SAFETY DATA SHEET

KAPA HyperPlus Kit

Version	Revision Date:	Date of last issue: 10-11-2021
4.0	03-24-2022	Date of first issue: 05-18-2016

SECTION 1. IDENTIFICATION

Product name : KAPA HyperPlus Kit

Product code : 07962428001

Manufacturer or supplier's details

Company name of supplier : Roche Diagnostics
-

Address : 9115 Hague Road
Indianapolis, IN 46250
USA

Telephone : 1-800-428-5074

Emergency telephone
In case of emergencies: : CHEMTREC 1-800-424-9300 (U.S. or Canada)
1-703-527-3887 (International)

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 :



Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.
H319 Causes serious eye irritation.
H370 Causes damage to organs.

Precautionary Statements :

Prevention:

P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

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 to do. Continue rinsing.
P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.
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.

Storage:

P405 Store locked up.

Disposal:

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

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-(hydroxymethyl)-	77-86-1	>= 5 - < 10
2,3-Butanediol, 1,4-dimercapto-, (2R,3R)-rel-	3483-12-3	>= 1 - < 5
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.-hydro-.omega.-hydroxy-	25322-68-3	>= 20 - < 30
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-	77-86-1	>= 1 - < 5

Actual concentration is withheld as a trade secret

KAPA HiFi HotStart ReadyMix (2X)

GHS Classification

Specific target organ toxicity - single exposure : Category 1

Components

Chemical name	CAS-No.	Concentration (% w/w)
glycerol	56-81-5	>= 10 - < 20
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-	77-86-1	>= 1 - < 5
Methanaminium, N,N,N-trimethyl-, chloride (1:1)	75-57-0	>= 1 - < 5
DNA-dependent DNA polymerase	9012-90-2	< 0.1

Actual concentration is withheld as a trade secret

KAPA Library Amplification Primer Premixes (10X)

GHS Classification

Not a hazardous substance or mixture.

Components

No hazardous ingredients

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 withheld as a trade secret

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 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-(hydroxymethyl)-	77-86-1	>= 1 - < 5

Actual concentration is withheld as a trade secret

KAPA HyperPlus ER&AT 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 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 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.
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.
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 circumstances 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 circumstances and the surrounding environment.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

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 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.

Conditions for safe storage : 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

Further information on storage 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 parameters / Permissible concentration	Basis
Hydrochloric acid	7647-01-0	C	2 ppm	ACGIH
		C	5 ppm 7 mg/m3	NIOSH REL
		C	5 ppm 7 mg/m3	OSHA Z-1
		C	5 ppm 7 mg/m3	OSHA P0

KAPA Hyper Prep Ligation Buffer

Ingredients with workplace control parameters

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

ethanediyl), .alpha.-hydro-.omega.-hydroxy-		sol)		

KAPA HiFi HotStart ReadyMix (2X)

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / 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 polymerase	9012-90-2	IOEL	0.00006 mg/m3	Roche Industrial Hygiene Committee (RIHC)

KAPA Library Amplification Primer Premixes (10X)

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / 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 Industrial Hygiene Committee (RIHC)

KAPA Hyper Prep DNA Ligase

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parameters / Permissible	Basis

		exposure)	concentration	
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 Industrial Hygiene Committee (RIHC)

KAPA Frag Enzyme (5X)

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / 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 polymerase	9012-90-2	IOEL	0.00006 mg/m3	Roche Industrial Hygiene Committee (RIHC)
Deoxyribonuclease	9003-98-9	IOEL	0.00006 mg/m3	Roche Industrial Hygiene Committee (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 parameters / 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 Industrial Hygiene Committee (RIHC)

Engineering measures : No data available

Personal protective equipment

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

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 : Wear appropriate protective gloves to prevent skin contact.
Replace torn or punctured gloves promptly.

