures Dose	 Rat 5040 mg/kg 5,040 mg/kg dermal 45 Weeks 8 hours/day, 5 days/week 0.5-4.0 ml/kg



Version 3.1	Revision Date: 03-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
GLP	: no	
Repeated dose toxicity Assessment	y - : Mild eye irritant	Mild respiratory irritant, No skin irritation

#### Aspiration toxicity

Not classified based on available information.

### KAPA Hyper Prep DNA Ligase

### Acute toxicity

Not classified based on available information.

#### Components:

#### glycerol:

Acute oral toxicity	:	LC50 (Mouse): 11,500 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male): 275000 mg/m3 Exposure time: 7 h Test atmosphere: vapor GLP: no Assessment: The component/mixture is minimally toxic after short term inhalation.
Acute dermal toxicity	:	LD50 (Guinea pig, male and female): 56,750 mg/kg GLP: no

### Skin corrosion/irritation

Not classified based on available information.

### Components:

#### glycerol:

Species	:	Rabbit
Exposure time	:	24 h
Result	:	No skin irritation
GLP	:	no

#### Serious eye damage/eye irritation

Not classified based on available information.

#### Components:

glycerol:		
Species	:	Rabbit
Result	:	No eye irritation
Exposure time	:	7 d
GLP	:	no

### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.



Version 3.1

Revision Date: 03-25-2022

5

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### **Respiratory sensitization**

Not classified based on available information.

#### Components:

#### glycerol:

Assessment

Mild eye irritant, Mild respiratory irritant, No skin irritation

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

#### glycerol:

Genotoxicity in vitro	: Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative GLP: No information available.
	Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative GLP: No information available.

#### Carcinogenicity

Not classified based on available information.

#### Components:

#### glycerol: **Species** Rat, male and female : **Application Route** 1 Oral Exposure time : 2 Years GLP No information available. : Remarks : No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. Polynucleotide 5'-hydroxyl kinase: Remarks No ingredient of this product present at levels greater than or 5 equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. **OSHA** No component of this product present at levels greater than or equal to 0.1% is

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

on OSHA's list of regulated carcinogens.



Version 3.1 Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### **Reproductive toxicity**

Not classified based on available information.

#### **Components:**

#### glycerol:

Effects on fertility :	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral Dose: 2000 mg/kg bw/day Fertility: NOAEL: 2,000 mg/kg body weight GLP: no
Effects on fetal development :	Species: Rabbit, female Application Route: Oral Dose: 11.8, 54.8, 254.5, 1180 mg/kg bw/day Duration of Single Treatment: 29 d Developmental Toxicity: NOAEL: 1,180 mg/kg bw/day GLP: no

#### STOT-single exposure

Not classified based on available information.

#### Components:

#### Polynucleotide 5'-hydroxyl kinase:

Assessment

: The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### STOT-repeated exposure

Not classified based on available information.

#### Components:

#### Polynucleotide 5'-hydroxyl kinase:

Assessment

: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### Repeated dose toxicity

#### Components:

#### glycerol:

Species NOAEL NOAEL Application Route Exposure time Number of exposures Dose GLP		Rat, male and female 4580 mg/kg 4,580 mg/kg Oral 90 d daily 4580 - 25,800 mg/kg/day no
Species Application Route Test atmosphere	:	Rat, male and female Inhalation dust/mist



Version 3.1	Revision Date: 03-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
Exposure time Number of exposures Dose GLP	: 13 Weeks : 6 hours/day, : 33, 165 and : No informati	660 mg/m3
Species NOAEL NOAEL Application Route Exposure time Number of exposures Dose GLP	: Rat : 5040 mg/kg : 5,040 mg/kg : dermal : 45 Weeks : 8 hours/day, : 0.5-4.0 ml/kg : no	5 days/week
Repeated dose toxicit Assessment	y - : Mild eye irrit	ant, Mild respiratory irritant, No skin irritation

#### Aspiration toxicity

Not classified based on available information.

#### **Components:**

#### Polynucleotide 5'-hydroxyl kinase:

No data available

## KAPA Frag Enzyme (5X)

### Acute toxicity

Not classified based on available information.

#### Components:

<b>glycerol:</b> Acute oral toxicity	:	LC50 (Mouse): 11,500 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male): 275000 mg/m3 Exposure time: 7 h Test atmosphere: vapor GLP: no Assessment: The component/mixture is minimally toxic after short term inhalation.
Acute dermal toxicity	:	LD50 (Guinea pig, male and female): 56,750 mg/kg GLP: no

#### Skin corrosion/irritation

Not classified based on available information.

### Components:

glycerol:		
Species	:	Rabbit
Exposure time	:	24 h
Result	:	No skin irritation



Version	
3.1	

GLP

Revision Date: 03-25-2022

: no

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### Serious eye damage/eye irritation

Not classified based on available information.

#### Components:

#### glycerol:

Species	:	Rabbit
Result	:	No eye irritation
Exposure time	:	7 d
GLP	:	no

#### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### Components:

#### glycerol:

Assessment	:	Mild eye irritant, Mild respiratory irritant, No skin irritation

#### Deoxyribonuclease:

Assessment	:	May cause sensitization by inhalation.
Assessment	:	May cause sensitization by skin contact.

#### Germ cell mutagenicity

Not classified based on available information.

#### Components:

#### glycerol:

Genotoxicity in vitro	<ul> <li>Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative GLP: No information available.</li> </ul>
	Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative GLP: No information available.

#### Carcinogenicity

Not classified based on available information.



# KADA Humar Dlug Kit (DCD frog)

<b>APA HyperF</b>	Plus Kit (PCI	R-free)				
rsion	Revision 03-25-20		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016			
<u>Components</u>	<u>:</u>					
<b>glycerol:</b> Species Application Ro Exposure time GLP Remarks		Oral 2 Years No inform No ingree equal to	e and female mation available. dient of this product present at levels greater than 0.1% is identified as probable, possible or confirme arcinogen by IARC.			
IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.					
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.					
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.					
Reproductive Not classified Components	based on available	e informatio	yn.			
glycerol:	-					
Effects on fert	ility :	Species: Application Dose: 20	be: Two-generation study Rat, male and female on Route: Oral 000 mg/kg bw/day NOAEL: 2,000 mg/kg body weight			
Effects on feta	al development :	Application Dose: 11 Duration	on Route: Oral I.8, 54.8, 254.5, 1180 mg/kg bw/day of Single Treatment: 29 d mental Toxicity: NOAEL: 1,180 mg/kg bw/day			
	based on available	e informatio	on.			
<u>Components</u> DNA-depende	<u>:</u> ent DNA polymer	ase:				

## **STOT-repeated exposure**

Assessment

Not classified based on available information.

:

The substance or mixture is not classified as specific target organ toxicant, single exposure.



