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

1.1 Product identifier
   Trade name : KAPA HyperPlus (24rxn)
   Product code : 07962401001

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Recommended restrictions on use : For professional users only.

1.3 Details of the supplier of the safety data sheet
   Company : Roche Diagnostics Deutschland GmbH
   - Sandhoferstrasse 116
   - 68305 Mannheim
   - Deutschland
   Telephone : +496217590
   Telefax : +496217592890
   Responsible Department : +49(0)621-759-2012, +49(0)621-759-4848
                          : +49(0)8856-60-2629
   E-mail address : manheim.umweltschutz@roche.com

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

SECTION 2: Hazards identification

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

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
   Hazard pictograms : 
   Signal word : Warning
   Hazard statements : H371 May cause damage to organs.
Precautionary statements:

Prevention:
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

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

Storage:
P405 Store locked up.

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

Additional Labelling
EUH210 Safety data sheet available on request.

2.3 Other hazards
See SECTION 3

SECTION 3: Composition/information on ingredients

KAPA Hyper Prep End Repair and A-Tailing Buffer

Classification (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration ( % w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(R(^<em>),R(^</em>))-1,4-dimercaptobutane-2,3-diol</td>
<td>3483-12-3</td>
<td>222-468-7</td>
<td></td>
<td></td>
<td>Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319</td>
<td>&gt;= 1,0 - &lt; 10,0</td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.

KAPA Hyper Prep Ligation Buffer

Classification (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

Components

Remarks: No hazardous ingredients

For explanation of abbreviations see section 16.

KAPA HiFi HotStart ReadyMix (2X)
**Classification (REGULATION (EC) No 1272/2008)**
Specific target organ toxicity - single exposure, Category 2

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

### Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>tetramethylammonium chloride</td>
<td>75-57-0</td>
<td>200-880-8</td>
<td>01-2119970924-26-XXXX</td>
<td>200-880-8</td>
<td>Acute Tox. 2; H300 Acute Tox. 3; H311 Skin Irrit. 2; H315 STOT SE 1; H370 Aquatic Chronic 2; H411</td>
<td>&gt;= 1.0 - &lt; 2.5</td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.

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

Not a hazardous substance or mixture.

### Components

Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.

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

Not a hazardous substance or mixture.

### Components

Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.

**KAPA Hyper Prep DNA Ligase**

Not a hazardous substance or mixture.

### Components

Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.
KAPA HyperPlus (24rxn)

KAPA Frag Enzyme (5X)

Classification (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

Components
Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.

KAPA Frag Conditioning Solution

Classification (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

Components
Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.

KAPA Frag Buffer (10X)

Classification (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

Components
Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.

KAPA HyperPlus ER&AT Enzyme Mix

Classification (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

Components
Remarks : No hazardous ingredients

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled

- Move to fresh air.
- If unconscious, place in recovery position and seek medical advice.
- If symptoms persist, call a physician.

In case of skin contact

- If skin irritation persists, call a physician.
- If on skin, rinse well with water.
- If on clothes, remove clothes.

In case of eye contact

- Immediately flush eye(s) with plenty of water.
- Remove contact lenses.
- Protect unharmed eye.
- Keep eye wide open while rinsing.
- If eye irritation persists, consult a specialist.

If swallowed

- Clean mouth with water and drink afterwards plenty of water.
- Keep respiratory tract clear.
- Do not give milk or alcoholic beverages.
- Never give anything by mouth to an unconscious person.
- If symptoms persist, call a physician.
- Take victim immediately to hospital.
- Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed
None known.

4.3 Indication of any immediate medical attention and special treatment needed
Treatment
- The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

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

Unsuitable extinguishing media
- High volume water jet

5.2 Special hazards arising from the substance or mixture
Specific hazards during firefighting
- No information available.

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

Further information
- Standard procedure for chemical fires.
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
SECTION 6: Accidental release measures

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

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

6.3 Methods and material for containment and cleaning up
Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
Treat recovered material as described in the section "Disposal considerations".