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

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

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

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
pH	:	7.9
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.
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	:	1.045 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

Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

KAPA Hyper Prep Ligation Buffer

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	8.1
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.
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	:	1.053 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
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

KAPA HiFi HotStart ReadyMix (2X)

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	8.7
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	:	1.044 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
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

KAPA Library Amplification Primer Premixes (10X)

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	7.7
Melting point/range	:	No data available
Boiling point/boiling range	:	ca. 212 °F / 100 °C
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	:	0.996 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
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	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
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

KAPA Hyper Prep DNA Ligase

Appearance	:	liquid

Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	6.5
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	does not flash
Evaporation rate	:	No data available
Flammability (liquids)	:	Does not sustain combustion. The product is not flammable.
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
Viscosity		
Viscosity, dynamic	:	No data available

Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing 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
pH	:	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
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	:	1.090 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
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

KAPA Frag Conditioning Solution

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	9.0
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
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	:	0.990 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
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

KAPA Frag Buffer (10X)

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	8.3
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	:	0.998 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
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

KAPA HyperPlus ER&AT Enzyme Mix

Appearance	:	liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	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
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	The substance 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 reactions : 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-(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

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
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 : human keratinocytes
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

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

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

Hydrochloric acid:

Result : Risk of serious damage to eyes.

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 : Direct Peptide Reactivity Assay (DPRA)
Assessment : Does not cause skin sensitization.
GLP : yes
Remarks : Based on data from similar materials
Expert judgment

Test Type : Buehler Test

Species	:	Guinea pig
Method	:	OECD Test Guideline 406
GLP	:	no
Remarks	:	Based on data from similar materials

Test Type	:	Intracutaneous test
Species	:	Guinea pig
GLP	:	no
Remarks	:	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

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
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

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), .alpha.-hydro-.omega.-hydroxy-:

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

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:

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

Test Type	:	Direct Peptide Reactivity Assay (DPRA)
Assessment	:	Does not cause skin sensitization.
GLP	:	yes
Remarks	:	Based on data from similar materials Expert judgment
Test Type	:	Buehler Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
GLP	:	no
Remarks	:	Based on data from similar materials
Test Type	:	Intracutaneous test
Species	:	Guinea pig
GLP	:	no
Remarks	:	Based on data from 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
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
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 HiFi HotStart ReadyMix (2X)

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

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

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

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

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

Skin corrosion/irritation

Not classified based on available information.

Components:

glycerol:

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

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

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

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

Result : Irritating to skin.

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

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

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

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

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

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

Test Type	:	Direct Peptide Reactivity Assay (DPRA)
Assessment	:	Does not cause skin sensitization.
GLP	:	yes
Remarks	:	Based on data from similar materials Expert judgment

Test Type	:	Buehler Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
GLP	:	no
Remarks	:	Based on data from similar materials

Test Type	:	Intracutaneous test
Species	:	Guinea pig
GLP	:	no
Remarks	:	Based on data from similar materials

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

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

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.

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

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

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.

Components:

glycerol:

Species : Rat, male and female
Application Route : 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.

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:

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

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
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

Causes damage to organs.

Components:

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

Routes of exposure	:	Ingestion
Target Organs	:	Central nervous system
Assessment	:	Causes damage to organs.

DNA-dependent 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:

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

Species	:	Rat, male and female
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	13 Weeks
Number of exposures	:	6 hours/day, 5 days/week
Dose	:	33, 165 and 660 mg/m3
GLP	:	No information available.

Species	:	Rat
NOAEL	:	5040 mg/kg
NOAEL	:	5,040 mg/kg
Application Route	:	dermal
Exposure time	:	45 Weeks
Number of exposures	:	8 hours/day, 5 days/week
Dose	:	0.5-4.0 ml/kg
GLP	:	no

Repeated dose toxicity - Assessment	:	Mild eye irritant, Mild respiratory irritant, No skin irritation

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

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

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:

DNA-dependent DNA polymerase:

No data available

Further information

Components:

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

Remarks	:	Other dangerous properties can not be excluded.

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 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 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
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

Taq DNA Polymerase:

Acute oral toxicity	:	Acute toxicity estimate: > 5,001 mg/kg Method: Expert judgment
Acute inhalation toxicity	:	Acute toxicity estimate: > 30 mg/l Test atmosphere: dust/mist Method: Expert judgment
Acute dermal toxicity	:	Acute toxicity estimate: > 5,001 mg/kg

Method: Expert 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

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	:	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.

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:

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:

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

Species	:	Rat, male and female
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	13 Weeks
Number of exposures	:	6 hours/day, 5 days/week
Dose	:	33, 165 and 660 mg/m3
GLP	:	No information available.

