

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

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

#### 1.1 Product identifier

Trade name : KAPA LTP Library Preparation Kit  
Product code : 07961863001

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

Recommended restrictions : For use in research only  
on use

#### 1.3 Details of the supplier of the safety data sheet

Company : Roche Diagnostics Deutschland GmbH  
-  
Sandhoferstrasse 116  
68305 Mannheim  
Deutschland  
Telephone : +496217590  
Telefax : +496217592890  
Responsible Department : +49(0)621-759-4223  
E-mail address : info.dia-sds@roche.com

#### 1.4 Emergency telephone number

In case of emergencies: : Central Works Security +49(0)621-759-2203  
Roche Diagnostics GmbH  
Centre for detoxification: : Mainz +49(0)6131-19240  
Munich +49(0)89-19240

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
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Date of last issue: 16.08.2021  
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Hazard statements	:	H319 Causes serious eye irritation. H371 May cause damage to organs.
Precautionary statements	:	<b>Prevention:</b> P260 Do not breathe mist or vapours. P264 Wash skin thoroughly after handling. P280 Wear eye protection/ face protection. <b>Response:</b> P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor. P337 + P313 If eye irritation persists: Get medical advice/ attention. <b>Disposal:</b> P501 Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Other hazards

Ecological information: This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### KAPA End-Repair Buffer (10X)

#### Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2

H319: Causes serious eye irritation.

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
(R*,R*)-1,4-dimercaptobutane-2,3-diol	3483-12-3 222-468-7 01-2120856806-42	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412  Acute toxicity estimate  Acute oral toxicity: 300,03 mg/kg	>= 1,0 - < 2,5

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
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For explanation of abbreviations see section 16.

### Kapa A-Tailing Buffer (10X)

#### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

#### Components

Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.

### Kapa Ligation Buffer (5X)

#### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

#### Components

Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.

### KAPA PEG/NaCl

#### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

#### Components

Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.

### KAPA End Repair Enzyme Mix

#### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). :			
alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl)	9002-93-1	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 0,1 - < 0,25
		Acute toxicity esti-	

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

		mate	
		Acute oral toxicity: 500 mg/kg	

For explanation of abbreviations see section 16.

## KAPA HiFi HotStart ReadyMix (2X)

### Classification (REGULATION (EC) No 1272/2008)

Specific target organ toxicity - single exposure, Category 2      H371: May cause damage to organs.

### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
tetramethylammonium chloride	75-57-0 200-880-8 01-2119970924-26	Acute Tox. 2; H300 Acute Tox. 3; H311 Skin Irrit. 2; H315 STOT SE 1; H370 Aquatic Chronic 2; H411  Acute toxicity estimate  Acute oral toxicity: 47 mg/kg Acute dermal toxicity: 200,02 mg/kg	>= 1,0 - < 2,5
Nucleotidyltransferase, deoxyribonucleate	9012-90-2 232-741-2	Not classified	< 0,1

For explanation of abbreviations see section 16.

## KAPA Library Amplification Primer Premixes (10X)

### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### Components

Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.

## KAPA Hyper Prep DNA Ligase

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Kinase (phosphorylating), polynucleotide 3' / 5'-Hydroxyl-	37211-65-7 253-400-4	Not classified	$\geq 0,1$ - $< 1,0$

For explanation of abbreviations see section 16.

## KAPA A-Tailing Enzyme

### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Nucleotidyltransferase, deoxyribonucleate	9012-90-2 232-741-2	Not classified	$< 0,1$

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
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.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
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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.  
Take victim immediately to hospital.  
Rinse mouth with water.

### 4.2 Most important symptoms and effects, both acute and delayed

None known.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : High volume water jet

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : No information available.

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Standard procedure for chemical fires.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
Refer to protective measures listed in sections 7 and 8.

### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
Local authorities should be advised if significant spillages cannot be contained.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### 6.3 Methods and material for containment and cleaning up

Methods for 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.

### 6.4 Reference to other sections

Treat recovered material as described in the section "Disposal considerations".

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke.  
Wash hands before breaks and at the end of workday.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : See label, package insert or internal guidelines

Storage class (TRGS 510) : 12, Non Combustible Liquids

Further information on storage stability : No decomposition if stored and applied as directed.