SECTION 7: Handling and storage

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

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

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

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

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

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

Further information on storage stability : No decomposition if stored and applied as directed.
7.3 Specific end use(s)
Specific use(s) : Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

**KAPA Hyper Prep End Repair and A-Tailing Buffer**
Contains no substances with occupational exposure limit values.

**KAPA Hyper Prep Ligation Buffer**

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylenglycol 6000</td>
<td>25322-68-3</td>
<td>AGW (Inhalable fraction)</td>
<td>1.000 mg/m3</td>
<td>DE TRGS 900</td>
</tr>
<tr>
<td>Peak-limit: excursion factor (category)</td>
<td>8;(II)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>Senate commission for the review of compounds at the workplace dangerous for the health (MAK-commission), When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AGW (Inhalable fraction)</td>
<td>1.000 mg/m3</td>
<td>DE TRGS 900</td>
<td></td>
</tr>
<tr>
<td>Peak-limit: excursion factor (category)</td>
<td>8;(II)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>Senate commission for the review of compounds at the workplace dangerous for the health (MAK-commission), When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>glycerol</td>
<td>56-81-5</td>
<td>AGW (Inhalable fraction)</td>
<td>200 mg/m3</td>
<td>DE TRGS 900</td>
</tr>
<tr>
<td>Peak-limit: excursion factor (category)</td>
<td>2;(I)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>Senate commission for the review of compounds at the workplace dangerous for the health (MAK-commission), When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sulphuric acid</td>
<td>7664-93-9</td>
<td>AGW (Inhalable fraction)</td>
<td>0,1 mg/m3</td>
<td>DE TRGS 900</td>
</tr>
<tr>
<td>Peak-limit: excursion factor (category)</td>
<td>1;(I)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SAFETY DATA SHEET

**KAPA HyperPlus (24rxn)**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7</td>
<td>22.06.2019</td>
<td>24.05.2019</td>
<td>17.05.2016</td>
</tr>
</tbody>
</table>

**Further information**

Senate commission for the review of compounds at the workplace dangerous for the health (MAK-commission), European Union (The EU has established a limit value: deviations in value and peak limit are possible). When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrogen chloride</td>
<td>7647-01-0</td>
<td>TWA</td>
<td>5 ppm 8 mg/m3</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td>Further information</td>
<td>Indicative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>10 ppm 15 mg/m3</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td>Further information</td>
<td>Indicative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>AGW</td>
<td>2 ppm 3 mg/m3</td>
<td>DE TRGS 900</td>
</tr>
</tbody>
</table>

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

**Further information**

Senate commission for the review of compounds at the workplace dangerous for the health (MAK-commission), European Union (The EU has established a limit value: deviations in value and peak limit are possible). When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child.

<table>
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<tr>
<th>Component</th>
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</tr>
</thead>
<tbody>
<tr>
<td>glycerol</td>
<td>56-81-5</td>
<td>AGW (inhalable fraction)</td>
<td>200 mg/m3</td>
<td>DE TRGS 900</td>
</tr>
<tr>
<td>Peak-limit: excursion factor (category)</td>
<td>2;(I)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Further information: Senate commission for the review of compounds at the workplace dangerous for the health (MAK-commission)., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>glycerol</td>
<td>56-81-5</td>
<td>AGW (Inhalable fraction)</td>
<td>200 mg/m³</td>
<td>DE TRGS 900</td>
</tr>
<tr>
<td>Peak-limit: excursion factor (category)</td>
<td>2;(I)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

KAPA Hyper Prep DNA Ligase

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>kinase (phosphorylating), poly-</td>
<td>37211-65-7</td>
<td>IOEL</td>
<td>0,00006 mg/m³</td>
<td>Roche Industrial Hygiene Committee (RIHC)</td>
</tr>
<tr>
<td>nucleotide 3' / 5' -hydroxyl-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>edetic acid</td>
<td>60-00-4</td>
<td>IOEL</td>
<td>1,5 mg/m³</td>
<td>Roche Industrial Hygiene Committee (RIHC)</td>
</tr>
</tbody>
</table>