Species	:	Rat
NOAEL	:	5040 mg/kg
NOAEL	:	5,040 mg/kg
Application Route	:	dermal
Exposure time	:	45 Weeks
Number of exposures	:	8 hours/day, 5 days/week
Dose	:	0.5-4.0 ml/kg
GLP	:	no

Repeated dose toxicity - Assessment	:	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.

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	:	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 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 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:

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

Species	:	Rat, male and female
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	13 Weeks
Number of exposures	:	6 hours/day, 5 days/week
Dose	:	33, 165 and 660 mg/m3
GLP	:	No information available.

Species	:	Rat
NOAEL	:	5040 mg/kg
NOAEL	:	5,040 mg/kg
Application Route	:	dermal
Exposure time	:	45 Weeks
Number of exposures	:	8 hours/day, 5 days/week
Dose	:	0.5-4.0 ml/kg
GLP	:	no

Repeated dose toxicity - Assessment	:	Mild eye irritant, 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:

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.

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	:	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	:	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.

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:

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:

DNA-dependent 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:

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

Species	:	Rat, male and female
Application Route	:	Inhalation
Test atmosphere	:	dust/mist

Exposure time	:	13 Weeks
Number of exposures	:	6 hours/day, 5 days/week
Dose	:	33, 165 and 660 mg/m3
GLP	:	No information available.

Species	:	Rat
NOAEL	:	5040 mg/kg
NOAEL	:	5,040 mg/kg
Application Route	:	dermal
Exposure time	:	45 Weeks
Number of exposures	:	8 hours/day, 5 days/week
Dose	:	0.5-4.0 ml/kg
GLP	:	no

Repeated dose toxicity - Assessment	:	Mild eye irritant, Mild respiratory irritant, No skin irritation

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.

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

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	:	Direct Peptide Reactivity Assay (DPRA)
Assessment	:	Does not cause skin sensitization.
GLP	:	yes
Remarks	:	Based on data from similar materials Expert judgment

Test Type	:	Buehler Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
GLP	:	no
Remarks	:	Based on data from similar materials

Test Type	:	Intracutaneous test
Species	:	Guinea pig
GLP	:	no
Remarks	:	Based on data from 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
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
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

Taq DNA Polymerase:

Acute oral toxicity	:	Acute toxicity estimate: > 5,001 mg/kg Method: Expert judgment
Acute inhalation toxicity	:	Acute toxicity estimate: > 30 mg/l Test atmosphere: dust/mist Method: Expert judgment
Acute dermal toxicity	:	Acute toxicity estimate: > 5,001 mg/kg Method: Expert 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

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	:	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.

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:

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:

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	:	Rat, male and female
NOAEL	:	4580 mg/kg

NOAEL	:	4,580 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Number of exposures	:	daily
Dose	:	4580 - 25,800 mg/kg/day
GLP	:	no

Species	:	Rat, male and female
Application Route	:	Inhalation
Test atmosphere	:	dust/mist
Exposure time	:	13 Weeks
Number of exposures	:	6 hours/day, 5 days/week
Dose	:	33, 165 and 660 mg/m3
GLP	:	No information available.

Species	:	Rat
NOAEL	:	5040 mg/kg
NOAEL	:	5,040 mg/kg
Application Route	:	dermal
Exposure time	:	45 Weeks
Number of exposures	:	8 hours/day, 5 days/week
Dose	:	0.5-4.0 ml/kg
GLP	:	no

Repeated dose toxicity - Assessment	:	Mild eye irritant, Mild respiratory irritant, No skin irritation

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

KAPA Hyper Prep End Repair and A-Tailing Buffer

Ecotoxicity

Components:

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

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 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 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

Hydrochloric acid:

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

Persistence and degradability

Components:

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

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

Biodegradability : 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

Bioaccumulative potential

Components:

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

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

Partition coefficient: n-octanol/water	:	log Pow: 0.07 (77 °F / 25 °C) pH: 5.0 Method: OECD Test Guideline 117 GLP: yes

Hydrochloric acid:

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

Mobility in soil

No data available

Other adverse effects

KAPA Hyper Prep Ligation Buffer

Ecotoxicity

Components:

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

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): > 100 mg/l Exposure time: 4 d Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h
Toxicity to fish (Chronic toxicity)	:	> 1 mg/l

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

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

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

Persistence and degradability

Components:

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

Biodegradability : Biodegradation: > 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301

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), .alpha.-hydro-.omega.-hydroxy-:

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:

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

Adsorbed organic bound halogens (AOX) : Remarks: Not applicable

KAPA HiFi HotStart ReadyMix (2X)

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

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

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

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

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

DNA-dependent DNA polymerase:

Ecotoxicology Assessment

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

Other organisms relevant to the environment : No data available

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

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

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

Biodegradability : Remarks: Expected to be biodegradable

Bioaccumulative potential

Components:

glycerol:

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

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

Methanaminium, N,N,N-trimethyl-, chloride (1:1):

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

DNA-dependent DNA polymerase:

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

Mobility in soil

No data available

Other adverse effects

KAPA Library Amplification Primer Premixes (10X)

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 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.
Other organisms relevant to the environment	:	No data available

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-octanol/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-octanol/water	:	Remarks: No data available

Mobility in soil

No data available

Other adverse effects

KAPA Hyper Prep DNA Ligase

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

Polynucleotide 5'-hydroxyl kinase:

Ecotoxicology Assessment

Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	No data available

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

Polynucleotide 5'-hydroxyl kinase:

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

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

DNA-dependent DNA polymerase:

Ecotoxicology Assessment

Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	No data available

Deoxyribonuclease:

Ecotoxicology Assessment

Toxicity Data on Soil	:	Not expected to adsorb on soil.
Other organisms relevant to the environment	:	No data available

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

DNA-dependent DNA polymerase:

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

Deoxyribonuclease:

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

Mobility in soil

No data available

Other adverse effects

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)-:

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

Persistence and degradability

Components:

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:

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

KAPA HyperPlus ER&AT 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.

Other organisms relevant to the environment : No data available

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-octanol/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-octanol/water : Remarks: No data available

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 chemical 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

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

Water	7732-18-5
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-	77-86-1
Magnesium chloride hexahydrate p.a.	7791-18-6
Hydrochloric acid	7647-01-0

Maine Chemicals of High Concern

Product does not contain any listed chemicals

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 List of Hazardous Substances

Hydrochloric acid	7647-01-0

California Permissible Exposure Limits for Chemical Contaminants

Hydrochloric acid	7647-01-0

California List of Acutely Hazardous Chemicals, Toxics and Reactives

Hydrochloric acid	7647-01-0

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'-(tetrahydrogen triphosphate), 2'-deoxy- Adenosine 5′-triphosphate disodium salt hydrate 2'-Deoxyguanosine 5'-triphosphate trisodium salt 2'-Deoxycytidine 5'-triphosphate disodium salt Thymidine 5'-(tetrahydrogen triphosphate), sodium salt
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

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 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-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	25322-68-3	>= 20 - < 30 %

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), .alpha.-hydro-.omega.-hydroxy-	25322-68-3

Maine Chemicals of High Concern

Product does not contain any listed chemicals

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	:	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 HiFi HotStart ReadyMix (2X)

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

Listed substances in the product are at low enough levels to not be expected to exceed the 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 : Specific target organ toxicity (single or repeated exposure)

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):

glycerol	56-81-5	>= 10 - < 20 %

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	>= 0 - < 0.1 %
Sulfuric acid	7664-93-9	>= 0 - < 0.1 %
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-	60-00-4	>= 0 - < 0.1 %

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

Hydrochloric acid	7647-01-0	>= 0 - < 0.1 %
Sulfuric acid	7664-93-9	>= 0 - < 0.1 %
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-	60-00-4	>= 0 - < 0.1 %

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

glycerol	56-81-5
Hydrochloric acid	7647-01-0
Sulfuric acid	7664-93-9

Pennsylvania Right To Know

Water	7732-18-5
glycerol	56-81-5

Maine Chemicals of High Concern

Product does not contain any listed chemicals

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 Prop. 65

WARNING: This product can expose you to chemicals including Sulfuric acid, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Permissible Exposure Limits for Chemical Contaminants

glycerol	56-81-5

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. 2'-Deoxyguanosine 5'-triphosphate trisodium salt Adenosine 5'-(tetrahydrogen triphosphate), 2'-deoxy- Thymidine 5'-(tetrahydrogen triphosphate), sodium salt 2'-Deoxycytidine 5'-triphosphate disodium salt MAB / PAB dUTP diphosphatase DNA-dependent DNA polymerase
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

TSCA list

No substances are subject to a Significant New Use Rule.