Version 3.1

**Revision Date:** 03-25-2022

1

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

#### **Components:**

#### **DNA-dependent DNA polymerase:**

Assessment

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### **Repeated dose toxicity**

#### **Components:**

#### glycerol:

Species NOAEL NOAEL Application Route Exposure time Number of exposures Dose GLP	<ul> <li>Rat, male and female</li> <li>4580 mg/kg</li> <li>4,580 mg/kg</li> <li>Oral</li> <li>90 d</li> <li>daily</li> <li>4580 - 25,800 mg/kg/day</li> <li>no</li> </ul>
Species Application Route Test atmosphere Exposure time Number of exposures Dose GLP	<ul> <li>Rat, male and female</li> <li>Inhalation</li> <li>dust/mist</li> <li>13 Weeks</li> <li>6 hours/day, 5 days/week</li> <li>33, 165 and 660 mg/m3</li> <li>No information available.</li> </ul>
Species NOAEL NOAEL Application Route Exposure time Number of exposures Dose GLP	<ul> <li>Rat</li> <li>5040 mg/kg</li> <li>5,040 mg/kg</li> <li>dermal</li> <li>45 Weeks</li> <li>8 hours/day, 5 days/week</li> <li>0.5-4.0 ml/kg</li> <li>no</li> </ul>
Repeated dose toxicity -	: Mild eye irritant, Mild respiratory irritant, No skin irritation

Repeated dose toxicity Assessment

### Aspiration toxicity

Not classified based on available information.

#### **Components:**

### **DNA-dependent DNA polymerase:**

No data available

### KAPA Frag Conditioning Solution

#### Acute toxicity

Not classified based on available information.



## KAPA HyperPlus Kit (PCR-free)

Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

#### Skin corrosion/irritation

Not classified based on available information.

#### Serious eye damage/eye irritation

Not classified based on available information.

#### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### Germ cell mutagenicity

Not classified based on available information.

#### Carcinogenicity

Not classified based on available information.

- **IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
- **NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

#### Reproductive toxicity

Not classified based on available information.

### STOT-single exposure

Not classified based on available information.

#### STOT-repeated exposure

Not classified based on available information.

#### Aspiration toxicity

Not classified based on available information.

### KAPA Frag Buffer (10X)

#### Acute toxicity

Not classified based on available information.

#### Components:

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Acute oral toxicity	:	LD50 (Rat, female): > 5,000 mg/kg Method: OECD Test Guideline 425 GLP: yes
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402 GLP: yes



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### Skin corrosion/irritation

Not classified based on available information.

### **Components:**

### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

### Serious eye damage/eye irritation

Not classified based on available information.

### **Components:**

### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Species	:	Rabbit
Result	:	No eye irritation
Exposure time	:	72 h
Method	:	OECD Test Guideline 405
GLP	:	yes

#### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### **Components:**

### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Test Type Assessment GLP Remarks	:	Direct Peptide Reactivity Assay (DPRA) Does not cause skin sensitization. yes Based on data from similar materials Expert judgment
Test Type Species Method GLP Remarks	:	Buehler Test Guinea pig OECD Test Guideline 406 no Based on data from similar materials
Test Type Species GLP Remarks	:	Intracutaneous test Guinea pig no Based on data from similar materials

#### Germ cell mutagenicity

Not classified based on available information.



Version 3.1

Revision Date: 03-25-2022

5

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

#### **Components:**

### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Genotoxicity in vitro

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster lung cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative GLP: yes

Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative GLP: yes

Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: yes Remarks: Based on data from similar materials

### Carcinogenicity

Not classified based on available information.

- **IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
- **NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### **Reproductive toxicity**

Not classified based on available information.

#### Components:

### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

Effects on fertility	:	Test Type: reproductive and developmental toxicity study Species: Rat, male and female Application Route: Oral Dose: 100, 300, 1000 mg/kg bw/day General Toxicity Parent: NOAEL: > 1,000 mg/kg body weight General Toxicity F1: NOAEL: > 1,000 mg/kg body weight Method: OECD Test Guideline 421 Result: Animal testing did not show any effects on fertility. GLP: yes
Effects on fetal development	:	Test Type: Pre-natal Species: Rat, female Strain: wistar



Version 3.1 Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

Application Route: Oral Dose: 100, 300, 1000 mg/kg bw/day General Toxicity Maternal: NOAEL: > 1,000 mg/kg body weight Developmental Toxicity: NOAEL: 1,000 mg/kg body weight Method: OECD Test Guideline 414 Result: No effects on fetal development. GLP: yes Remarks: Based on data from similar materials

### STOT-single exposure

Not classified based on available information.

### STOT-repeated exposure

Not classified based on available information.

### Repeated dose toxicity

### **Components:**

#### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

-		
Species	:	Rat, male and female
NOAEL	:	250 mg/kg
LOAEL	:	1,000 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Number of exposures	:	daily
Dose	:	62.5, 250, 1000 mg/kg bw
Method	:	OECD Test Guideline 408
GLP	:	yes
Remarks	:	Based on data from similar materials

### Aspiration toxicity

Not classified based on available information.

### KAPA HyperPlus ER&AT Enzyme Mix

### Acute toxicity

Not classified based on available information.

### Components:

glycerol:

Acute oral toxicity	:	LC50 (Mouse): 11,500 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male): 275000 mg/m3 Exposure time: 7 h Test atmosphere: vapor GLP: no Assessment: The component/mixture is minimally toxic after short term inhalation.
Acute dermal toxicity	:	LD50 (Guinea pig, male and female): 56,750 mg/kg GLP: no



Version 3.1	Revision Date: 03-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
Taq DNA Polymerase Acute oral toxicity	: Acute toxicit	y estimate: > 5,001 mg/kg pert judgment
Acute inhalation toxicit	ty : Acute toxicit Test atmosp	y estimate: > 30 mg/l here: dust/mist pert judgment
Acute dermal toxicity	· Acute toxicit	y estimate: > 5,001 mg/kg pert judgment
Skin corrosion/irritat Not classified based or <u>Components:</u>	<b>ion</b> n available information.	

#### glycerol:

	Rabbit
	24 h
	No skin irritation
:	no

#### Serious eye damage/eye irritation

Not classified based on available information.

### Components:

#### glycerol:

Species	:	Rabbit
Result	:	No eye irritation
Exposure time	:	7 d
GLP	:	no

### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

### **Respiratory sensitization**

Not classified based on available information.

#### **Components:**

### glycerol:

Assessment

Mild eye irritant, Mild respiratory irritant, No skin irritation

#### Germ cell mutagenicity

Not classified based on available information.

:

2

### **Components:**

### glycerol:

Genotoxicity in vitro

#### Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation



Version 3.1 Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

Result: negative GLP: No information available.

Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative GLP: No information available.

### Carcinogenicity

Not classified based on available information.

### Components:

<b>glycerol:</b> Species Application Roi Exposure time GLP Remarks	ute :	Rat, male and female Oral 2 Years No information available. No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.	
IARC		this product present at levels greater than or equal to 0.1% is bable, possible or confirmed human carcinogen by IARC.	
OSHA		f this product present at levels greater than or equal to 0.1% is fregulated carcinogens.	
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.		
Reproductive Not classified b <u>Components:</u>	toxicity based on available	information.	
glycerol: Effects on fertil	lity :	Test Type: Two-generation study Species: Rat, male and female Application Route: Oral Dose: 2000 mg/kg bw/day Fertility: NOAEL: 2,000 mg/kg body weight GLP: no	
Effects on fetal	l development :	Species: Rabbit, female Application Route: Oral Dose: 11.8, 54.8, 254.5, 1180 mg/kg bw/day Duration of Single Treatment: 29 d Developmental Toxicity: NOAEL: 1,180 mg/kg bw/day GLP: no	

### STOT-single exposure

Not classified based on available information.