### 7.3 Specific end use(s)

Specific use(s) : This product contains a substance on REACH Annex XIV (substance of very high concern due to endocrine disrupting properties for the environment) at or above 0.1% w/w and may only be used under the exemption from authorisation for scientific research and development (including analytical activities, quality control and In-Vitro Diagnostics) under controlled conditions. Only trained and authorised personnel is allowed to handle the substance.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### **KAPA End-Repair Buffer (10X)**

Contains no substances with occupational exposure limit values.

##### **Kapa A-Tailing Buffer (10X)**

Contains no substances with occupational exposure limit values.

##### **Kapa Ligation Buffer (5X)**

###### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Polyethylenglycol 6000	25322-68-3	AGW (Inhalable fraction)	1.000 mg/m3	DE TRGS 900
	Peak-limit: excursion factor (category): 8;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW (Inhalable fraction)	1.000 mg/m3	DE TRGS 900
	Peak-limit: excursion factor (category): 8;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW (Inhalable fraction)	200 mg/m3	DE TRGS 900
	Peak-limit: excursion factor (category): 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			

##### **KAPA PEG/NaCl**

###### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Polyethylenglycol 8000	25322-68-3	AGW (Inhalable fraction)	1.000 mg/m3	DE TRGS 900
	Peak-limit: excursion factor (category): 8;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW (Inhalable fraction)	1.000 mg/m3	DE TRGS 900
	Peak-limit: excursion factor (category): 8;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW (Inhalable fraction)	200 mg/m3	DE TRGS 900

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

	Peak-limit: excursion factor (category): 2;(II)
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child

### KAPA End Repair Enzyme Mix

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
glycerol	56-81-5	AGW (Inhalable fraction)	200 mg/m <sup>3</sup>	DE TRGS 900
	Peak-limit: excursion factor (category): 2;(I)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			

### KAPA HiFi HotStart ReadyMix (2X)

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
glycerol	56-81-5	AGW (Inhalable fraction)	200 mg/m <sup>3</sup>	DE TRGS 900
	Peak-limit: excursion factor (category): 2;(I)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
Nucleotidyltransferase, deoxyribonucleate	9012-90-2	IOEL	0,00006 mg/m <sup>3</sup>	Roche Industrial Hygiene Committee (RIHC)

### KAPA Library Amplification Primer Premixes (10X)

Contains no substances with occupational exposure limit values.

### KAPA Hyper Prep DNA Ligase

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
glycerol	56-81-5	AGW (Inhalable fraction)	200 mg/m <sup>3</sup>	DE TRGS 900
	Peak-limit: excursion factor (category): 2;(I)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
Kinase (phosphorylating), polynucleotide 3' / 5'-Hydroxyl-	37211-65-7	IOEL	0,00006 mg/m <sup>3</sup>	Roche Industrial Hygiene Committee (RIHC)

### KAPA A-Tailing Enzyme

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Roche**

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
glycerol	56-81-5	AGW (Inhalable fraction)	200 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category): 2;(I)				
Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child				
Nucleotidyltransferase, deoxyribonucleate	9012-90-2	IOEL	0,00006 mg/m3	Roche Industrial Hygiene Committee (RIHC)

## 8.2 Exposure controls

### Engineering measures

No data available

### Personal protective equipment

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Use eye protection according to EN 166.

### Hand protection

In case of contact through splashing:  
Material : Nitrile rubber  
Break through time : > 30 min  
Glove thickness : > 0,11 mm

In case of full contact:  
Material : butyl-rubber  
Break through time : > 480 min  
Glove thickness : > 0,4 mm

Remarks : The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. This recommendation is only valid for the product mentioned in the safety data sheet and provided by us and for the application specified by us. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### **KAPA End-Repair Buffer (10X)**

Physical state	: liquid
Colour	: colourless
Odour	: odourless
Odour Threshold	: No data available
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Flash point	: does not flash
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
pH	: 7,5
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Solubility(ies)	
Water solubility	: completely miscible
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Density	: 1,04 g/cm <sup>3</sup>

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Relative vapour density : No data available

### ***Kapa A-Tailing Buffer (10X)***

Physical state : liquid

Colour : colourless

Odour : odourless

Odour Threshold : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : does not flash