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

KAPA Library Amplification Primer Premixes (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.

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

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

Hydrochloric acid	7647-01-0	>= 0 - < 0.1 %

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

Hydrochloric acid	7647-01-0	>= 0 - < 0.1 %

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

Water	7732-18-5
Hydrochloric acid	7647-01-0

Maine Chemicals of High Concern

Product does not contain any listed chemicals

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	:	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

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.

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):

glycerol	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:

Hydrochloric acid	7647-01-0	>= 0 - < 0.1 %
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-	60-00-4	>= 0 - < 0.1 %

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

Hydrochloric acid	7647-01-0	>= 0 - < 0.1 %
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-	60-00-4	>= 0 - < 0.1 %

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

glycerol	56-81-5
Hydrochloric acid	7647-01-0

Pennsylvania Right To Know

glycerol	56-81-5
Water	7732-18-5
Hydrochloric acid	7647-01-0

Maine Chemicals of High Concern

Product does not contain any listed chemicals

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 Permissible Exposure Limits for Chemical Contaminants

glycerol	56-81-5

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.

Taq DNA Polymerase

DNA-dependent DNA polymerase

Polynucleotide 5'-hydroxyl kinase

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

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).
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):

glycerol	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:

Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-	60-00-4	>= 0 - < 0.1 %

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

Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-	60-00-4	>= 0 - < 0.1 %

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

glycerol	56-81-5

Pennsylvania Right To Know

glycerol	56-81-5
Water	7732-18-5

Maine Chemicals of High Concern

Product does not contain any listed chemicals

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 Permissible Exposure Limits for Chemical Contaminants

glycerol	56-81-5

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 listed on the Canadian NDSL. All other components are on the Canadian DSL. Polynucleotide 5'-hydroxyl kinase
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

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):

glycerol	56-81-5	>= 30 - < 50 %

Clean Water Act

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

Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-	60-00-4	>= 0 - < 0.1 %

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

Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-	60-00-4	>= 0 - < 0.1 %

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

glycerol	56-81-5

Pennsylvania Right To Know

Water	7732-18-5
glycerol	56-81-5

Maine Chemicals of High Concern

Product does not contain any listed chemicals

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 Permissible Exposure Limits for Chemical Contaminants

glycerol	56-81-5

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. T4-GEN32-Proteine Bovine Serum Albumin Fraction V DNA-dependent DNA polymerase Deoxyribonuclease
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

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

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.

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

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

Hydrochloric acid	7647-01-0	>= 0.1 - < 1 %

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

Hydrochloric acid	7647-01-0	>= 0.1 - < 1 %

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

Water	7732-18-5
Hydrochloric acid	7647-01-0

Maine Chemicals of High Concern

Product does not contain any listed chemicals

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	:	Not in compliance with the inventory
DSL	:	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 2'-Deoxycytidine 5'-triphosphate disodium salt
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

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):

glycerol	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:

Hydrochloric acid	7647-01-0	>= 0.1 - < 1 %
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-	60-00-4	>= 0 - < 0.1 %

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

Hydrochloric acid	7647-01-0	>= 0.1 - < 1 %
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-	60-00-4	>= 0 - < 0.1 %

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

glycerol	56-81-5
Hydrochloric acid	7647-01-0

Pennsylvania Right To Know

glycerol	56-81-5
Water	7732-18-5
Hydrochloric acid	7647-01-0

Maine Chemicals of High Concern

Product does not contain any listed chemicals

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 Permissible Exposure Limits for Chemical Contaminants

glycerol	56-81-5

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. Taq DNA Polymerase
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

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 : H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary Statements :

Prevention:

P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

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 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.

KAPA Hyper Prep Ligation Buffer

GHS label elements

Not a hazardous substance or mixture.

KAPA HiFi HotStart ReadyMix (2X)

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H370 Causes damage to organs.

Precautionary Statements :

Prevention:

P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Response:

P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.

Storage:

P405 Store locked up.