Version 3.1 Revision Date: 03-25-2022

2

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### Components:

Taq DNA Polymerase:

Assessment

The substance or mixture is not classified as specific target organ toxicant, single exposure.

### STOT-repeated exposure

Not classified based on available information.

#### **Components:**

Taq DNA Polymerase:

Assessment

: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Repeated dose toxicity

#### Components:

#### glycerol:

Species NOAEL NOAEL Application Route Exposure time Number of exposures Dose GLP	<ul> <li>Rat, male and female</li> <li>4580 mg/kg</li> <li>4,580 mg/kg</li> <li>Oral</li> <li>90 d</li> <li>daily</li> <li>4580 - 25,800 mg/kg/day</li> <li>no</li> </ul>
Species Application Route Test atmosphere Exposure time Number of exposures Dose GLP	<ul> <li>Rat, male and female</li> <li>Inhalation</li> <li>dust/mist</li> <li>13 Weeks</li> <li>6 hours/day, 5 days/week</li> <li>33, 165 and 660 mg/m3</li> <li>No information available.</li> </ul>
Species NOAEL NOAEL Application Route Exposure time Number of exposures Dose GLP	<ul> <li>Rat</li> <li>5040 mg/kg</li> <li>5,040 mg/kg</li> <li>dermal</li> <li>45 Weeks</li> <li>8 hours/day, 5 days/week</li> <li>0.5-4.0 ml/kg</li> <li>no</li> </ul>
Repeated dose toxicity - Assessment	: Mild eye irritant, Mild respiratory irritant, No skin irritation

### Aspiration toxicity

Not classified based on available information.



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### SECTION 12. ECOLOGICAL INFORMATION

### KAPA Hyper Prep End Repair and A-Tailing Buffer

Ecotoxicity
-------------

### Components:

1,3-Propanediol, 2-amino-2-	(hy	droxymethyl)-:		
Toxicity to fish	:	LC50 (Fish): > 4,000 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: no Method: DIN 38412 GLP: no		
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 980 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes		
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 473 mg/l End point: Growth rate Exposure time: 48 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 201 GLP: No information available.		
Toxicity to microorganisms	:	EC50 (activated sludge): > 1,000 mg/l End point: Respiration inhibition Exposure time: 3 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 209 GLP: yes		
Ecotoxicology Assessment Toxicity Data on Soil	:	Not expected to adsorb on soil.		
Other organisms relevant to the environment	:	No data available		
2,3-Butanediol, 1,4-dimercapto-, (2R,3R)-rel-:				
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 34.8 mg/l End point: Immobilization Exposure time: 48 h Test Type: semi-static test Method: OECD Test Guideline 202		

GLP: yes



	Revision Date: )3-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
	Remarks: n	ominal concentration
	End point: I Exposure til Test Type: s Method: OE GLP: yes	ohnia magna (Water flea)): 25.0 mg/l mmobilization me: 48 h semi-static test CD Test Guideline 202 ominal concentration
Toxicity to algae/aquatic plants	24.3 mg/l End point: C Exposure til Test Type: 3 Method: OE GLP: yes Remarks: n NOErC (Ra 3.2 mg/l End point: C Exposure til Test Type: 3 Method: OE GLP: yes Remarks: n NOEyC (Ra 1.0 mg/l Exposure til Method: OE GLP: yes	me: 72 h static test CD Test Guideline 201 ominal concentration phidocelis subcapitata (freshwater green alga)): Growth rate me: 72 h static test CD Test Guideline 201 ominal concentration aphidocelis subcapitata (freshwater green alga)):
Hydrochloric acid:		
Ecotoxicology Assess	ment	
Acute aquatic toxicity	: This produc	t has no known ecotoxicological effects.
Chronic aquatic toxicity	: This produc	t has no known ecotoxicological effects.
Toxicity Data on Soil	: Not expecte	ed to adsorb on soil.
Other organisms relevant the environment	nt to : No data ava	ailable
Dereistance and deare	debility	

### Persistence and degradability

### **Components:**

### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

- Biodegradability : aerobic Inoculun Result: F
  - : aerobic Inoculum: activated sludge Result: Readily biodegradable.



Vers 3.1	ion	Revision 03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
			Exposure t	ation: 100 % time: 28 d ECD Test Guideline 301F
	2,3-Butanediol, 1,4-c	limercapto	-, (2R,3R)-re	el-:
	Biodegradability	:	Concentrat Result: Not Biodegrada Exposure t Method: O GLP: yes	activated sludge, non-adapted tion: 64.3 mg/l treadily biodegradable. ation: 53 % time: 43 d ECD Test Guideline 301B The 10 day time window criterion is not fulfilled.
	Physico-chemical ren ity	novabil- :		ee user defined free text Not abiotically degradable
	Bioaccumulative po	tential		
	Components:			
	1,3-Propanediol, 2-a	mino-2-(hy	droxymeth	vi)-:
	Bioaccumulation	:	Remarks: I	Due to the distribution coefficient n-octanol/water, ion in organisms is not expected.
	Partition coefficient: n octanol/water	- :		2.31 (68 °F / 20 °C) ECD Test Guideline 107
	2,3-Butanediol, 1,4-c	limercapto	-, (2R,3R)-re	el-:
	Partition coefficient: n	- :		0.07 (77 °F / 25 °C)
	octanol/water		pH: 5.0 Method: O GLP: yes	ECD Test Guideline 117
	Hydrochloric acid:			
	Partition coefficient: n octanol/water	- :	Remarks: I	No data available
	Mobility in soil			
	No data available			
	Other adverse effect	S		
KA	PA Hyper Prep Li	gation B	uffer	
	Ecotoxicity			
	Components:			
	Polv(oxy-1 2-ethane	divl) alnh	a -hvdro- on	mega -hvdroxv-:

Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-:



Versior 3.1	n	Revision 03-25-20		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
Т	oxicity to fish	:	Exposure	rinus carpio (Carp)): > 100 mg/l ime: 4 d ECD Test Guideline 203
	oxicity to daphnia and quatic invertebrates	d other :	Exposure	ohnia magna (Water flea)): > 100 mg/l ime: 48 h ECD Test Guideline 202
	oxicity to algae/aquat lants	ic :	EC50 (Des Exposure	modesmus subspicatus (green algae)): > 100 mg/ ime: 72 h
	oxicity to fish (Chroni city)	c tox- :	> 1 mg/l	
Е	cotoxicology Asses	sment		
	cute aquatic toxicity	:	This produ	ct has no known ecotoxicological effects.
С	Chronic aquatic toxicity	y :	This produ	ct has no known ecotoxicological effects.
Т	oxicity Data on Soil	:	Not expec	ed to adsorb on soil.
	Other organisms relev	ant to :	No data av	ailable
1.	,3-Propanediol, 2-ar	nino-2-(h	droxymeth	/l)-:
	oxicity to fish	:	LC50 (Fish Exposure Test Type:	): > 4,000 mg/l ime: 96 h static test monitoring: no
	oxicity to daphnia and quatic invertebrates	d other :	End point: Exposure Test Type: Analytical	
	oxicity to algae/aquat lants	ic :	mg/l End point: Exposure Test Type: Analytical Method: O	
Т	oxicity to microorgani	isms :	End point: Exposure Test Type:	