Auto-ignition temperature : No data available

Decomposition temperature : No data available

pH : 8,0

Viscosity

    Viscosity, dynamic : No data available

    Viscosity, kinematic : No data available

Solubility(ies)

    Water solubility : completely miscible

    Solubility in other solvents : No data available

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

Vapour pressure : No data available

Relative density : No data available

Density : 1,040 g/cm<sup>3</sup>

Relative vapour density : No data available

### ***Kapa Ligation Buffer (5X)***

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Physical state	: liquid
Colour	: colourless
Odour	: odourless
Odour Threshold	: No data available
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Flash point	does not flash
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
pH	: 7,6
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Density	: 1,040 g/cm <sup>3</sup>
Relative vapour density	: No data available

### **KAPA PEG/NaCl**

Physical state	: liquid
Colour	: colourless

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Odour	:	odourless
Odour Threshold	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point		does not flash
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	8,1
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Relative density	:	No data available
Density	:	1,120 g/cm <sup>3</sup>
Relative vapour density	:	No data available

### ***KAPA End Repair Enzyme Mix***

Physical state	:	liquid
Colour	:	colourless
Odour	:	odourless
Odour Threshold	:	No data available

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

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Date of first issue: 17.05.2016

Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point		does not flash
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	6,0
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Relative density	:	No data available
Density	:	1,148 g/cm <sup>3</sup>
Relative vapour density	:	No data available

### **KAPA HiFi HotStart ReadyMix (2X)**

Physical state	:	liquid
Colour	:	colourless
Odour	:	odourless
Odour Threshold	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
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Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Flammability : Does not sustain combustion.

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : does not flash

Auto-ignition temperature : No data available

Decomposition temperature : No data available

pH : 8,7

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Solubility(ies)

Water solubility : completely miscible

Solubility in other solvents : No data available

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

Vapour pressure : No data available

Relative density : No data available

Density : 1,044 g/cm<sup>3</sup>

Relative vapour density : No data available

### **KAPA Library Amplification Primer Premixes (10X)**

Physical state : liquid

Colour : colourless

Odour : odourless

Odour Threshold : No data available

Melting point/range : No data available

Boiling point/boiling range : ca. 100 °C

Flammability : Does not sustain combustion.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	does not flash
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	7,7
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Relative density	:	No data available
Density	:	0,996 g/cm <sup>3</sup>
Relative vapour density	:	No data available

## KAPA Hyper Prep DNA Ligase

Physical state	:	liquid
Colour	:	colourless
Odour	:	odourless
Odour Threshold	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower	:	No data available

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

flammability limit

Flash point : does not flash

Auto-ignition temperature : No data available

Decomposition temperature : No data available

pH : 6,5

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Solubility(ies)

Water solubility : completely miscible

Solubility in other solvents : No data available

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

Vapour pressure : No data available

Relative density : No data available

Density : 1,148 g/cm<sup>3</sup>

Relative vapour density : No data available

## KAPA A-Tailing Enzyme

Physical state : liquid

Colour : colourless

Odour : odourless

Odour Threshold : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : does not flash

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	6,0
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Relative density	:	No data available
Density	:	1,148 g/cm <sup>3</sup>
Relative vapour density	:	No data available

### 9.2 Other information

#### **KAPA End-Repair Buffer (10X)**

Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Flammability (liquids)	:	Does not sustain combustion. The product is not flammable.
Self-ignition	:	Not applicable
Evaporation rate	:	No data available

#### **Kapa A-Tailing Buffer (10X)**

Explosives	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Flammability (liquids)	:	Does not sustain combustion. The product is not flammable.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Self-ignition : Not applicable

Evaporation rate : No data available

### ***Kapa Ligation Buffer (5X)***

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Flammability (liquids) : Does not sustain combustion.

The product is not flammable.

Self-ignition : Not applicable

Evaporation rate : No data available

### ***KAPA PEG/NaCl***

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Flammability (liquids) : Does not sustain combustion.

The product is not flammable.

Self-ignition : Not applicable

Evaporation rate : No data available

### ***KAPA End Repair Enzyme Mix***

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Flammability (liquids) : Does not sustain combustion.

The product is not flammable.

Self-ignition : Not applicable

Evaporation rate : No data available

### ***KAPA HiFi HotStart ReadyMix (2X)***

Explosives : Not explosive



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

#### 10.2 Chemical stability

Stable under normal conditions.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.  
No decomposition if stored and applied as directed.