Further information: Senate commission for the review of compounds at the workplace dangerous for the health (MAK-commission)., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child.

edetic acid                         | 60-00-4   | IOEL                          | 1,5 mg/m³          | Roche Industrial Hygiene Committee (RIHC)  |
**KAPA HyperPlus (24rxn)**

**KAPA Frag Enzyme (5X)**

**Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>glycerol</td>
<td>56-81-5</td>
<td>AGW (Inhalable fraction)</td>
<td>200 mg/m³</td>
<td>DE TRGS 900</td>
</tr>
<tr>
<td>Peak-limit: excursion factor (category)</td>
<td>2;(I)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>Senate commission for the review of compounds at the workplace dangerous for the health (MAK-commission)., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>edetic acid</td>
<td>60-00-4</td>
<td>IOEL</td>
<td>1,5 mg/m³</td>
<td>Roche Industrial Hygiene Committee (RIHC)</td>
</tr>
<tr>
<td>Nucleotidyltransferase, deoxyribonucleate</td>
<td>9012-90-2</td>
<td>IOEL</td>
<td>0,00006 mg/m³</td>
<td>Roche Industrial Hygiene Committee (RIHC)</td>
</tr>
<tr>
<td>Nuclease, deoxyribo-</td>
<td>9003-98-9</td>
<td>IOEL</td>
<td>0,00006 mg/m³</td>
<td>Roche Industrial Hygiene Committee (RIHC)</td>
</tr>
</tbody>
</table>

**KAPA Frag Conditioning Solution**

Contains no substances with occupational exposure limit values.

**KAPA Frag Buffer (10X)**

**Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrogen chloride</td>
<td>7647-01-0</td>
<td>TWA</td>
<td>5 ppm 8 mg/m³</td>
<td>2000/39/EC</td>
</tr>
<tr>
<td>Further information</td>
<td>Indicative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further information</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>Indicative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak-limit: excursion factor (category)</td>
<td>2;(I)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Further information</td>
<td>Senate commission for the review of compounds at the workplace dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible), When there is</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child

**KAPA HyperPlus ER&AT Enzyme Mix**

### Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>glycerol</td>
<td>56-81-5</td>
<td>AGW (Inhalable fraction)</td>
<td>200 mg/m³</td>
<td>DE TRGS 900</td>
</tr>
<tr>
<td>Hydrogen chloride</td>
<td>7647-01-0</td>
<td>TWA, STEL</td>
<td>5 ppm (8 mg/m³), 10 ppm (15 mg/m³)</td>
<td>2000/39/EC (2000/39/EC)</td>
</tr>
<tr>
<td>Taq DNA Polymerase</td>
<td>123340-12-5</td>
<td>IOEL</td>
<td>0,00006 mg/m³</td>
<td>Roche Industrial Hygiene Committee (RIHC)</td>
</tr>
<tr>
<td>Edetic acid</td>
<td>60-00-4</td>
<td>IOEL</td>
<td>1,5 mg/m³</td>
<td>Roche Industrial Hygiene Committee (RIHC)</td>
</tr>
</tbody>
</table>

#### 8.2 Exposure controls

**Engineering measures**

- No data available

**Personal protective equipment**

- Eye protection: Eye wash bottle with pure water, Tightly fitting safety goggles
- Hand protection: Protective gloves
- Remarks: The selected protective gloves have to satisfy the specifica-
This recommendation is only valid for the product mentioned in the safety data sheet and provided by us and for the application specified by us. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

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

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

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

- **Appearance** : liquid
- **Colour** : colourless
- **Odour** : odourless
- **Odour 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
- **Upper explosion limit / Upper flammability limit** : No data available
- **Lower explosion limit / Lower flammability limit** : No data available
- **Vapour pressure** : No data available
- **Relative vapour 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
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity
  Viscosity, dynamic : No data available
  Viscosity, kinematic : No data available
Oxidizing properties : The substance or mixture is not classified as oxidizing.