Roche



Version	
3.1	

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

Method: OECD Test Guideline 209 GLP: yes

	GLF. yes
Ecotoxicology Assessment Toxicity Data on Soil	: Not expected to adsorb on soil.
Other organisms relevant to the environment	: No data available
Persistence and degradabili	ty
Components:	
Poly(oxy-1,2-ethanediyl), .al	phahydroomegahydroxy-:
Biodegradability	<ul> <li>Biodegradation: &gt; 90 %</li> <li>Exposure time: 28 d</li> <li>Method: OECD Test Guideline 301</li> </ul>
1,3-Propanediol, 2-amino-2-	(hydroxymethyl)-:
Biodegradability	: aerobic Inoculum: activated sludge Result: Readily biodegradable. Biodegradation: 100 % Exposure time: 28 d Method: OECD Test Guideline 301F GLP: yes
Bioaccumulative potential Components:	
Poly(oxy-1,2-ethanediyl), .al	phahydroomegahydroxy-:
Partition coefficient: n- octanol/water	: Remarks: No data available
1,3-Propanediol, 2-amino-2-	(hydroxymethyl)-:
Bioaccumulation	: Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.
Partition coefficient: n- octanol/water	: log Pow: -2.31 (68 °F / 20 °C) Method: OECD Test Guideline 107 GLP: no
Mobility in soil	
No data available	
Other adverse effects	
Components:	
<b>Poly(oxy-1,2-ethanediyl)</b> , .al Adsorbed organic bound halogens (AOX)	phahydroomegahydroxy-: : Remarks: Not applicable



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

Ecotoxicity		
Components:		
glycerol:		
Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 54,000 mg/l End point: mortality Exposure time: 96 h Test Type: static test GLP: no
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 1,955 mg/l End point: mortality Exposure time: 48 h Test Type: static test Analytical monitoring: no GLP: no
Toxicity to algae/aquatic plants	:	(Scenedesmus quadricauda (Green algae)): > 10,000 mg/l End point: Growth rate Exposure time: 8 d Test Type: static test GLP: no
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): > 10,000 mg/l End point: Growth rate Exposure time: 16 h Test Type: static test GLP: No information available.
Ecotoxicology Assessment		
Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.
Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	No data available
Taq DNA Polymerase:		
Toxicity to fish	:	LC50: > 100 mg/l Exposure time: 96 h
Ecotoxicology Assessment		
Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.
Toxicity Data on Soil	:	Not expected to adsorb on soil.



### KAPA HyperPlus Kit (PCR-free)

Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

Other organisms relevant to : No data available the environment

#### Persistence and degradability

#### **Components:**

**glycerol:** Biodegradability

: aerobic Inoculum: activated sludge Concentration: 226 mg/l Result: Readily biodegradable. Biodegradation: 94 % Exposure time: 24 h GLP: no

### **Bioaccumulative potential**

### Components:

### glycerol:

Partition coefficient: n-	:	log Pow: -1.75 (77 °F / 25 °C)
octanol/water		pH: 7.4
		Method: OECD Test Guideline 107
		GLP: no

### Taq DNA Polymerase:

Partition coefficient: n-	:	Remarks: No data available
octanol/water		

### Mobility in soil

No data available

Other adverse effects

### KAPA Hyper Prep DNA Ligase

Ecotoxicity	
Components:	
<b>glycerol:</b> Toxicity to fish	<ul> <li>LC50 (Oncorhynchus mykiss (rainbow trout)): 54,000 mg/l</li> <li>End point: mortality</li> <li>Exposure time: 96 h</li> <li>Test Type: static test</li> <li>GLP: no</li> </ul>
Toxicity to daphnia and other aquatic invertebrates	<ul> <li>LC50 (Daphnia magna (Water flea)): 1,955 mg/l</li> <li>End point: mortality</li> <li>Exposure time: 48 h</li> <li>Test Type: static test</li> <li>Analytical monitoring: no</li> </ul>



## KAPA HyperPlus Kit (PCR-free)

sion	Revision 03-25-20		
		G	GLP: no
Toxicity to algae/a plants	iquatic :	E E T	(Scenedesmus quadricauda (Green algae)): > 10,000 m End point: Growth rate Exposure time: 8 d Fest Type: static test GLP: no
Toxicity to microo	rganisms :	E E T	EC50 (Pseudomonas putida): > 10,000 mg/l End point: Growth rate Exposure time: 16 h Fest Type: static test GLP: No information available.
Ecotoxicology A	ssessment		
Acute aquatic toxi	city :	Т	his product has no known ecotoxicological effects.
Chronic aquatic to	xicity :	Т	his product has no known ecotoxicological effects.
Toxicity Data on S	Soil :	N	Not expected to adsorb on soil.
Other organisms r the environment	elevant to :	N	No data available
Polynucleotide 5	'-hydroxyl kir	nase	e:
Ecotoxicology A Toxicity Data on S		N	Not expected to adsorb on soil.
Other organisms r the environment	elevant to :	N	No data available
Persistence and	degradability	,	
Components:			
<b>glycerol:</b> Biodegradability	:	In C R B E	aerobic noculum: activated sludge Concentration: 226 mg/l Result: Readily biodegradable. Biodegradation: 94 % Exposure time: 24 h GLP: no
Bioaccumulative	potential		
Components:			
glycerol:			
Partition coefficier octanol/water	nt: n- :	pl N	og Pow: -1.75 (77 °F / 25 °C) oH: 7.4 /lethod: OECD Test Guideline 107 GLP: no



### KAPA HyperPlus Kit (PCR-free)

Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### Polynucleotide 5'-hydroxyl kinase:

Partition coefficient: n- : Remarks: No data available octanol/water

Mobility in soil

No data available

Other adverse effects

### KAPA Frag Enzyme (5X)

Ecotoxicity

### **Components:**

glycerol:		
Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 54,000 mg/l End point: mortality Exposure time: 96 h Test Type: static test GLP: no
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 1,955 mg/l End point: mortality Exposure time: 48 h Test Type: static test Analytical monitoring: no GLP: no
Toxicity to algae/aquatic plants	:	(Scenedesmus quadricauda (Green algae)): > 10,000 mg/l End point: Growth rate Exposure time: 8 d Test Type: static test GLP: no
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): > 10,000 mg/l End point: Growth rate Exposure time: 16 h Test Type: static test GLP: No information available.
Ecotoxicology Assessment		
Acute aquatic toxicity	:	This product has no known ecotoxicological effects.
Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.
Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	No data available



Vers 3.1	ion	Revision 03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
DNA-dependent DNA polymerase:				
	Ecotoxicology Asses Toxicity Data on Soil		Not expec	ted to adsorb on soil.
	Other organisms relev the environment	ant to :	No data a	vailable
	Deoxyribonuclease:			
	Ecotoxicology Asses	sment	Not exped	ted to adsorb on soil.
	Other organisms relev the environment			
	Persistence and deg	radability		
	Components:			
	glycerol:			
	Biodegradability	:	Concentra Result: Re Biodegrad	activated sludge activated sludge biodegradable. lation: 94 % time: 24 h
	Bioaccumulative potential Components:			
	<b>glycerol:</b> Partition coefficient: n- octanol/water	:	pH: 7.4	1.75 (77 °F / 25 °C) DECD Test Guideline 107
	DNA-dependent DNA polymerase:			
	Partition coefficient: n- octanol/water	:	Remarks:	No data available
	<b>Deoxyribonuclease:</b> Partition coefficient: n-		Romarka	No data available
	octanol/water	-	INGINGINS.	
	<b>Mobility in soil</b> No data available			
	Other adverse effects	5		
		2		