#### 10.4 Conditions to avoid

No data available

#### 10.5 Incompatible materials

Materials to avoid : Strong oxidizing agents

#### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

### SECTION 11: Toxicological information

#### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

##### **KAPA End-Repair Buffer (10X)**

##### **Acute toxicity**

Not classified based on available information.

##### **Components:**

##### **(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**

Acute oral toxicity : LD50 (Rat, female): > 300 - < 2.000 mg/kg  
Method: OECD Test Guideline 423  
GLP: yes

Acute toxicity estimate: 300,03 mg/kg  
Method: Calculation method

Acute toxicity (other routes of administration) : Symptoms: May cause cardiac arrhythmia., Convulsions, Vomiting

##### **Skin corrosion/irritation**

Not classified based on available information.

##### **Components:**

##### **(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**

Species : human keratinocytes

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

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

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:**

**(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**

Species	:	Chicken eye
Exposure time	:	10 s
Method	:	OECD Test Guideline 438
Result	:	Risk of serious damage to eyes.
GLP	:	yes

Species	:	Human
Exposure time	:	6 h
Method	:	OECD Test Guideline 492
Result	:	Risk of serious damage to eyes.
GLP	:	yes

## Respiratory or skin sensitisation

## Skin sensitisation

Not classified based on available information.

## Respiratory sensitisation

Not classified based on available information.

### Components:

**(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**

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

## Germ cell mutagenicity

Not classified based on available information.

**Components:**

**(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)  
Test system: Salmonella typhimurium

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

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.

## 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 A-Tailing Buffer (10X)**

### Acute toxicity

Not classified based on available information.

### Skin corrosion/irritation

Not classified based on available information.

**Serious eye damage/eye irritation**

Not classified based on available information.

### Respiratory or skin sensitisation

## Skin sensitisation

Not classified based on available information.

## Respiratory sensitisation

Not classified based on available information.

### Germ cell mutagenicity

Not classified based on available information.

## Carcinogenicity

Not classified based on available information.

## Reproductive toxicity

Not classified based on available information.

### STOT - single exposure

Not classified based on available information.

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### STOT - repeated exposure

Not classified based on available information.

## Aspiration toxicity

Not classified based on available information.

**Kapa Ligation Buffer (5X)**

### Acute toxicity

Not classified based on available information.

### Skin corrosion/irritation

Not classified based on available information.

**Serious eye damage/eye irritation**

Not classified based on available information.

### Respiratory or skin sensitisation

## Skin sensitisation

Not classified based on available information.

## Respiratory sensitisation

Not classified based on available information.

### Germ cell mutagenicity

Not classified based on available information.

## Carcinogenicity

Not classified based on available information.

## 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 PEG/NaCl**

### Acute toxicity

Not classified based on available information.

### Skin corrosion/irritation

Not classified based on available information.

**Serious eye damage/eye irritation**

Not classified based on available information.

## Respiratory or skin sensitisation

## Skin sensitisation

Not classified based on available information.

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

## Respiratory sensitisation

Not classified based on available information.

## Germ cell mutagenicity

Not classified based on available information.

## Carcinogenicity

Not classified based on available information.

## 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 End Repair Enzyme Mix**

### Acute toxicity

Not classified based on available information.

**Components:**

**alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Acute oral toxicity : LD50 Oral (Rat): 1.900 - 5.000 mg/kg

Acute toxicity estimate: 500 mg/kg  
Method: Expert judgement

Acute dermal toxicity : LD50 Dermal (Rabbit): > 3.000 mg/kg

### Skin corrosion/irritation

Not classified based on available information.

**Serious eye damage/eye irritation**

Not classified based on available information.

### Components:

**alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Result : Risk of serious damage to eyes.

Result	:	Risk of serious damage to eyes.
Remarks	:	May cause irreversible eye damage.

## Respiratory or skin sensitisation

### Skin sensitisation

Not classified based on available information.

## Respiratory sensitisation

Not classified based on available information.

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

## Germ cell mutagenicity

Not classified based on available information.

## Carcinogenicity

Not classified based on available information.

## 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 HiFi HotStart ReadyMix (2X)**

### Acute toxicity

Not classified based on available information.