**KAPA Hyper Prep Ligation Buffer**
Appearance : liquid
Colour : colourless
Odour : odourless
Odour 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
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapour pressure : No data available
Relative vapour 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

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity
  Viscosity, dynamic: No data available
  Viscosity, kinematic: No data available

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

KAPA HiFi HotStart ReadyMix (2X)

Appearance: liquid

Colour: colourless

Odour: odourless

Odour 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

Upper explosion limit / Upper flammability limit: No data available

Lower explosion limit / Lower flammability limit: No data available

Vapour pressure: No data available

Relative vapour 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
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity
  Viscosity, dynamic: No data available
  Viscosity, kinematic: No data available
Oxidizing properties: The substance or mixture is not classified as oxidizing.

KAPA Library Amplification Primer Premixes (10X)

Appearance: liquid
Colour: colourless
Odour: odourless
Odour Threshold: No data available
pH: 7,7
Melting point/range: No data available
Boiling point/boiling range: No data available
Flash point: does not flash
Evaporation rate: No data available
Upper explosion limit / Upper flammability limit: No data available
Lower explosion limit / Lower flammability limit: No data available
Vapour pressure: No data available
Relative vapour 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
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>The substance or mixture is not classified as oxidizing.</td>
</tr>
<tr>
<td>KAPA Hyper Prep End Repair &amp; A-Tailing Enzyme Mix</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour Threshold</td>
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</tr>
<tr>
<td>pH</td>
<td>6.8</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>does not flash</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Does not sustain combustion.</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.148 g/cm³</td>
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<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>completely miscible</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
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</tr>
</tbody>
</table>
**KAPA HyperPlus (24rxn)**

<table>
<thead>
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<th>Property</th>
<th>Description</th>
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<tbody>
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<tr>
<td>Decomposition temperature</td>
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</tr>
<tr>
<td>Viscosity</td>
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</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
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</tr>
<tr>
<td>Oxidizing properties</td>
<td>The substance or mixture is not classified as oxidizing.</td>
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</tbody>
</table>

**KAPA Hyper Prep DNA Ligase**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
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<td>Colour</td>
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<td>Odour</td>
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<tr>
<td>Odour Threshold</td>
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<tr>
<td>pH</td>
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</tr>
<tr>
<td>Melting point/range</td>
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</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>does not flash</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit / Upper flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit / Lower flammability limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1,148 g/cm³</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
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</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
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### KAPA HyperPlus (24rxn)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
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<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>The substance or mixture is not classified as oxidizing.</td>
</tr>
</tbody>
</table>

### KAPA Frag Enzyme (5X)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>7.8</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>does not flash</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit / Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>flammability limit</td>
<td></td>
</tr>
<tr>
<td>Lower explosion limit / Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>flammability limit</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.090 g/cm³</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>completely miscible</td>
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<tr>
<td>Solubility in other solvents</td>
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</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Decomposition temperature : No data available

Viscosity
  Viscosity, dynamic : No data available
  Viscosity, kinematic : No data available

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

**KAPA Frag Conditioning Solution**

Appearance : liquid

Colour : colourless

Odour : odourless

Odour 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

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour 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

Auto-ignition temperature : No data available

Decomposition temperature : No data available
Viscosity
   Viscosity, dynamic : No data available
   Viscosity, kinematic : No data available

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

**KAPA Frag Buffer (10X)**

Appearance : liquid
Colour : colourless
Odour : odourless
Odour 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.
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapour pressure : No data available
Relative vapour 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
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity
  Viscosity, dynamic : No data available
  Viscosity, kinematic : No data available
Oxidizing properties : The substance or mixture is not classified as oxidizing.

**KAPA HyperPlus ER&AT Enzyme Mix**

Appearance : liquid
Colour : colourless
Odour : odourless
Odour 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.
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapour pressure : No data available
Relative vapour 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
Auto-ignition 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.