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### KAPA Frag Conditioning Solution

Ecotoxicity No data available Persistence and degradability No data available Bioaccumulative potential No data available

Mobility in soil

No data available

Other adverse effects

### KAPA Frag Buffer (10X)

### Ecotoxicity

### **Components:**

### 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-:

r,5-Propaneuloi, 2-animo-2-(ny	aroxymetriyi)
Toxicity to fish :	LC50 (Fish): > 4,000 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: no Method: DIN 38412 GLP: no
Toxicity to daphnia and other : aquatic invertebrates	EC50 (Daphnia magna (Water flea)): > 980 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic : plants	ErC50 (Pseudokirchneriella subcapitata (green algae)): 473 mg/l End point: Growth rate Exposure time: 48 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 201 GLP: No information available.
Toxicity to microorganisms :	EC50 (activated sludge): > 1,000 mg/l End point: Respiration inhibition Exposure time: 3 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 209 GLP: yes

#### **Ecotoxicology Assessment**



## KAPA HyperPlus Kit (PCR-free)

	і А пурен іцэ К		in eej	
Vers 3.1	ion	Revision I 03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
			Not expected to	adsorb on soil.
			No data availabl	e
	Persistence and degr	adability		
	Components:			
	<b>1,3-Propanediol, 2-an</b> Biodegradability	nino-2-(hy	aerobic Inoculum: activa Result: Readily Biodegradation: Exposure time: 2	biodegradable. 100 %
	Bioaccumulative pote	ential		
	Components:			
	1,3-Propanediol, 2-amino-2-(hyd		droxymethyl)-:	
	Bioaccumulation	:		o the distribution coefficient n-octanol/water, organisms is not expected.
	Partition coefficient: n- octanol/water	:	log Pow: -2.31 ( Method: OECD GLP: no	68 °F / 20 °C) Test Guideline 107
	Mobility in soil No data available Other adverse effects	5		
KAPA HyperPlus ER&AT Enzyme Mix				
	Ecotoxicity			
	Components:			
	glycerol:			
	Toxicity to fish	:	LC50 (Oncorhyr End point: morta Exposure time: 9 Test Type: statio GLP: no	96 h
	Toxicity to daphnia and aquatic invertebrates	d other :	LC50 (Daphnia ) End point: morta Exposure time: 4 Test Type: static Analytical monite GLP: no	48 h c test



### KAPA HyperPlus Kit (PCR-free)

	21	•		
Vers 3.1	ion	Revision 03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
	Toxicity to algae/aquat plants	ic :	(Scenedesmu End point: Gro Exposure time Test Type: sta GLP: no	: 8 d
	Toxicity to microorgan	isms :	End point: Gro Exposure time Test Type: sta	: 16 h
	Ecotoxicology Asses	sment		
	Acute aquatic toxicity	÷	This product h	as no known ecotoxicological effects.
	Chronic aquatic toxicit	y :	This product h	as no known ecotoxicological effects.
	Toxicity Data on Soil	:	Not expected t	o adsorb on soil.
	Other organisms relev the environment	ant to :	No data availa	ble
	Taq DNA Polymerase	):		
	Toxicity to fish	:	LC50: > 100 m Exposure time	
	Ecotoxicology Asses	sment		
	Acute aquatic toxicity	:	This product h	as no known ecotoxicological effects.
	Chronic aquatic toxicit	y :	This product h	as no known ecotoxicological effects.
	Toxicity Data on Soil	:	Not expected t	o adsorb on soil.
	Other organisms relev the environment	ant to :	No data availa	ble
	Persistence and deg	radability		
	Components:			
	glycerol:			
	Biodegradability	:	aerobic Inoculum: activ Concentration: Result: Readily Biodegradation Exposure time GLP: no	226 mg/l v biodegradable. n: 94 %



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### **Bioaccumulative potential**

#### Components:

#### glycerol:

Partition coefficient: noctanol/water : log Pow: -1.75 (77 °F / 25 °C) pH: 7.4 Method: OECD Test Guideline 107 GLP: no

### Taq DNA Polymerase:

Partition coefficient: n-	:	Remarks: No data available
octanol/water		

### Mobility in soil

No data available

Other adverse effects

### SECTION 13. DISPOSAL CONSIDERATIONS

#### **Disposal methods**

Waste from residues :	Do not contaminate ponds, waterways or ditches with chemi- cal or used container. Send to a licensed waste management company. Can be disposed as waste water, when in compliance with local regulations.
Contaminated packaging :	Empty remaining contents. Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

#### **SECTION 14. TRANSPORT INFORMATION**

#### **International Regulations**

#### UNRTDG

Not regulated as a dangerous good

#### IATA-DGR

Not regulated as a dangerous good

#### IMDG-Code

Not regulated as a dangerous good

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

Not applicable

#### **Domestic regulation**

**49 CFR** Not regulated as a dangerous good



### KAPA HyperPlus Kit (PCR-free)

Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

#### Special precautions for user

Remarks

Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

### SECTION 15. REGULATORY INFORMATION

### KAPA Hyper Prep End Repair and A-Tailing Buffer

#### **CERCLA Reportable Quantity**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	Skin corrosion or irritation Serious eye damage or eye irritation
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### **Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61): Hydrochloric acid 7647-01-0 >= 1 - < 5 % The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F): Hydrochloric acid 7647-01-0 >= 1 - < 5%This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489). **Clean Water Act** The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A: Hydrochloric acid 7647-01-0 >= 1 - < 5 % The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3: Hydrochloric acid 7647-01-0 >= 1 - < 5 % This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307 This product does not contain any priority pollutants related to the U.S. Clean Water Act **US State Regulations Massachusetts Right To Know** Hydrochloric acid 7647-01-0 Pennsylvania Right To Know 7732-18-5 Water 77-86-1

1,3-Propanediol, 2-amino-2-(hydroxymethyl)-



### KAPA HyperPlus Kit (PCR-free)

Version 3.1	Revision I 03-25-202		Date of last issue: 10-11-2021 Date of first issue: 05-18-2016							
	Magnesium chloride he Hydrochloric acid	exahydrate p.a.	7791-18-6 7647-01-0							
Maine C	Maine Chemicals of High Concern									
	Product does not contain any listed chemicals									
Vermor	Vermont Chemicals of High Concern Product does not contain any listed chemicals									
Washin	Washington Chemicals of High Concern									
Washin	Product does not contain any listed chemicals									
Califorr	California List of Hazardous Substances									
	Hydrochloric acid		7647-01-0							
Califorr	California Permissible Exposure Limits for Chemical Contaminants									
	Hydrochloric acid 7647-01-0									
Califorr	nia List of Acutely Hazar Hydrochloric acid	dous Chemicals	s, Toxics and Reactives 7647-01-0							
The ing	-	are reported in	the following inventories:							
AIIC	:	-	ce with the inventory							
DSL	This product contains the following components that are on the Canadian DSL nor NDSL.									
	Adenosine 5'-(tetrahydrogen triphosphate), 2'-deoxy-									
		Adenosine 5'-tri	phosphate disodium salt hydrate							
		2'-Deoxyguanos	sine 5'-triphosphate trisodium salt							
		2'-Deoxycytidine	e 5'-triphosphate disodium salt							
		Thymidine 5'-(te	etrahydrogen triphosphate), sodium salt							
NZIoC	:	On the inventor	y, or in compliance with the inventory							
ENCS	:	Not in complian	ce with the inventory							
ISHL	:	Not in complian	ce with the inventory							
KECI	:	Not in complian	ce with the inventory							
PICCS	:	Not in complian	ce with the inventory							
IECSC	:	Not in complian	ce with the inventory							
TCSI	:	Not in complian	ce with the inventory							
TSCA	:	Product contain	s substance(s) not listed on TSCA invento							
TECI	:	Not in complian	ce with the inventory							

### **TSCA** list

No substances are subject to a Significant New Use Rule.



