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**SAFETY DATA SHEET** according to Regulation (EG) No. 1907/2006  
and Regulation (EU) No. 453/2010

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**1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY****1.1 Product identifier**

Trade name **K4<sup>®</sup> Transfection System**  
Product number T080-...  
Product description Laboratory chemicals

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
**General use**

For research use only

**Uses advised against**

Not intended for human or animal diagnostic or therapeutic uses

**1.3 Details of the supplier of the safety data sheet (Manufacturer/Supplier)**

Company name Biontalex Laboratories GmbH  
Street/POB-No. Landsberger Str. 234  
Postal Code/City 80687 München, GERMANY  
Dept. responsible for information  
Telefon +49 (0)89-32479950      Telefax +49 (0)89-32479952  
E-mail contact@biontalex.com  
WWW www.biontalex.com

**1.4 Emergency telephone number**

Centre of detoxification  
National (Germany) +49 89-19240  
International +1 703-527-3887

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**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

Classification according to EC Regulation Nr.1272/2008 (CLP) (Regulation (EC) Nr. 1907/2006 and Directive 2001/59/EC) or Globally Harmonized System (GHS)

Not classified

**2.2 Label elements**

Labelling according to EC Regulation Nr.1272/2008 (CLP) (Regulation (EC) Nr. 1907/2006), 2001/59/EC) or Globally Harmonized System (GHS)

None

**2.2.1 Labelling (Regulations EC)****Pictogram / Hazard symbol / Signal word**

Not applicable

Health hazard	not hazardous
Physical hazard	not hazardous
Environmental hazards	not hazardous

**List of all H and P phrases according to Regulation 1272/2008/EC**

Not applicable

Hazard statements	
H phrases	none
Precautionary statements	
P phrases	none

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### **2.3 Other hazards**

Based on present knowledge and when handled correctly, the product poses no danger for humans and the environment.

The usual minimum standards for protective measures in the chemical industry must be observed.

Results of PBT and vPVB assessment → Chapter 12

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

### **3.1 Substances**

This product is a mixture.

#### **3.1.1 Chemical identity and characterisation:**

Name	CAS-No.	GHS classification
Reagent synthetic lipids in water	not applicable	not applicable
Multiplier nucleic acid receptor inhibitors	not applicable	not applicable

### **3.2 Mixtures**

Classification according to EC Reg. 1272/2008 and Directive 2001/59/EC (EU)	not hazardous/concentrations do not exceed the specified limit
Chemical identity and characterisation	mixture with harmless ingredients
Hazardous ingredients	not applicable
Index-No.	not applicable
EG-No.	not applicable
REACH-Registration-No.	not applicable

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## **4. FIRST AID MEASURES**

### **4.1 Description of first aid measures**

#### **General information**

Remove contaminated clothing immediately. Contaminated clothing should be laundered before reusing. Seek medical attention immediately if symptoms develop.

#### **Inhalation**

Remove victim to fresh air, if necessary seek medical advice. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

#### **Skin contact**

Wash skin with plenty of water thoroughly. Remove contaminated clothing. In case of skin reactions, consult a physician.

#### **Eye contact**

Remove contact lenses. Immediately flush eyes with plenty of flowing water for at least 20 minutes, also under the eyelids. If necessary seek medical advice.

#### **Swallowing / Ingestion**

Never give anything by mouth to an unconscious person. Rinse mouth with water thoroughly. If malaise develops, call a physician. Do not induce vomiting without medical advice.

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

No further relevant informations available.

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

Treat symptomatically

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### **5. FIREFIGHTING MEASURES**

#### **5.1 Extinguishing media**

Suitable Carbon dioxide (CO<sub>2</sub>), dry-chemical or foam fire extinguisher, water spray

Unsuitable Water jet, otherwise there is a risk of spread of fire

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

Dangerous decomposition is not anticipated, do not breath fumes of fire.

#### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus and protective suit.

Use fine water spray to cool endangered containers (from a safe distance).

Suppress gases/vapours/mists with water spray jet.

Pay attention to backdraft.

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### **6. ACCIDENTAL RELEASE MEASURES**

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

Use personal protective equipment / personal protection measures.

Keep unprotected persons away / evacuate personnel to safe areas.

Ensure adequate ventilation.

#### **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so.

Prevent product from entering drains/surface water/groundwater.

Additional special actions to limit damages are not necessary.

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

Dilute spilled liquids with plenty of water and adsorb. Sweep or vacuum (if powder) or soak up with inert absorbent material (if liquid), then replace into a suitable clean, dry, closed container and label for disposal.

Never return spills in original containers for reuse.