### Components:

**tetramethylammonium chloride:**

Acute oral toxicity : LD50 Oral (Rat): 47 mg/kg  
Method: OECD Test Guideline 401  
GLP: no

Acute toxicity estimate: 47 mg/kg  
Method: Calculation method

Acute dermal toxicity : LD50 Dermal (Rabbit): > 200 - < 500 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes

Acute toxicity estimate: 200,02 mg/kg  
Method: Calculation method

### Skin corrosion/irritation

Not classified based on available information.

### Components:

**tetramethylammonium chloride:**

Result : Irritating to skin.

**Serious eye damage/eye irritation**

Not classified based on available information.

### Components:

**tetramethylammonium chloride:**

Species : Rabbit  
Method : OECD Test Guideline 405

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Result : No eye irritation

### Respiratory or skin sensitisation

## Skin sensitisation

Not classified based on available information.

## Respiratory sensitisation

Not classified based on available information.

### Components:

**tetramethylammonium chloride:**

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

### Germ cell mutagenicity

Not classified based on available information.

### Components:

**tetramethylammonium chloride:**

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)  
Test system: Salmonella typhimurium  
Result: negative

Test Type: Microbial mutagenesis assay (Ames test)  
Test system: Escherichia coli  
Result: negative

## Carcinogenicity

Not classified based on available information.

## Reproductive toxicity

Not classified based on available information.

## STOT - single exposure

May cause damage to organs.

**Components:**

**tetramethylammonium chloride:**

Exposure routes	:	Ingestion
Target Organs	:	Central nervous system
Assessment	:	Causes damage to organs.

**Nucleotidyltransferase, deoxyribonucleate:**

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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### STOT - repeated exposure

Not classified based on available information.

#### Components:

#### Nucleotidyltransferase, deoxyribonucleate:

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

### Repeated dose toxicity

#### Components:

#### tetramethylammonium chloride:

Species : Rat  
NOAEL : 5 mg/kg  
Application Route : Oral  
Method : OECD Test Guideline 421  
GLP : yes

### Aspiration toxicity

Not classified based on available information.

#### Components:

#### Nucleotidyltransferase, deoxyribonucleate:

No data available

## KAPA Library Amplification Primer Premixes (10X)

### Acute toxicity

Not classified based on available information.

### Skin corrosion/irritation

Not classified based on available information.

### Serious eye damage/eye irritation

Not classified based on available information.

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

### Germ cell mutagenicity

Not classified based on available information.

### Carcinogenicity

Not classified based on available information.

### Reproductive toxicity

Not classified based on available information.

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### 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 Hyper Prep DNA Ligase**

### Acute toxicity

Not classified based on available information.

### Skin corrosion/irritation

Not classified based on available information.

**Serious eye damage/eye irritation**

Not classified based on available information.

### Respiratory or skin sensitisation

## Skin sensitisation

Not classified based on available information.

## Respiratory sensitisation

Not classified based on available information.

### Germ cell mutagenicity

Not classified based on available information.

## Carcinogenicity

Not classified based on available information.

### Components:

**Kinase (phosphorylating), polynucleotide 3' / 5'-Hydroxyl:-**

Remarks	: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
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## Reproductive toxicity

Not classified based on available information.

### STOT - single exposure

Not classified based on available information.

**Components:**

**Kinase (phosphorylating), polynucleotide 3' / 5'-Hydroxyl:-**

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

### STOT - repeated exposure

Not classified based on available information.



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### Components:

#### **Nucleotidyltransferase, deoxyribonucleate:**

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

#### **Aspiration toxicity**

Not classified based on available information.

### Components:

#### **Nucleotidyltransferase, deoxyribonucleate:**

No data available

## 11.2 Information on other hazards

### **Endocrine disrupting properties**

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### ***KAPA End-Repair Buffer (10X)***

#### **Endocrine disrupting properties**

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### ***Kapa A-Tailing Buffer (10X)***

#### **Endocrine disrupting properties**

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### ***Kapa Ligation Buffer (5X)***

#### **Endocrine disrupting properties**

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### KAPA PEG/NaCl

#### Endocrine disrupting properties

##### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### KAPA End Repair Enzyme Mix

#### Endocrine disrupting properties

##### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### KAPA HiFi HotStart ReadyMix (2X)

#### Endocrine disrupting properties

##### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### Further information

##### Components:

##### **tetramethylammonium chloride:**

Remarks : Other dangerous properties can not be excluded.