### KAPA HyperPlus Kit (PCR-free)

Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

No substances are subject to TSCA 12(b) export notification requirements.

### KAPA Hyper Prep Ligation Buffer

### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	No SARA Hazards
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Poly(oxy-1,2- 25322-68-3 >= 20 - < 30 % ethanediyl), .alpha.hydro-.omega.-hydroxy-

### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

### **US State Regulations**

### Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know

Water	7732-18-5
Poly(oxy-1,2-ethanediyl), .alphahydroomegahydroxy-	25322-68-3

### Maine Chemicals of High Concern

Product does not contain any listed chemicals

### Vermont Chemicals of High Concern



### KAPA HyperPlus Kit (PCR-free)

Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### Product does not contain any listed chemicals

### Washington Chemicals of High Concern

Product does not contain any listed chemicals

The ingredients of this product are reported in the following inventories:				
AIIC	:	Not in compliance with the inventory		
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL.		
		Adenosine 5'-triphosphate disodium salt hydrate		
NZIoC	:	On the inventory, or in compliance with the inventory		
ENCS	:	Not in compliance with the inventory		
ISHL	:	Not in compliance with the inventory		
KECI	:	Not in compliance with the inventory		
PICCS	:	Not in compliance with the inventory		
IECSC	:	Not in compliance with the inventory		
TCSI	:	On the inventory, or in compliance with the inventory		
TSCA	:	Product contains substance(s) not listed on TSCA inventory.		
TECI	:	Not in compliance with the inventory		

### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

### CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	: No SARA Hazards

# SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### **Clean Air Act**

Clean Air Act				
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean				
Air Act Section 112 (40 CFR 61) This product does not contain ar		e U.S. Clean Air Act Section 112(r) for		
Accidental Release Prevention (		r Act Section 111 SOCMI Intermedi-		
ate or Final VOC's (40 CFR 60.4		Act Section 111 SOCIMI Internedi-		
glycerol	56-81-5	>= 50 - < 70 %		
Clean Water Act				
The following Hazardous Substa ble 116.4A:	nces are listed under the U	.S. CleanWater Act, Section 311, Ta-		
Hydrochloric acid Glycine, N,N'-1,2-	7647-01-0 60-00-4	>= 0 - < 0.1 % >= 0 - < 0.1 %		
ethanediylbis[N-	60-00-4	>= 0 - < 0.1 %		
(carboxymethyl)-	cale are listed under the LLS	S. CleanWater Act, Section 311, Table		
117.3:		5. Cleanwaler Act, Section 511, Table		
Hydrochloric acid	7647-01-0	>= 0 - < 0.1 %		
Glycine, N,N'-1,2- ethanediylbis[N-	60-00-4	>= 0 - < 0.1 %		
(carboxymethyl)-				
This product does not contain ar 307	ny toxic pollutants listed und	er the U.S. Clean Water Act Section		
This product does not contain ar	ny priority pollutants related	to the U.S. Clean Water Act		
US State Regulations				
Massachusetts Right To Know	ı			
glycerol Hydrochloric acid		56-81-5 7647-01-0		
Pennsylvania Right To Know				
glycerol		56-81-5		
Water Hydrochloric acid		7732-18-5 7647-01-0		
Maine Chemicals of High Cond	cern			
-	ain any listed chemicals			
Vermont Chemicals of High Co	Vermont Chemicals of High Concern			
Product does not contain any listed chemicals				
Washington Chemicals of Higl	h Concern			
Product does not cont	ain any listed chemicals			
California Permissible Exposu	re Limits for Chemical Co	ntaminants		
glycerol		56-81-5		
The ingredients of this produc	t are reported in the follow	wing inventories:		
AIIC :	Not in compliance with th	e inventory		
DSL :	This product contains the on the Canadian DSL not	following components that are not r NDSL.		



Version 3.1	Revision Date: 03-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
	Taq DNA Polyme	erase
	DNA-dependent	DNA polymerase
	Polynucleotide 5	'-hydroxyl kinase
NZIoC	: On the inventory	, or in compliance with the inventory
ENCS	: Not in complianc	e with the inventory
ISHL	: Not in complianc	e with the inventory
KECI	: Not in compliance	e with the inventory
PICCS	: Not in compliance	e with the inventory
IECSC	: Not in compliance	e with the inventory
TCSI	: Not in compliance	e with the inventory
TSCA	: Product contains	substance(s) not listed on TSCA inventory.
TECI	: Not in complianc	e with the inventory

### **TSCA** list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### KAPA Hyper Prep DNA Ligase

### **CERCLA Reportable Quantity**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity** This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	No SARA Hazards
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).



Vers	ion	Revision	Date:	Date of last issue: 10-11-2021
3.1		03-25-202	22	Date of first issue: 05-18-2016
	This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).			
		ng chemical(s) are list VOC's (40 CFR 60.4		Clean Air Act Section 111 SOCMI Intermedi-
	g	lycerol	56-81-5	>= 50 - < 70 %
	Clean Wate			les the LLC Class Weter Ast Costier 244 To
	ble 116.4A:	ig Hazardous Substai		ler the U.S. CleanWater Act, Section 311, Ta-
	e	Blycine, N,N'-1,2- thanediylbis[N- carboxymethyl)-	60-00-4	>= 0 - < 0.1 %
			als are listed unde	er the U.S. CleanWater Act, Section 311, Table
	G	Slycine, N,N'-1,2- thanediylbis[N-	60-00-4	>= 0 - < 0.1 %
		carboxymethyl)- t does not contain an	y toxic pollutants li	sted under the U.S. Clean Water Act Section
	This produc	t does not contain an	y priority pollutants	s related to the U.S. Clean Water Act
	US State R	egulations		
	Massachus	setts Right To Know		
	g	lycerol		56-81-5
	Pennsylva	nia Right To Know		
		lycerol Vater		56-81-5 7732-18-5
		micals of High Conc		
	P	roduct does not conta	ain any listed chem	nicals
		hemicals of High Co		
		Product does not conta	-	nicals
	-	n Chemicals of High		
		Product does not conta	-	
		Permissible Exposu	re Limits for Cher	
	0	lycerol		56-81-5
	•	ients of this product	•	he following inventories:
	AIIC	:	Not in complianc	e with the inventory
	DSL	:		tains the following components listed on the All other components are on the Canadian
			Polynucleotide 5	'-hydroxyl kinase
	NZIoC	:	On the inventory	, or in compliance with the inventory
	ENCS	:	Not in compliance	e with the inventory
	ISHL	:	Not in compliance	e with the inventory
	KECI	:	Not in complianc	e with the inventory