9.2 Other information

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

Flammability (liquids) : Does not sustain combustion.
Self-ignition : Not applicable

**KAPA Hyper Prep Ligation Buffer**

Flammability (liquids) : Does not sustain combustion.
Self-ignition : Not applicable

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

Flammability (liquids) : Does not sustain combustion.
Self-ignition : Not applicable

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

Flammability (liquids) : Does not sustain combustion.
                          The product is not flammable.
Self-ignition : Not applicable

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

Flammability (liquids) : Does not sustain combustion.
Self-ignition : Not applicable

**KAPA Hyper Prep DNA Ligase**

Flammability (liquids) : Does not sustain combustion.
                          The product is not flammable.
Self-ignition : Not applicable

**KAPA Frag Enzyme (5X)**
Flammability (liquids) : Does not sustain combustion.
The product is not flammable.
Self-ignition : Not applicable

**KAPA Frag Conditioning Solution**
Flammability (liquids) : Does not sustain combustion.
The product is not flammable.
Self-ignition : Not applicable

**KAPA Frag Buffer (10X)**
Flammability (liquids) : Does not sustain combustion.
Self-ignition : Not applicable

**KAPA HyperPlus ER&AT Enzyme Mix**
Flammability (liquids) : Does not sustain combustion.
Self-ignition : Not applicable

---

**SECTION 10: Stability and reactivity**

10.1 Reactivity
No dangerous reaction known under conditions of normal use.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
No data available
10.6 Hazardous decomposition products
No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects
KAPA Hyper Prep End Repair and A-Tailing Buffer

Acute toxicity
Not classified based on available information.

Components:
(R*,R*)-1,4-dimercaptobutane-2,3-diol:
Acute oral toxicity: LD50 Oral (Rat): 400 mg/kg
Acute toxicity (other routes of administration): Symptoms: May cause cardiac arrhythmia., Convulsions, Vomiting

Skin corrosion/irritation
Not classified based on available information.

Components:
(R*,R*)-1,4-dimercaptobutane-2,3-diol:
Result: Irritating to skin.

Serious eye damage/eye irritation
Not classified based on available information.

Components:
(R*,R*)-1,4-dimercaptobutane-2,3-diol:
Result: Irritating to eyes.

Respiratory or skin sensitisation
Skin sensitisation
Not classified based on available information.
Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.
STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

KAPA Hyper Prep Ligation Buffer

Acute toxicity
Not classified based on available information.

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

KAPA HiFi HotStart ReadyMix (2X)

Acute toxicity
Not classified based on available information.

Components:

tetramethylammonium chloride:

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

Acute dermal toxicity: LD50 Dermal (Rat): 537 mg/kg
LD50 Dermal (Rabbit): > 200 - < 500 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Skin corrosion/irritation
Not classified based on available information.

Components:
tetramethylammonium chloride:
Result: Irritating to skin.

Serious eye damage/eye irritation
Not classified based on available information.

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
May cause damage to organs.

Components:
tetramethylammonium chloride:
Assessment: Causes damage to organs.

STOT - repeated exposure
Not classified based on available information.

Repeated dose toxicity

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

Aspiration toxicity
Not classified based on available information.
Further information

Components:

tetramethylammonium chloride:

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 sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

Acute toxicity
Not classified based on available information.

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.
Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

KAPA Hyper Prep DNA Ligase

Acute toxicity
Not classified based on available information.

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

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 Enzyme (5X)
Acute toxicity
Not classified based on available information.

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

KAPA 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 sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.
Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

KAPA Frag Buffer (10X)

Acute toxicity
Not classified based on available information.

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

KAPA HyperPlus ER&AT Enzyme Mix

Acute toxicity
Not classified based on available information.