Disposal:

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

KAPA Library Amplification Primer Premixes (10X)

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)

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

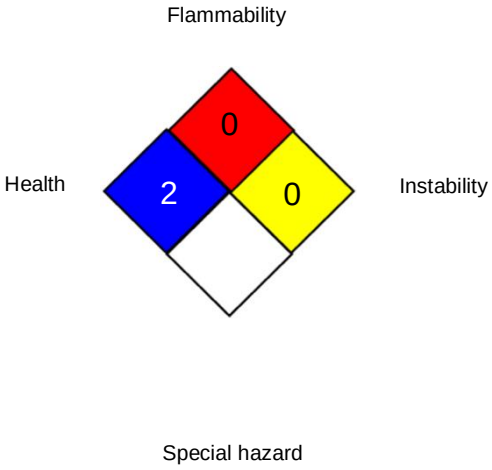
GHS label elements

Not a hazardous substance or mixture.

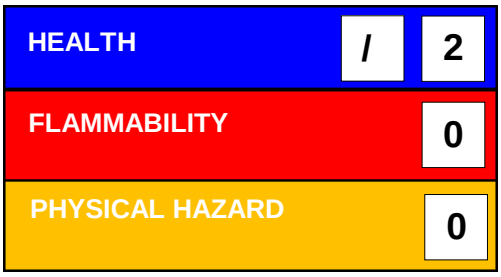
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:

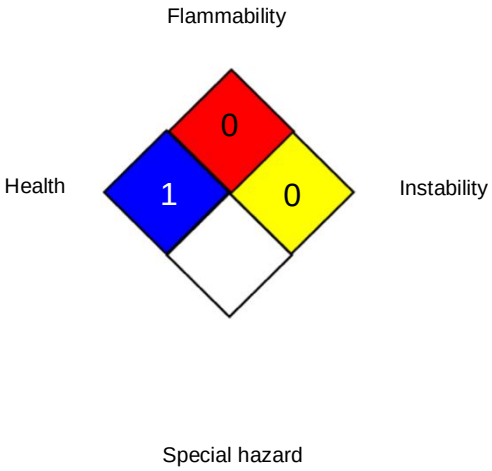


HMIS® IV:

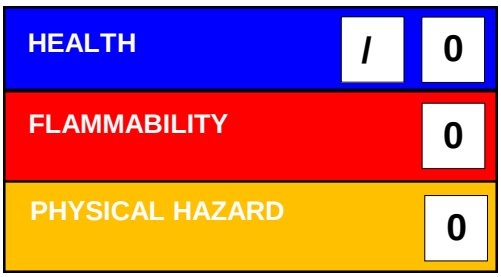


HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

NFPA 704:

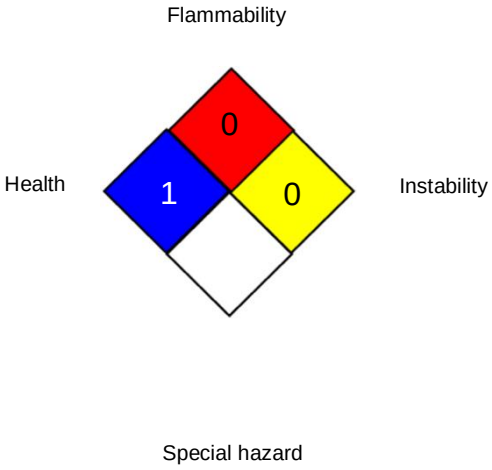


HMIS® IV:

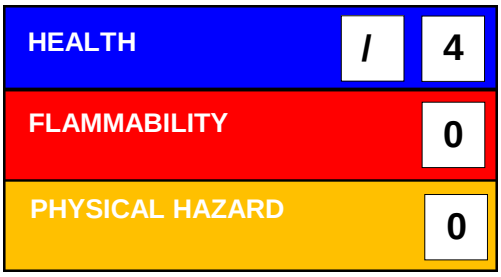


HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

NFPA 704:

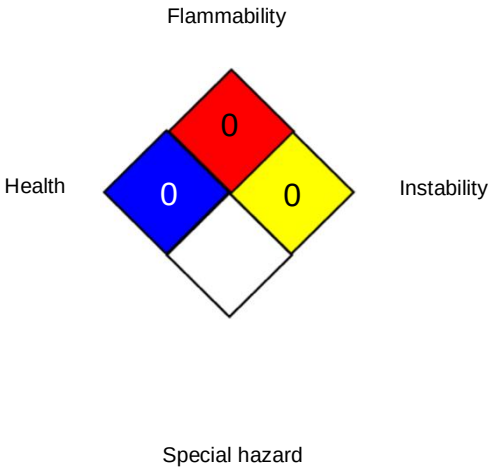


HMIS® IV:

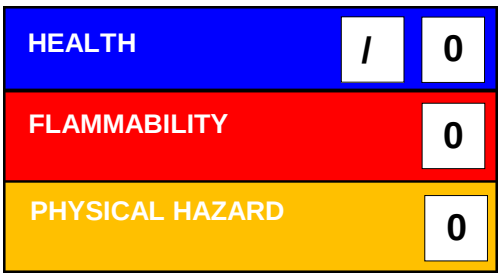


HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

NFPA 704:

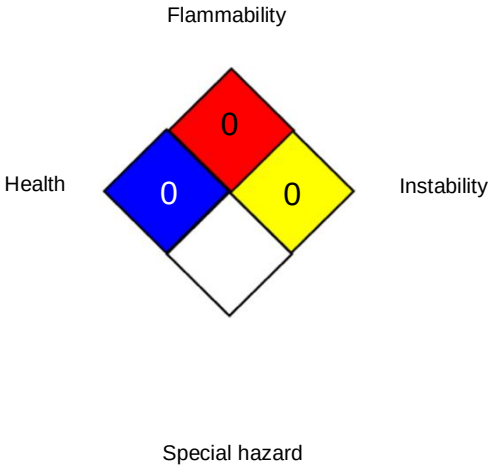


HMIS® IV:

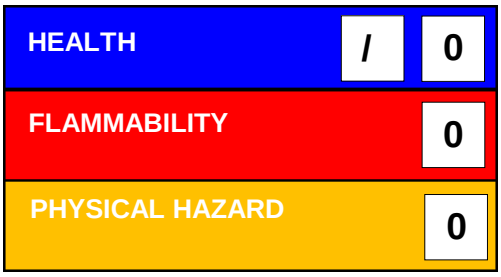


HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

NFPA 704:

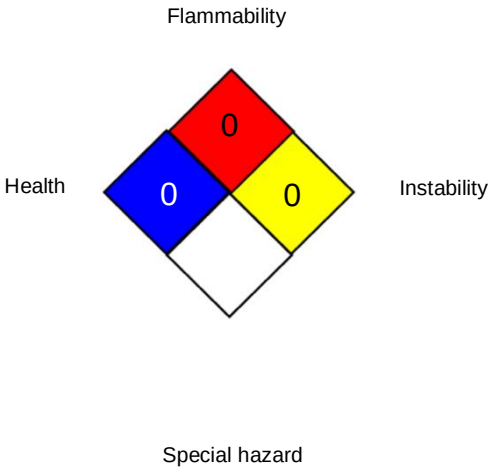


HMIS® IV:

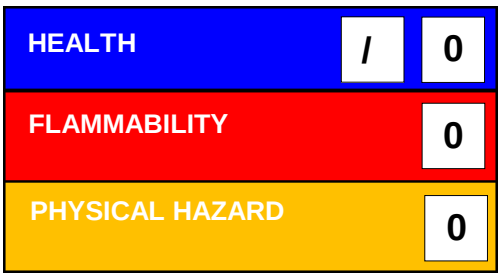


HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

NFPA 704:

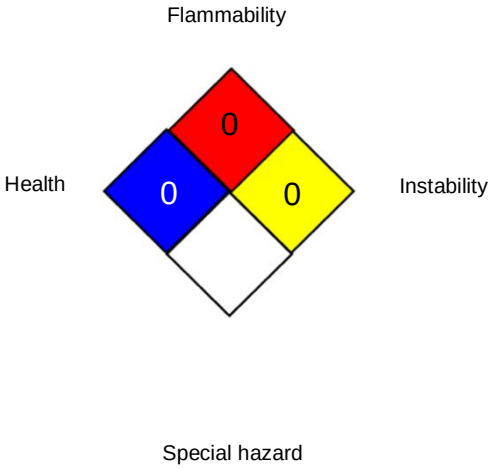


HMIS® IV:

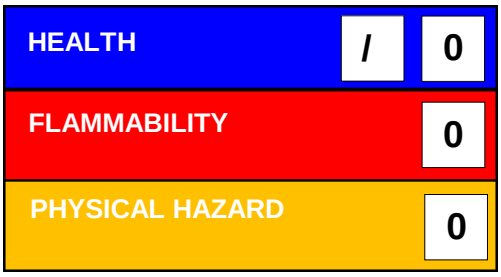


HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

NFPA 704:

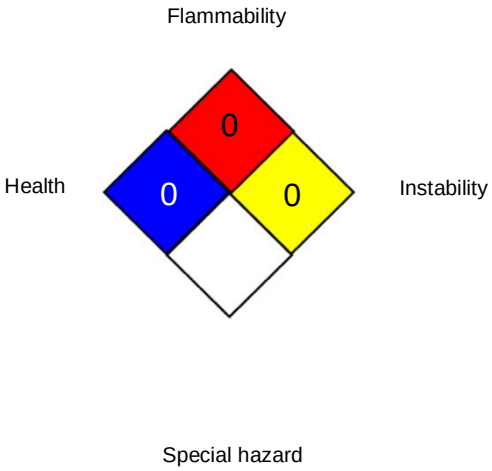


HMIS® IV:

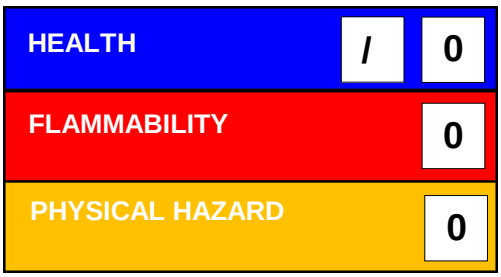


HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

NFPA 704:

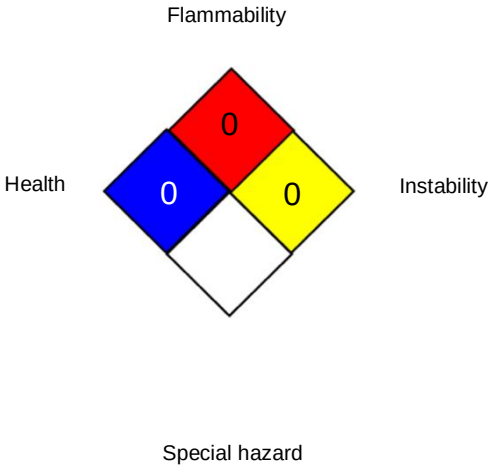


HMIS® IV:

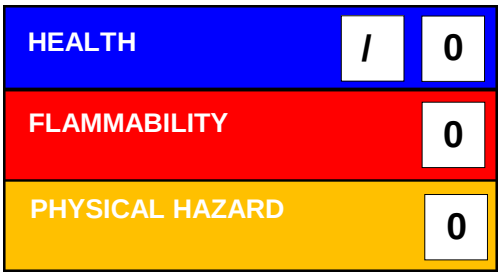


HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

NFPA 704:

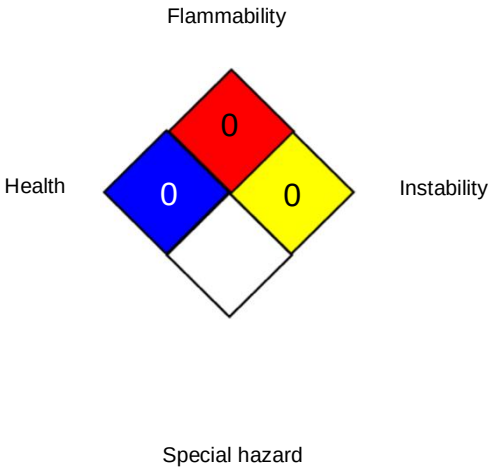


HMIS® IV:

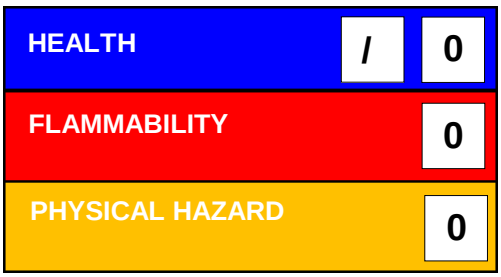


HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

NFPA 704:



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.

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

Revision Date : 03-24-2022

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