Version 3.1	Revision Date: 03-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
PICCS	: Not in complianc	e with the inventory
IECSC	: Not in complianc	e with the inventory
TCSI	: On the inventory	, or in compliance with the inventory
TSCA	: All substances lis	sted as active on the TSCA inventory
TECI	: Not in complianc	e with the inventory

### **TSCA** list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### KAPA Frag Enzyme (5X)

### **CERCLA Reportable Quantity**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	No SARA Hazards
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### **Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A. App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489): >= 30 - < 50 %

glycerol

56-81-5

>= 0 - < 0.1 %

### **Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

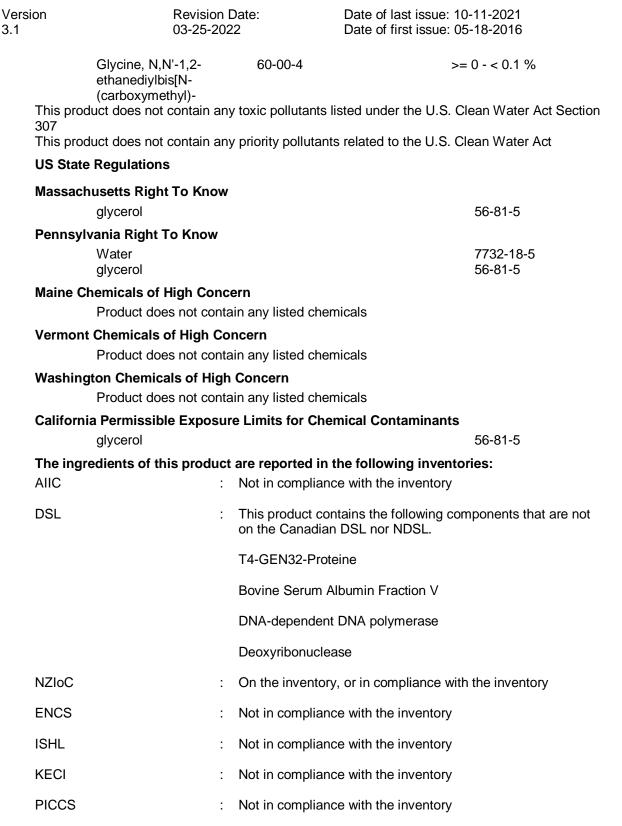
60-00-4

Glycine, N,N'-1,2ethanediylbis[N-

(carboxymethyl)-

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

KAPA HyperPlus Kit (PCR-free)



Roche

- IECSC : Not in compliance with the inventory
- TCSI : Not in compliance with the inventory
- TSCA : Product contains substance(s) not listed on TSCA inventory.



Version 3.1 Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

TECI

: Not in compliance with the inventory

### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### KAPA Frag Conditioning Solution

### **CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

#### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	No SARA Hazards
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

#### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

#### US State Regulations

#### Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

#### Pennsylvania Right To Know

Water

7732-18-5

#### Maine Chemicals of High Concern

Product does not contain any listed chemicals



### **KAPA HyperPlus Kit (PCR-free)**

Version 3.1 Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### Vermont Chemicals of High Concern

Product does not contain any listed chemicals

### Washington Chemicals of High Concern

Product does not contain any listed chemicals

The ingredients of this product are reported in the following inventories:				
AIIC	:	On the inventory, or in compliance with the inventory		
DSL	:	All components of this product are on the Canadian DSL		
NZIoC	:	On the inventory, or in compliance with the inventory		
ENCS	:	On the inventory, or in compliance with the inventory		
ISHL	:	On the inventory, or in compliance with the inventory		
KECI	:	On the inventory, or in compliance with the inventory		
PICCS	:	On the inventory, or in compliance with the inventory		
IECSC	:	On the inventory, or in compliance with the inventory		
TCSI	:	On the inventory, or in compliance with the inventory		
TSCA	:	All substances listed as active on the TSCA inventory		
TECI	:	Not in compliance with the inventory		

### **TSCA** list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### KAPA Frag Buffer (10X)

### **CERCLA Reportable Quantity**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity** This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	: No SARA Hazards

SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis)
		reporting levels established by SARA Title III, Section 313.



Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### **Clean Air Act**

the U.S. Clean Air Act Section 60 This product does not contain an Air Act Section 112 (40 CFR 61). This product does not contain an Accidental Release Prevention (4	y chemicals listed under the U.S. Clean Air Act Section 112(r) for 40 CFR 68.130, Subpart F). y chemicals listed under the U.S. Clean Air Act Section 111
Clean Water Act	
	nces are listed under the U.S. CleanWater Act, Section 311, Ta-
ble 116.4A: Hydrochloric acid The following Hazardous Chemic 117.3:	7647-01-0 >= 0.1 - < 1 % cals are listed under the U.S. CleanWater Act, Section 311, Table
Hydrochloric acid This product does not contain an	7647-01-0 >= 0.1 - < 1 % y toxic pollutants listed under the U.S. Clean Water Act Section
307 This product does not contain an	y priority pollutants related to the U.S. Clean Water Act
US State Regulations	
Massachusetts Right To Know	
Hydrochloric acid	7647-01-0
Pennsylvania Right To Know	
Water Hydrochloric acid	7732-18-5 7647-01-0
Maine Chemicals of High Cond	
•	ain any listed chemicals
Vermont Chemicals of High Co	oncern
Product does not cont	ain any listed chemicals
	-
Washington Chemicals of High	
Washington Chemicals of High Product does not conta	ain any listed chemicals
Washington Chemicals of High Product does not conta	
Washington Chemicals of High Product does not conta The ingredients of this produc	ain any listed chemicals t are reported in the following inventories:
Washington Chemicals of High Product does not conta The ingredients of this product AIIC :	ain any listed chemicals t are reported in the following inventories: Not in compliance with the inventory This product contains the following components that are not
Washington Chemicals of High Product does not conta The ingredients of this product AIIC :	ain any listed chemicals <b>t are reported in the following inventories:</b> Not in compliance with the inventory This product contains the following components that are not on the Canadian DSL nor NDSL.
Washington Chemicals of High Product does not conta The ingredients of this product AIIC :	ain any listed chemicals <b>t are reported in the following inventories:</b> Not in compliance with the inventory This product contains the following components that are not on the Canadian DSL nor NDSL. 2'-Deoxyguanosine 5'-triphosphate trisodium salt
Washington Chemicals of High Product does not conta The ingredients of this product AIIC :	ain any listed chemicals <b>t are reported in the following inventories:</b> Not in compliance with the inventory This product contains the following components that are not on the Canadian DSL nor NDSL. 2'-Deoxyguanosine 5'-triphosphate trisodium salt Adenosine 5'-(tetrahydrogen triphosphate), 2'-deoxy-
Washington Chemicals of High Product does not conta The ingredients of this product AIIC :	ain any listed chemicals <b>t are reported in the following inventories:</b> Not in compliance with the inventory This product contains the following components that are not on the Canadian DSL nor NDSL. 2'-Deoxyguanosine 5'-triphosphate trisodium salt Adenosine 5'-(tetrahydrogen triphosphate), 2'-deoxy- Thymidine 5'-(tetrahydrogen triphosphate), sodium salt