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/eye irritation
Not classified based on available information.
Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

KAPA Hyper Prep End Repair and A-Tailing Buffer

Components:
(R\textsuperscript{*,R\textsuperscript{*}})-1,4-dimercaptobutane-2,3-diol:

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

KAPA Hyper Prep Ligation Buffer

No data available

KAPA HiFi HotStart ReadyMix (2X)

Components:
tetramethylammonium chloride:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 462 mg/l
Exposure time: 96 h
Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0,16 mg/l
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

KAPA HyperPlus (24rxn)

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>Date of last issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7</td>
<td>22.06.2019</td>
<td>24.05.2019</td>
</tr>
</tbody>
</table>

aquatic invertebrates
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
Exposure time: 11 d
GLP: yes
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

KAPA Library Amplification Primer Premixes (10X)
No data available
KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix
No data available
KAPA Hyper Prep DNA Ligase
No data available
KAPA Frag Enzyme (5X)
No data available
KAPA Frag Conditioning Solution
No data available
KAPA Frag Buffer (10X)
No data available
KAPA HyperPlus ER&AT Enzyme Mix
No data available

12.2 Persistence and degradability
KAPA Hyper Prep End Repair and A-Tailing Buffer
No data available
KAPA Hyper Prep Ligation Buffer
No data available
KAPA HiFi HotStart ReadyMix (2X)
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006
KAPA HyperPlus (24rxn)

Components:

tetramethylammonium chloride:
Biodegradability: Remarks: Expected to be biodegradable

KAPA Library Amplification Primer Premixes (10X)
No data available

KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix
No data available

KAPA Hyper Prep DNA Ligase
No data available

KAPA Frag Enzyme (5X)
No data available

KAPA Frag Conditioning Solution
No data available

KAPA Frag Buffer (10X)
No data available

KAPA HyperPrep Ligation Buffer
No data available

12.3 Bioaccumulative potential

KAPA Hyper Prep End Repair and A-Tailing Buffer

Components:

(R*,R*)-1,4-dimercaptobutane-2,3-diol:
Partition coefficient: n-octanol/water: log Pow: ca. -0.48

KAPA Hyper Prep Ligation Buffer
No data available

KAPA HiFi HotStart ReadyMix (2X)

Components:

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

KAPA Library Amplification Primer Premixes (10X)
No data available

KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix
No data available

KAPA Hyper Prep DNA Ligase
No data available

KAPA Frag Enzyme (5X)
No data available
KAPA Frag Conditioning Solution
No data available

KAPA Frag Buffer (10X)
No data available

KAPA HyperPlus ER&AT Enzyme Mix
No data available

12.4 Mobility in soil
KAPA Hyper Prep End Repair and A-Tailing Buffer
No data available

KAPA Hyper Prep Ligation Buffer
No data available

KAPA HiFi HotStart ReadyMix (2X)
No data available

KAPA Library Amplification Primer Premixes (10X)
No data available

KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix
No data available

KAPA Hyper Prep DNA Ligase
No data available

KAPA Frag Enzyme (5X)
No data available

KAPA Frag Conditioning Solution
No data available

KAPA Frag Buffer (10X)
No data available

KAPA HyperPlus ER&AT Enzyme Mix
No data available

12.5 Results of PBT and vPvB assessment
KAPA Hyper Prep End Repair and A-Tailing Buffer
Not relevant

KAPA Hyper Prep Ligation Buffer
Not relevant

KAPA HiFi HotStart ReadyMix (2X)
Not relevant

KAPA Library Amplification Primer Premixes (10X)
Not relevant

KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix
Not relevant

KAPA Hyper Prep DNA Ligase
Not relevant

KAPA Frag Enzyme (5X)
Not relevant

KAPA Frag Conditioning Solution

Not relevant
KAPA Frag Buffer (10X)

Not relevant
KAPA HyperPlus ER&AT Enzyme Mix

Not relevant

12.6 Other adverse effects

KAPA Hyper Prep End Repair and A-Tailing Buffer

No data available
KAPA Hyper Prep Ligation Buffer

No data available
KAPA HiFi HotStart ReadyMix (2X)

No data available
KAPA Library Amplification Primer Premixes (10X)

No data available
KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix

No data available
KAPA Hyper Prep DNA Ligase

No data available
KAPA Frag Enzyme (5X)

No data available
KAPA Frag Conditioning Solution

No data available
KAPA Frag Buffer (10X)