### KAPA Library Amplification Primer Premixes (10X)

#### Endocrine disrupting properties

##### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

***KAPA Hyper Prep DNA Ligase***

## Endocrine disrupting properties

**Product:**

Assessment	: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
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### ***KAPA A-Tailing Enzyme***

## Endocrine disrupting properties

**Product:**

Assessment	: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
------------	---

## SECTION 12: Ecological information

## 12.1 Toxicity

***KAPA End-Repair Buffer (10X)***

### Components:

**(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**

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  
Remarks: nominal concentration

NOEC (Daphnia magna (Water flea)): 25,0 mg/l  
End point: Immobilization  
Exposure time: 48 h  
Test Type: semi-static test  
Method: OECD Test Guideline 202  
GLP: yes  
Remarks: nominal concentration

Toxicity to algae/aquatic plants : ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 24,3 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Method: OECD Test Guideline 201  
GLP: yes  
Remarks: nominal concentration

NOErC (Raphidocelis subcapitata (freshwater green alga)):  
3,2 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
GLP: yes  
Remarks: nominal concentration

NOEyC (Raphidocelis subcapitata (freshwater green alga)):  
1,0 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
GLP: yes  
Remarks: nominal concentration

### ***Kapa A-Tailing Buffer (10X)***

No data available

### ***Kapa Ligation Buffer (5X)***

No data available

### ***KAPA PEG/NaCl***

No data available

### ***KAPA End Repair Enzyme Mix***

#### **Components:**

#### **alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 4 - 8,9 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 18 - 26 mg/l  
aquatic invertebrates Exposure time: 48 h

#### **Ecotoxicology Assessment**

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to : No data available  
the environment

### ***KAPA HiFi HotStart ReadyMix (2X)***

#### **Components:**

#### **tetramethylammonium chloride:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 462 mg/l  
Exposure time: 96 h

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,16 mg/l  
Exposure time: 11 d  
GLP: yes

NOEC (*Daphnia magna* (Water flea)): 0,03 mg/l  
Exposure time: 11 d  
GLP: yes

LC50 (*Daphnia magna* (Water flea)): 1,86 mg/l  
Exposure time: 48 h  
GLP: yes

Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): 115 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
GLP: yes

## Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to the environment : No data available

**Nucleotidyltransferase, deoxyribonucleate:**

## Ecotoxicology Assessment

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to the environment : No data available

### ***KAPA Library Amplification Primer Premixes (10X)***

No data available

***KAPA Hyper Prep DNA Ligase***

**Components:**

**Kinase (phosphorylating), polynucleotide 3' / 5'-Hydroxyl:-**

## Ecotoxicology Assessment

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to the environment : No data available

## ***KAPA A-Tailing Enzyme***

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

**Components:**

**Nucleotidyltransferase, deoxyribonucleate:**

## Ecotoxicology Assessment

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to the environment : No data available

## 12.2 Persistence and degradability

***KAPA End-Repair Buffer (10X)***

### Components:

**(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**

Biodegradability	: Test Type: aerobic Inoculum: activated sludge, non-adapted Concentration: 64,3 mg/l Result: Not readily biodegradable. Biodegradation: 53 % Exposure time: 43 d Method: OECD Test Guideline 301B GLP: yes Remarks: The 10 day time window criterion is not fulfilled.
------------------	---

Physico-chemical removability	Method: see user defined free text Remarks: Not abiotically degradable
-------------------------------	---

**Kapa A-Tailing Buffer (10X)**

No data available

**Kapa Ligation Buffer (5X)**

No data available

**KAPA PEG/NaCl**

No data available

**KAPA End Repair Enzyme Mix**

### Components:

**alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Biodegradability	: Biodegradation: > 60 % Exposure time: 28 d Method: OECD Test Guideline 301B Remarks: According to the results of tests of biodegradability this product is not readily biodegradable.
------------------	--

