

SAFETY DATA SHEET according to
OSHA HazCom Standard 29 CFR 1910.2100(g), Rev. 2012 and GHS Rev 03

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

1.1 Product identifier

Trade name **K4® 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 Biontex Laboratories GmbH
Street/POB-No. Landsberger Str. 234
Postal Code/City 80687 München, GERMANY
Dept. responsible for information
Telefon 01149 89-32479950 Telefax 01149 89-32479952
E-mail contact@biontex.com
WWW www.biontex.com

1.4 Emergency telephone number

Centre of detoxification
USA or Canada +1 800-424-9300

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Globally Harmonized System (GHS)

Not classified as hazardous.

Skin corrosion/irritation

Not classified

Eye damage/irritation

Not classified

2.2 Label elements

Classification according to Globally Harmonized System (GHS)

None

2.2.1 GHS US labeling

Signal word

Not applicable

Pictogram / Hazard symbol

Not applicable

Health hazard not hazardous

Physical hazard not hazardous

Environmental hazards not hazardous

Hazard statements

None

Hazard-determining components of labeling

None

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→ Chapter 4, 6, 7, 13

Classification system

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

NFPA/HMIS ratings (scale 0 - 4)

OSHA Hazard Overview (Criteria according to 29CFR1910.1200)

Not applicable

2.3 Other hazards / Hazards not otherwise classified

None

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

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
K4 Reagent	not applicable	not applicable
K4 Multiplier	not applicable	not applicable

3.2 Mixtures

Classification according to Globally Harmonized System (GHS)

not hazardous/no dangerous components

Reagent: synthetic lipids in water

Multiplier: nucleic acid receptor inhibitors

Chemical identity and characterisation

Hazardous ingredients

UN-No.

mixture with harmless/nonhazardous ingredients

not applicable

not applicable

3.3 Additional information

Ingredients are not hazardous or their concentrations do not exceed the limit specified according to 29 CFR 1910.1200 Hazard Communication Standard (USA) and Regulation 1907/2006/EC and Directive 2001/59/EC (EU).

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.

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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

No information available for special treatment. Treat symptomatically.

After first aid, get appropriate in-plant, paramedic, or community medical support if exposure symptoms persist.

4.4 Special precautions/procedures

None

4.5 Notes to physician

Treat symptomatically

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Carbon dioxide (CO₂), 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.

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.

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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

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.

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 **35,6°F and 46,4°F** (2°C - 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/storage in one common storage facility

10-13	Other liquids and solids
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7.3 Specific end uses(s)

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

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

None

8.1.1 Occupational exposure limit / biological limit

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

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8.1.2 Control Banding (e.g. ILO, OSHA)

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

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/in work areas.

8.2.3 Environmental exposure controls

Information on environmental exposure → Chapter 6, 7 und 12

8.3 Engineering measures

Always provide fresh air.

Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Appearance/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 ~ 212°F (100°C)
Flash point	no data available
Flammability (solid, gaseous)	no data available
Ignition temperature (solid/gaseous)	no data available
Autoignition temperature	no data available
Oxidising properties	no data available

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Vapour pressure	no data available
Vapour density	no data available
Relative density	no data available
Bulk density	no data available
Water solubility 68°F (20°C) in g/l	completely
Partition coefficient n-Octanol/Wasser	no data available
Viscosity, kinematic	no data available
Viscosity, 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.

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.

10.4 Conditions to avoid

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

10.5 Incompatible materials

Unknown

10.6 Thermal decomposition products

No decomposition known if used according to specifications.

10.7 Hazardous decomposition products

No dangerous decomposition products known.

10.8 Polymerisation

Hazardous polymerisation does not occur.

10.9 Incompatible materials

No further relevant information available.

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11. TOXICOLOGICAL INFORMATION

11.1 Information to toxicological effects

Acute toxicity (LD ₅₀ /LC ₅₀)	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
Germ cell mutagenicity	unknown
Mutagenic effects/Reproductive toxicity	unknown
Carcinogenicity	unknown
EPA	none of the ingredients are listed
TLV (established by ACGIH)	none of the ingredients are listed
NIOSH	none of the ingredients are listed
NTP	none of the ingredients are listed
OSHA	none of the ingredients are listed
IARC	not classified
Sensitisation	unknown
Target organ effects (single or repeated exposure)	no known effects under normal use conditions
Chronic effects from short/long-term exposure	no information available
Numerical measures of toxicity	no information available
Assessment of other acute effects	no information available

12. ECOLOGICAL INFORMATION

12.1 Toxicity / Ecotoxicity

No effects or hazards known.

12.2 Aquatic toxicity

No further relevant information available.

12.3 Persistence and degradability

No effects or hazards known.

12.4 Bioaccumulative potential

No effects or hazards known.

12.5 Mobility in soil

No effects or hazards known.

12.6 Results of PBT and vPvB assessment

The substance does not meet the criteria for a classification.	
PBT	not applicable
vPvB	not applicable

12.7 Other adverse effects

No data available.

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U.S. State Regulations

Compliance with applicable agreements, regulations and laws of the respective country.

California Propostion 65 does not contain chemicals listed under
Proposition 65

Other relevant regulations, restrictions and prohibition regulations

None

Inventory status

WHMIS hazard class (Canada)	not listed
NDSL/DSL (Canada)	not listed
AICS (Australia)	not listed
ENCS/PACS (Japan)	not listed
IECSC (China)	not listed
KECI (Korea)	not listed
NECI/TCSCA (Taiwan)	not listed
NZIoC (New Zealand)	not listed
PICCS (Phillippines)	not listed

15.2 Chemical safety assessment

Not been carried out.

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

AICS	Australian Inventory of Chemical Substances
ADR	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service (Division of the American Chemical Society)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	Department of Transportation
(N)DSL	Canadian (Non-)Domestic Substance List
EmS	Emergency Schedule
EPA	Environmental Protection Agency
ENCS	Japanese Existing and New Chemical Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IECSC	Existing Chemical Substances Produced or Imported in China
ILO	International Labour Organization
IMDG	International Maritime Code for Dangerous Goods
IMO	International Maritime Organization
KECI	Korean Existing Chemicals Inventory

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LC ₅₀ / LD ₅₀	Lethal concentration, 50 percent / Lethal dose, 50 percent
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
MERCOSUR	Mercado Común del Sur
NECI	Taiwan's National Existing Chemical Inventory
NIOSH	National Institute for Occupational Safety and Health
NZIoC	New Zealand Inventory of Chemicals
NFPA	National Fire Protection Association
NTP	National Toxicology Program
OSHA	Occupational Safety & Health Administration
PACS	Japanese Priority Assessment Chemical Substances
PBT	Persistent, Bioaccumulative, Toxic
PICCS	Philippine Inventory of Chemicals and Chemical Substances
RID	Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International Transport of dangerous goods by rail)
SARA	The Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TCSCA	Toxic Chemical Substances Control Act in Taiwan
UN No.	United Nation Number
vPvB	Very persistent, very bioaccumulative
WHMIS	Workplace Hazardous Materials Information System

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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