



Trade name: T4 DNA Polymerase

**#EP0061**

**#EP0062**

**Both supplied with:**

5x Reaction Buffer

**MATERIAL SAFETY DATA SHEET**  
*Prepared in accordance with EU directive 91/155/EEC*

Printed: 27.12.2006

Revised: 27.12.2006

**1 Identification of the substance/preparation and of the company/undertaking**

- **Product details**
- **Trade name:** T4 DNA Polymerase
- **Application of the substance / the preparation:** Laboratory chemicals
- **Manufacturer/Supplier:**  
Fermentas UAB  
V.Graiciuno 8  
LT-02241 Vilnius  
Lithuania  
Tel.: +370 5 2602131  
Fax.: +370 5 2602142
- **Further information obtainable from:**  
Please visit our site: <http://www.fermentas.com/>  
Contact us: [info@fermentas.com](mailto:info@fermentas.com)  
Or contact Fermentas distributor in your country.
- **Information in case of emergency:**  
Poison Information Centre, Mainz, Germany,  
Tel.: +49 (0)6131 19240 / 24h

**2 Composition/information on ingredients**

- **Chemical characterization**
- **Description:** Solution, consisting of the following components.

· **Components:**

CAS: 56-81-5 EINECS: 200-289-5	glycerol	>50%
CAS: 7732-18-5 EINECS: 231-791-2	water	25-50%
CAS: 7447-40-7 EINECS: 231-211-8	potassium chloride	1-2,5%

- **Other components:**  
Components not listed here are not dangerous or their concentrations do not exceed the limits specified in the EU directive 1999/45/EC.
- **Additional information:** For the wording of the listed risk phrases refer to section 16.

**3 Hazards identification**

- **Hazard description:** Not applicable.
- **Information concerning particular hazards for human and environment:**  
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

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**· Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

## 4 First aid measures

- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

## 5 Fire-fighting measures

- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Additional information:** No dangerous substances are released.

## 7 Handling and storage

- **Handling:**
- **Information for safe handling:** No special measures required.
- **Information about fire - and explosion protection:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

## 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Ingredients with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures are to be adhered to when handling chemicals.

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- **Respiratory protection:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling

## 9 Physical and chemical properties

### · General Information

<b>Form:</b>	Solution
<b>Colour:</b>	Colourless
<b>Odour:</b>	Nearly odourless

### · Change in condition

**Melting point/Melting range:** Undetermined.  
**Boiling point/Boiling range:** Undetermined.

<b>Flash point:</b>	Not applicable.
<b>Self-igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Density:</b>	Not determined.
<b>Solubility in / Miscibility with water:</b>	Fully miscible.
<b>pH-value at 25°C:</b>	7,5

## 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous decomposition products:** No dangerous decomposition products known.

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## 11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
*The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.*  
*When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.*

## 12 Ecological information

- **General notes:**  
*Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water*  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*

## 13 Disposal considerations

- **Product:**
- **Recommendation:** *Smaller quantities can be disposed of with household waste.*
- **Uncleaned packaging:**
- **Recommendation:** *Disposal must be made according to official regulations.*
- **Recommended cleansing agents:** *Water, if necessary together with cleansing agents.*

## 14 Transport information

- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -

## 15 Regulatory information

- **Labelling according to EU guidelines:**  
*Observe the general safety regulations when handling chemicals.*  
*The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (German GefStoffV).*

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**16 Other information**

*This information is based on our present knowledge and shall be used only as a guide. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. Fermentas is not held liable for any damage resulting from handling or from contact with the above mentioned products.*

*MSDS has been prepared in accordance with EU directives 67/548/EEC, 91/155/EEC and other European Union legislation in force.*

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- **Manufacturer/Supplier:**  
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 Lithuania  
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 Please visit our site: <http://www.fermentas.com/>  
 Contact us: [info@fermentas.com](mailto:info@fermentas.com)  
 Or contact Fermentas distributor in your country.
- **Information in case of emergency:**  
 Poison Information Centre, Mainz, Germany,  
 Tel.: +49 (0)6131 19240 / 24h

### 2 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Solution, consisting of the following components.

· **Components:**

CAS: 7732-18-5 EINECS: 231-791-2	water	>50%
CAS: 1185-53-1 EINECS: 214-684-5	2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride	2,5-10%
CAS: 7783-20-2 EINECS: 231-984-1	ammonium sulphate  Xi; R 36/37/38	1-2,5%

- **Other components:**  
 Components not listed here are not dangerous or their concentrations do not exceed the limits specified in the EU directive 1999/45/EC.
- **Additional information:** For the wording of the listed risk phrases refer to section 16.

### 3 Hazards identification

- **Hazard description:** Not applicable.
- **Information concerning particular hazards for human and environment:**  
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- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
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## 5 Fire-fighting measures

- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Additional information:** No dangerous substances are released.

## 7 Handling and storage

- **Handling:**
- **Information for safe handling:** No special measures required.
- **Information about fire - and explosion protection:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

## 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
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- **Eye protection:** Goggles recommended during refilling

## 9 Physical and chemical properties

### · General Information

<b>Form:</b>	Solution
<b>Colour:</b>	Colourless
<b>Odour:</b>	Weak, characteristic

### · Change in condition

**Melting point/Melting range:** Undetermined.  
**Boiling point/Boiling range:** Undetermined.

<b>Flash point:</b>	Not applicable.
<b>Self-igniting:</b>	Product is not selfigniting.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Density:</b>	Not determined.
<b>Solubility in / Miscibility with water:</b>	Fully miscible.
<b>pH-value at 25°C:</b>	8,8

## 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**  
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## 14 Transport information

- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -

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**· Relevant R-phrases**

*36/37/38 Irritating to eyes, respiratory system and skin.*

EU