**KAPA HiFi HotStart ReadyMix (2X)**

**Components:**

**tetramethylammonium chloride:**

Biodegradability : Remarks: Expected to be biodegradable

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

***KAPA Library Amplification Primer Premixes (10X)***

No data available

***KAPA Hyper Prep DNA Ligase***

No data available

**KAPA A-Tailing Enzyme**

No data available

### 12.3 Bioaccumulative potential

***KAPA End-Repair Buffer (10X)***

### Components:

**(R\*,R\*)-1,4-dimercaptobutane-2,3-diol:**

Partition coefficient: n-octanol/water : log Pow: 0,07 (25 °C)  
pH: 5,0  
Method: OECD Test Guideline 117  
GLP: yes

### ***Kapa A-Tailing Buffer (10X)***

No data available

**Kapa Ligation Buffer (5X)**

No data available

**KAPA PEG/NaCl**

No data available

**KAPA End Repair Enzyme Mix**

**Components:**

**alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Bioaccumulation	: Remarks: No bioaccumulation is to be expected (log Pow <= 4).
-----------------	---

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

***KAPA HiFi HotStart ReadyMix (2X)***

### Components:

**tetramethylammonium chloride:**

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

**Nucleotidyltransferase, deoxyribonucleate:**

Partition coefficient: n-octanol/water	:	Remarks: No data available
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***KAPA Library Amplification Primer Premixes (10X)***

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

39 / 56

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Not relevant

### **KAPA End Repair Enzyme Mix**

Not relevant

### **KAPA HiFi HotStart ReadyMix (2X)**

Not relevant

### **KAPA Library Amplification Primer Premixes (10X)**

Not relevant

### **KAPA Hyper Prep DNA Ligase**

Not relevant

### **KAPA A-Tailing Enzyme**

Not relevant

## **12.6 Endocrine disrupting properties**

### **Product:**

Assessment : This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

### **KAPA End-Repair Buffer (10X)**

### **Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### **Kapa A-Tailing Buffer (10X)**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### **Kapa Ligation Buffer (5X)**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### **KAPA PEG/NaCl**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

levels of 0.1% or higher.

### **KAPA End Repair Enzyme Mix**

Assessment : This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

#### **Components:**

##### **alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Assessment : The substance is considered to have endocrine disrupting properties according to REACH Article 57(f) for the environment.

### **KAPA HiFi HotStart ReadyMix (2X)**

#### **Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### **KAPA Library Amplification Primer Premixes (10X)**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### **KAPA Hyper Prep DNA Ligase**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### **KAPA A-Tailing Enzyme**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### **12.7 Other adverse effects**

##### **KAPA End-Repair Buffer (10X)**

No data available

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### ***Kapa A-Tailing Buffer (10X)***

No data available

**Kapa Ligation Buffer (5X)**

No data available

**KAPA PEG/NaCl**

No data available

**KAPA End Repair Enzyme Mix**

No data available

**KAPA HiFi HotStart ReadyMix (2X)**

No data available

**KAPA Library Amplification Primer Premixes (10X)**

No data available

***KAPA Hyper Prep DNA Ligase***

No data available

**KAPA A-Tailing Enzyme**

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : The product contains a substance on REACH Annex XIV at or above 0.1% w/w. Cartridges / rests of product to be disposed of as if it was hazardous waste.

The product should not be allowed to enter drains, water courses or the soil.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Send to a licensed waste management company.

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

### 14.1 UN number or ID number

Not regulated as a dangerous good

## 14.2 UN proper shipping name

Not regulated as a dangerous good

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

## 14.4 Packing group

Not regulated as a dangerous good

## 14.5 Environmental hazards

Not regulated as a dangerous good

## 14.6 Special precautions for user

Remarks	: Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR
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## 14.7 Maritime transport in bulk according to IMO instruments

Remarks : Not applicable

## SECTION 15: Regulatory information

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

Seveso III: Directive : Not applicable  
2012/18/EU of the European  
Parliament and of the Council  
on the control of major-  
accident hazards involving  
dangerous substances.

Water hazard class (Germany) : WGK 1 slightly hazardous to water

***KAPA End-Repair Buffer (10X)***

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	: Conditions of restriction for the following entries should be considered: Number on list 3
--	---

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	: Not applicable
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Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	: Not applicable
---	------------------

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation : Not applicable

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

(Annex XIV)

### The components 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.  Guanosine 5'-(tetrahydrogen triphosphate), 2'-deoxy-, trisodium salt 2'-deoxyadenosine 5'-(tetrahydrogen triphosphate) 2'-Deoxycytidine 5'-triphosphate disodium salt Thymidine 5'-(tetrahydrogen triphosphate)#, sodium salt 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	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
TECI	:	Not in compliance with the inventory
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Not applicable

### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**  
P264 Wash skin thoroughly after handling.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

P280 Wear eye protection/ face protection.

### Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

### **Kapa A-Tailing Buffer (10X)**

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

### **The components 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.

2'-deoxyadenosine 5'-(tetrahydrogen triphosphate)

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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Roche

## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

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

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Not applicable

### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### *Kapa Ligation Buffer (5X)*

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

### The components 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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

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
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Not applicable

### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### KAPA PEG/NaCl

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable

### The components 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

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

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
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Not applicable

### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### KAPA End Repair Enzyme Mix

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl)
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl) For customers in the European Economic Area:, Contains SVHC:, octyl/nonylphenol ethoxylates., For use

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

in research and under controlled  
conditions only, # acc. to Art. 56.3  
and 3.23 REACH Regulation.

### The components of this product are reported in the following inventories:

AIIC	: Not in compliance with the inventory
DSL	: This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.  Nucleotidyltransferase, deoxyribonucleate Kinase (phosphorylating), polynucleotide 3' / 5'-Hydroxyl-
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	: All substances listed as active on the TSCA inventory
TECI	: Not in compliance with the inventory
Volatile organic compounds	: Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Not applicable

### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### KAPA HiFi HotStart ReadyMix (2X)

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	: Conditions of restriction for the following entries should be considered: Number on list 3
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	: Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	: Not applicable

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

### Other regulations:

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

### The components 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.

Guanosine 5'-(tetrahydrogen triphosphate), 2'-deoxy-, trisodium salt  
2'-deoxyadenosine 5'-(tetrahydrogen triphosphate)  
Thymidine 5'-(tetrahydrogen triphosphate)#, sodium salt  
2'-Deoxycytidine 5'-triphosphate disodium salt  
Antibodies  
dUTP diphosphatase  
Nucleotidyltransferase, deoxyribonucleate

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 : Not in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

TECI : Not in compliance with the inventory

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Not applicable

### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : **Warning**

Hazard statements : **H371 May cause damage to organs.**

Precautionary statements : **Prevention:**

**P260 Do not breathe mist or vapours.**

**P264 Wash skin thoroughly after handling.**

**P270 Do not eat, drink or smoke when using this product.**

**Response:**

**P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.**

**Storage:**

**P405 Store locked up.**

**Disposal:**

**P501 Dispose of contents/ container to an approved waste disposal plant.**

Hazardous components which must be listed on the label:

75-57-0 **tetramethylammonium chloride**

### KAPA Library Amplification Primer Premixes (10X)

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

### The components 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.  
Primer / Oligonucleotide / Probe

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 : Not in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

TECI : Not in compliance with the inventory

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Not applicable

### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### KAPA Hyper Prep DNA Ligase

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

### The components of this product are reported in the following inventories:

AIIC : Not in compliance with the inventory

DSL : This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.

Kinase (phosphorylating), polynucleotide 3' / 5'-Hydroxyl-

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 : All substances listed as active on the TSCA inventory

TECI : Not in compliance with the inventory

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Not applicable

### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### KAPA A-Tailing Enzyme

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

### The components of this product are reported in the following inventories:

AIIC : Not in compliance with the inventory

DSL : This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.

Nucleotidyltransferase, deoxyribonucleate

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 : All substances listed as active on the TSCA inventory

TECI : Not in compliance with the inventory

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Not applicable

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### 15.2 Chemical safety assessment

Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

## SECTION 16: Other information

### Full text of H-Statements

H300	: Fatal if swallowed.
H302	: Harmful if swallowed.
H311	: Toxic in contact with skin.
H315	: Causes skin irritation.
H318	: Causes serious eye damage.
H370	: Causes damage to organs.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Skin Irrit.	: Skin irritation
STOT SE	: Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet;

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## KAPA LTP Library Preparation Kit

Version  
3.0

Revision Date:  
07.02.2022

Date of last issue: 16.08.2021  
Date of first issue: 17.05.2016

SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

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.

DE / EN / 2104