#### **6.4 Reference to other sections**

Information on safe handling → Chapter 7

Information on personal protection equipment → Chapter 8

Information for disposal → Chapter 13

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### **7. HANDLING AND STORAGE**

#### **7.1 Precautions for safe handling**

Handling according to Guidelines for Laboratories.

##### **Advices on safe handling**

Usual precautions when handling chemicals → Chapter 8.

Handle with care and avoid unnecessary, prolonged or repeated exposure. Avoid inhalation.

Avoid contact with eyes, skin and clothing. Use protective equipment to minimize exposure.

##### **Precautions against fire and explosion**

Autoignition does not occur.

no special precautions are necessary

##### **Measures to prevent aerosol and dust generation**

No special precautions are necessary.

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**Measures to protect the environment**

No special precautions are necessary.

**General Hygiene measures**

No special precautions are necessary.

**7.2 Conditions for safe storage, including any incompatibilities****Storage conditions**

This item is supplied uncooled and should be stored at **+2°C and +8°C** immediately after receipt. Keep container tightly closed. Use original container.

**Requirements for storerooms and containers/hints on joint storage**

There is no restriction and/or requirements for storage with other materials.

**Storage class**

10-13

Other liquids and solids

**7.3 Specific end uses(s)**

Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier.

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**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****8.1 Control parameter**

None

**8.1.1 Occupational exposure limit values / biological limit values**

The product does not contain any relevant quantities of materials with critical value that have to be monitored.

**8.1.2 Control Banding (e.g. ILO) and DNEL/DMEL, PNEC value(s)**

None

**8.2 Exposure controls**

Exposure limitation and controlling are workplace related and must be regulated by the user.

**8.2.1 Appropriate technical safety devices**

Technical measures and appropriate working operations are just as important as the use of personal protective equipment. Provide good ventilation and/or an exhaust system in the work area. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

**8.2.2 Personal protective equipment**

Personal protective equipment should be selected specifically for the workplace.

**Eye / Face protection**

Tightly sealed goggles. Ensure that an eyewash station is proximal to the workstation.

**Skin / Body protection**

Wear protective clothes. Ensure that safety showers are proximal to the workstation.

**Hand protection**

Protective gloves - the material has to be impermeable and resistant to the product.

Break through time, permeation and degradation has to be found out by the manufacturer of the protective gloves and has to be observed.

**Breathing protection**

Not required

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### **General protection and hygiene measures**

The usual precautionary measures are to be adhered to when handling chemicals.  
Remove contaminated clothing immediately and wash it before re-use.  
After contact clean skin with soap and water or use appropriate detergent.  
Wash hands before breaks and after work. Keep out of reach of children.  
Keep away from food, drink and animal feed. Do not eat, drink or smoke during work.

### **8.2.3 Environmental exposure controls**

Information on environmental exposure → Chapter 6, 7 und 12

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

Physical state	liquid
Colour/Odour	colorless/mild characteristic odour
pH value	no data available
Evaporation rate	no data available
Melting point/range	no data available
Boiling point/range	at ~ 100°C
Flash point	no data available
Ignition temperature (solid/gaseous)	no data available
Autoignition temperature	no data available
Oxidising properties	no data available
Vapour pressure/density	no data available
Relative density	no data available
Bulk density	no data available
Water solubility 20°C in g/l	completely
Partition coefficient n-Octanol/water	no data available
Viscosity kinematic/ dynamic	no data available
Dust explosion hazard	no data available
Explosion properties	no data available
Explosion limits (lower/upper)	no data available
Substance groups relevant properties	no data available
Surface tension	no data available
Solvent content (organic/water)	no data available
Solids content	none
Decomposition	no data available

### **9.2 Other information**

No further relevant information available.

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## **10. STABILITY AND REACTIVITY**

### **10.1 Reactivity**

No data available

### **10.2 Chemical stability**

Product is stable under normal storage conditions and if it used according to specifications.

### **10.3 Possibility of hazardous reactions**

No dangerous reactions known under conditions of normal use, handling and storage.

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**10.4 Conditions to avoid**

No dangerous reactions known under conditions of normal use, handling and storage.

**10.5 Incompatible materials**

Unknown

**10.6 Hazardous decomposition products**

No hazardous decomposition known under conditions of normal use, handling and storage.

**10.7 Polymerisation**

Hazardous polymerisation does not occur.