No data available
KAPA HyperPlus ER&AT Enzyme Mix

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product: 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

14.1 UN number
Not regulated as a dangerous good

14.2 UN proper shipping name
Not regulated as a dangerous good

14.3 Transport hazard class(es)
Not regulated as a dangerous good

14.4 Packing group
Not regulated as a dangerous good

14.5 Environmental hazards
Not regulated as a dangerous good

14.6 Special precautions for user
Remarks: Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Remarks: Not applicable

SECTION 15: Regulatory information

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

Not applicable

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

KAPA Hyper Prep End Repair and A-Tailing Buffer

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

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

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

Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable
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REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Not applicable

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

- 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
  - Guanosine 5′-(tetrahydrogen triphosphate), 2′-deoxy-thymidine 5′-(tetrahydrogen triphosphate)
  - Cytidine 5′-(tetrahydrogen triphosphate), 2′-deoxy-

- AICS: Not in compliance with the inventory
- 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: Substance(s) not listed on TSCA inventory

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

Labelling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

Additional Labelling:
EUH210 Safety data sheet available on request.

KAPA Hyper Prep Ligation Buffer
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable

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

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

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

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

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

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL</td>
<td>This product contains the following components that are not on the Canadian DSL nor NDSL.</td>
</tr>
<tr>
<td></td>
<td>Adenosine 5′-triphosphate disodium salt hydrate</td>
</tr>
<tr>
<td>AICS</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>NZIoC</td>
<td>On the inventory, or in compliance with the inventory</td>
</tr>
<tr>
<td>ENCS</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>ISHL</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>KECI</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>PICCS</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>IECSC</td>
<td>Not in compliance with the inventory</td>
</tr>
<tr>
<td>TCSI</td>
<td>On the inventory, or in compliance with the inventory</td>
</tr>
<tr>
<td>TSCA</td>
<td>Substance(s) not listed on TSCA inventory</td>
</tr>
<tr>
<td>Volatile organic compounds</td>
<td>Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Remarks: Not applicable</td>
</tr>
</tbody>
</table>

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

Not a hazardous substance or mixture.

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

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

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

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

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable
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lutants

Regulation (EC) No 649/2012 of the European Parlia-

ment and the Council concerning the export and import
of dangerous chemicals

REACH - Restrictions on the manufacture, placing on
the market and use of certain dangerous substances,
preparations and articles (Annex XVII)

Conditions of restriction for the fol-
lowing entries should be considered:
Number on list 3

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

DSL: This product contains the following components that are not
on the Canadian DSL nor NDSL.

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

AICS: Not in compliance with the inventory

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: Substance(s) not listed on TSCA inventory

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

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:

Signal word: Warning

Hazard statements: H371 May cause damage to organs.

Precautionary statements: Prevention:
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P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

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

Storage:
P405 Store locked up.

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

Hazardous components which must be listed on the label:
75-57-0 tetramethylammonium chloride

KAPA Library Amplification Primer Premixes (10X)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable
REACH - List of substances subject to authorisation (Annex XIV): Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants: Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals: Not applicable
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII): Not applicable

The components of this product are reported in the following inventories:
DSL: All components of this product are on the Canadian DSL
AICS: On the inventory, or in compliance with the inventory
NZIoC: On the inventory, or in compliance with the inventory
ENCS: On the inventory, or in compliance with the inventory
ISHL: Not 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
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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
Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Remarks: Not applicable

Labelling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

KAPA Hyper Prep End Repair & A-Tailing Enzyme Mix
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Detergent N (Number on list 46b, 46a.)

The components of this product are reported in the following inventories:
DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.
  Taq DNA Polymerase
  DNA Polymerase
  Polynucleotide kinase, 3’-phosphatase free
AICS : Not in compliance with the inventory
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
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PICCS : Not in compliance with the inventory
IECSC : Not in compliance with the inventory
TCSI : Not in compliance with the inventory
TSCA : Substance(s) not listed on TSCA inventory

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

Labelling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

KAPA Hyper Prep DNA Ligase
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

The components of this product are reported in the following inventories:
DSL : This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.