Version 3.1	Revision Date: 03-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
ISHL	: Not in compliance	e with the inventory
KECI	: Not in compliance	e with the inventory
PICCS	: Not in compliance	e with the inventory
IECSC	: Not in compliance	e with the inventory
TCSI	: Not in compliance	e with the inventory
TSCA	: Product contains	substance(s) not listed on TSCA inventory.
TECI	: Not in compliance	e with the inventory

### **TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### KAPA HyperPlus ER&AT Enzyme Mix

#### **CERCLA Reportable Quantity**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	No SARA Hazards
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489): glyc

vcerol	56-81-5	>= 50 - < 70 %

### **Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:



## KAPA HyperPlus Kit (PCR-free)

Versie 3.1	on	Revision I 03-25-202		Date of last issue: 10- Date of first issue: 05-		
	<b>T</b> I ( II	Glycine, N,N'-1,2- ethanediylbis[N- (carboxymethyl)-	60-00-4		0 - < 0.1 %	
	1 he follow 117.3:	wing Hazardous Chemic	als are listed unde	er the U.S. CleanWater	Act, Section 311, Table	
		Hydrochloric acid Glycine, N,N'-1,2- ethanediylbis[N- (carboxymethyl)-	7647-01-0 60-00-4		0.1 - < 1 % 0 - < 0.1 %	
	307	uct does not contain any	-			
		uct does not contain any Regulations	y phonty pollutarit			
		usetts Right To Know				
	Massach	glycerol Hydrochloric acid			56-81-5 7647-01-0	
	Pennsylv	vania Right To Know				
		glycerol Water Hydrochloric acid			56-81-5 7732-18-5 7647-01-0	
	Maine Ch	nemicals of High Conc	ern			
		Product does not conta	-	nicals		
	Vermont Chemicals of High Concern Product does not contain any listed chemicals					
	Washington Chemicals of High Concern Product does not contain any listed chemicals					
	California	a Permissible Exposu	e Limits for Che	mical Contaminants		
	The iner	glycerol	ana nanantad in t	the fellowing inventor	56-81-5	
	AllC	edients of this product	-	ce with the inventory	ies.	
	DSL	:	This product cor	ntains the following com DSL nor NDSL.	ponents that are not	
			Taq DNA Polym	erase		
	NZIoC	:	On the inventory	v, or in compliance with	the inventory	
	ENCS	:	Not in compliance	ce with the inventory		
	ISHL	:	Not in compliand	ce with the inventory		
	KECI	:	Not in compliant	ce with the inventory		
	PICCS	:	Not in compliant	ce with the inventory		
	IECSC	:	Not in compliant	ce with the inventory		
	TCSI	:	Not in compliant	ce with the inventory		



Version 3.1	Revision Date: 03-25-2022	Date of last issue: 10-11-2021 Date of first issue: 05-18-2016
TSCA	: Product cor	ntains substance(s) not listed on TSCA inventory.
TECI	: Not in comp	pliance with the inventory

### **TSCA** list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

### KAPA Hyper Prep End Repair and A-Tailing Buffer

GHS label elements Hazard pictograms	
Signal Word	: Warning
Hazard Statements	<ul> <li>H315 Causes skin irritation.</li> <li>H319 Causes serious eye irritation.</li> </ul>
Precautionary Statements	<ul> <li>Prevention:</li> <li>P264 Wash skin thoroughly after handling.</li> <li>P280 Wear protective gloves/ eye protection/ face protection.</li> <li>Response:</li> </ul>
	<ul> <li>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.</li> <li>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P332 + P313 If skin irritation occurs: Get medical advice/ attention.</li> </ul>
	P337 + P313 If eye irritation persists: Get medical advice/ atten- tion. P362 Take off contaminated clothing and wash before reuse.

### KAPA Hyper Prep Ligation Buffer

### **GHS** label elements

Not a hazardous substance or mixture. KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

### GHS label elements

Not a hazardous substance or mixture. *KAPA Hyper Prep DNA Ligase* 

### GHS label elements

Not a hazardous substance or mixture. *KAPA Frag Enzyme (5X)* 



### KAPA HyperPlus Kit (PCR-free)

Version 3.1

Revision Date: 03-25-2022

### GHS label elements

Not a hazardous substance or mixture. *KAPA Frag Conditioning Solution* 

### GHS label elements

Not a hazardous substance or mixture. *KAPA Frag Buffer (10X)* 

### **GHS** label elements

Not a hazardous substance or mixture. KAPA HyperPlus ER&AT Enzyme Mix

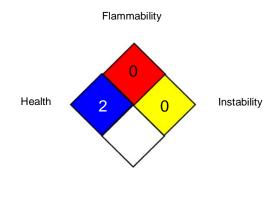
#### **GHS** label elements

Not a hazardous substance or mixture.

### **SECTION 16. OTHER INFORMATION**

**Further information** 

#### NFPA 704:



Special hazard

### HMIS® IV:



Date of last issue: 10-11-2021

Date of first issue: 05-18-2016

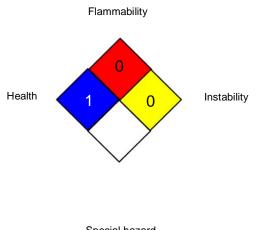
HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.



Version 3.1

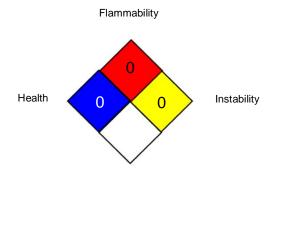
**Revision Date:** 03-25-2022





Special hazard

NFPA 704:



Special hazard

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### HMIS® IV:



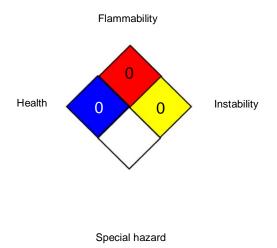
HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.



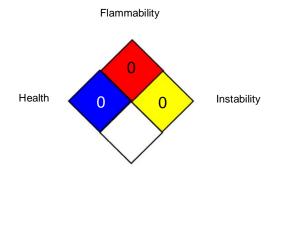
Version 3.1

Revision Date: 03-25-2022





NFPA 704:



Special hazard

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### HMIS® IV:



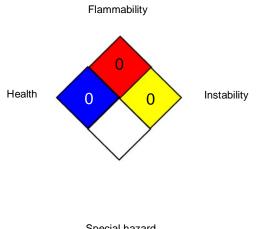
HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.



Version 3.1

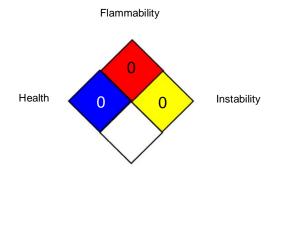
**Revision Date:** 03-25-2022





Special hazard

NFPA 704:



Special hazard

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

NFPA 704:

Health



### **KAPA HyperPlus Kit (PCR-free)**

Version 3.1

**Revision Date:** 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

### HMIS® IV:



scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Special hazard

0

### Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC -International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization: IECSC - Inventory of Existing Chemical Substances in China: IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative



### KAPA HyperPlus Kit (PCR-free)

Version 3.1

Revision Date: 03-25-2022

Date of last issue: 10-11-2021 Date of first issue: 05-18-2016

**Revision Date** 

: 03-25-2022

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / Z8 / 2104