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**11. TOXICOLOGICAL INFORMATION****11.1 Information to toxicological effects**

Acute toxicity (LD <sub>50</sub> /LC <sub>50</sub> )	unknown
Eye irritation	may cause irritation/allergic sensitization
Skin irritation	may cause irritation/allergic sensitization
Aspiration	may cause irritation/allergic sensitization
Ingestion	may cause irritation/allergic sensitization
CMR category	it does not meet the criteria for one of the categories
Germ cell mutagenicity	unknown
Carcinogenicity	unknown
Mutagenic effects/Reproductive toxicity	unknown
Sensitisation	unknown
Target organ effects (single or repeated exposure)	no known effects under normal use conditions

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

No effects or hazards known

**12.2 Persistence and degradability**

No effects or hazards known

**12.3 Bioaccumulative potential**

No effects or hazards known

**12.4 Mobility in soil**

No effects or hazards known

**12.5 Results of PBT and vPvB assessment**

The substance does **not** meet the criteria for a classification

PBT	not applicable
vPvB	not applicable

**12.6 Other adverse effects**

No data available.

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### **13. DISPOSAL CONSIDERATIONS**

#### **13.1 Waste treatment methods**

Dispose of in accordance with local regulations and national laws and provisions.

#### **13.2 Contaminated/appropriate packaging**

Dispose of empty packs via local recycling or waste disposal routes, if necessary, clean them beforehand.

#### **13.3 Additional information**

Prevent discharge of the liquid into the sewage system, cesspit and cellars.  
Vapours can form potentially explosive atmosphere.  
Waste disposal must be in accordance with appropriate Federal, State and local regulations.  
This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous.

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### **14. TRANSPORT INFORMATION**

#### **14.1 UN number**

None

#### **14.2 UN proper shipping name**

None

#### **14.3 Transport hazard class(es)**

None      Is not subject to current regulations for transportation of dangerous goods (ADR/RID, ADN, IMDG, IATA/ICAO). The product is not hazardous to ship.

#### **14.4 Packing group**

None

#### **14.5 Environmental hazards**

None

#### **14.6 Special precautions for user**

Not applicable → Chapter 6 - 8

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

Not applicable

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### **15. REGULATORY INFORMATION**

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

##### **EU regulations**

Respectively in the latest version incl. all amendments, additions and corrections.

CLP Regulation EC No. 1272/2008)      not applicable

Regulation (EC) 1907/2006, (EU) 453/2010 and      not applicable

(EC)1272/2008

Regulation (EC) 1005/2009      not applicable

(Substances that deplete the Ozon Layer)

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Regulation (EC) 850/2004 (Persistent organic pollutants)	not applicable
Regulation (EU) 649/2012 (Export and import of dangerous chemicals)	not applicable
Regulation (EC) 648/2004 (Detergents)	not applicable
Directive 94/62 EC	not applicable
<b>National regulations (Germany)</b>	
Compliance with applicable agreements, regulations and laws of the respective country.	laws of the respective country.
Classification according to GefStoffV. / BRD	no
Technical Instruction Air (TALuft)	not classified
Information on employment restrictions	none
German regulation for flammable liquids (BetriebssicherheitsVO)	is not subject of this regulation
Water hazard class	not hazardous to water
Solvents Regulations (31. BImSchV)	not applicable
Hazardous Incident Ordinance (12. BImSchV)	not applicable
<b>Other relevant regulations, restrictions and prohibition regulations</b>	
None	
<b>Inventory status</b>	
SDR/GGBV/Inventory of Notified New Substances (SWISS)	not listed

**15.2 Chemical safety assessment**  
Not been carried out.

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**16. OTHER INFORMATION****16.1 Issuing institution****Department issuing SDS**

Department of Health, Safety and Environmental Protection

**Contact**

Dr. Roland Klösel

**16.2 Abbreviations and acronyms**

ADR	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
CAS	Chemical Abstracts Service (Division of the American Chemical Society)
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic, toxic for Reproduction
DMEL	Derived Minimal Effect Level
DNEL	Derective No Effect Level
GGBV	Gefahrgutbeauftragtenverordnung Schweiz
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
ILO	International Labour Organization
IMDG	International Maritime Code for Dangerous Goods



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LC <sub>50</sub>	Lethal concentration, 50 percent
LD <sub>50</sub>	Lethal dose, 50 percent
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No Effect Concentration
RID	Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International Transport of dangerous goods by rail)
REACH	Registration, Evaluation and Authorization of Chemicals (Registrierung, Bewertung und Zulassung von Chemikalien)
SDR	Verordnung über die Beförderung gefährlicher Güter auf der Strasse, Schiene, Gewässer (Schweiz)
vPvB	Very persistent, very bioaccumulative

**16.3 Further information**

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. However, BiontEx does not warrant the accuracy of this information.

All materials and mixtures may present unknown hazards and should be used with caution. When necessary or appropriate, independent opinions regarding the risk of handling or exposure should be obtained from trained professionals.

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