Polynucleotide kinase, 3'-phosphatase free

AICS : Not in compliance with the inventory
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
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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
Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Remarks: Not applicable

Labelling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

KAPA Frag Enzyme (5X)
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

The components of this product are reported in the following inventories:
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 Polymerase
   DNase I, Desoxyribonuclease I from bovine pancreasEC 3.1.21.1, Grade II
AICS : Not in compliance with the inventory
NZIoC : On the inventory, or in compliance with the inventory
ENCS : Not in compliance with the inventory
ISHL : Not in compliance with the inventory
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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 : Substance(s) not listed on TSCA inventory

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

Labelling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

KAPA Frag Conditioning Solution
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

The components of this product are reported in the following inventories:
DSL : All components of this product are on the Canadian DSL
AICS : On the inventory, or in compliance with the inventory
NZIoC : On the inventory, or in compliance with the inventory
ENCS : On the inventory, or in compliance with the inventory
ISHL : Not in compliance with the inventory
KECI : On the inventory, or in compliance with the inventory
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.7</td>
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<td>24.05.2019</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PICCS</th>
<th>On the inventory, or in compliance with the inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>IECSC</td>
<td>On the inventory, or in compliance with the inventory</td>
</tr>
<tr>
<td>TCSI</td>
<td>On the inventory, or in compliance with the inventory</td>
</tr>
<tr>
<td>TSCA</td>
<td>All substances listed as active on the TSCA inventory</td>
</tr>
<tr>
<td>Volatile organic compounds</td>
<td>Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)</td>
</tr>
</tbody>
</table>

Remarks: Not applicable

Labelling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

**KAPA Frag Buffer (10X)**

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

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

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

Regulation (EC) No 850/2004 on persistent organic pollutants
Not applicable

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

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

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

<table>
<thead>
<tr>
<th>DSL</th>
<th>This product contains the following components that are not on the Canadian DSL nor NDSL.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2’-Deoxyguanosine 5’-triphosphate trisodium salt</td>
</tr>
<tr>
<td></td>
<td>Adenosine 5’-(tetrahydrogen triphosphate), 2’-deoxy-Thymidine 5’-(tetrahydrogen triphosphate), sodium salt</td>
</tr>
<tr>
<td></td>
<td>2’-Deoxycytidine 5’-triphosphate disodium salt</td>
</tr>
</tbody>
</table>

AICS: Not in compliance with the inventory
NZIoC: On the inventory, or in compliance with the inventory
ENCS: Not in compliance with the inventory
ISHL: Not in compliance with the inventory
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KAPA HyperPlus (24rxn)

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1.7</td>
<td>22.06.2019</td>
<td>24.05.2019</td>
</tr>
</tbody>
</table>

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 : Substance(s) not listed on TSCA inventory

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

Labelling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

KAPA HyperPlus ER&AT Enzyme Mix
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Detergent N (Number on list 46b, 46a.)

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

DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.

Taq DNA Polymerase

AICS : Not in compliance with the inventory
NZIoC : On the inventory, or in compliance with the inventory
ENCS : Not in compliance with the inventory
ISHL : Not in compliance with the inventory
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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 : Substance(s) not listed on TSCA inventory

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

Labelling (REGULATION (EC) No 1272/2008)
Not a hazardous substance or mixture.

15.2 Chemical safety assessment
A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

SECTION 16: Other information

Full text of H-Statements
H300 : Fatal if swallowed.
H302 : Harmful if swallowed.
H311 : Toxic in contact with skin.
H315 : Causes skin irritation.
H319 : Causes serious eye irritation.
H370 : Causes damage to organs.
H411 : Toxic to aquatic life with long lasting effects.

Full text of other abbreviations
Acute Tox. : Acute toxicity
Aquatic Chronic : Long-term (chronic) aquatic hazard
Eye Irrit. : Eye irritation
Skin Irrit. : Skin irritation
STOT SE : Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Mari-
Further information

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