



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Regulation (EC) No. 1907/2006 as amended by Regulation (EU) No. 2020/878, and  
Regulation (EC) No. 1272/2008

Revision date 02-Dec-2024

Version 6

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

### 1.1. Product identifier

**Product No** E7421  
**Product name** NEBNext First Strand Synthesis Reaction Buffer (5X)  
**Pure substance/mixture** Mixture

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended use** This product is for research and development only  
**Uses advised against** No information available

### 1.3. Details of the supplier of the safety data sheet

**Supplier Address**  
New England BioLabs  
240 County Road  
Ipswich, MA 01938  
USA

For further information, please contact

**Company Phone Number** 978-927-5054, 800-632-5227 (toll free)  
**Telefax** 978-921-1350  
**E-mail address** info@neb.com

### 1.4. Emergency telephone number

24 Hour Emergency Phone Number Chemtrec +44 20 3885 0382

|               |                        |
|---------------|------------------------|
| <b>Europe</b> | <b>+1 978-380-2125</b> |
|---------------|------------------------|

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to

Regulation (EC) No. 1272/2008 [CLP]

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

### 2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

### **Hazard statements**

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

**Unknown aquatic toxicity**                      Contains 0 % of components with unknown hazards to the aquatic environment.

### 2.3. Other hazards

No information available.

**Endocrine Disruptor Information**            This product does not contain any known or suspected endocrine disruptors.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Full text of H- and EUH-phrases: see section 16**

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | Remove to fresh air.  |
| <b>Eye contact</b>  | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.<br>Consult a physician. |
| <b>Skin contact</b> | Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.                    |
| <b>Ingestion</b>    | Rinse mouth.  |

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

**Symptoms**    No information available.

Effects of Exposure None.

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

Note to physicians Treat symptomatically.

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

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

**Specific hazards arising from the chemical** No information available.

**5.3. Advice for firefighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**SECTION 6: Accidental release measures**

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

**Personal precautions** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

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

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

**Reference to other sections** See section 8 for more information. See section 13 for more information.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling** Ensure adequate ventilation.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep container tightly closed in a dry and well-ventilated place.

**Storage class (TRGS 510)** Storage class 10.

**7.3. Specific end use(s)**

**Risk management methods [RMM]** The information required is contained in this Safety Data Sheet.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological occupational exposure limits** This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

**Derived No Effect Level (DNEL) - Workers**

| Chemical name                 | Oral | Dermal   | Inhalation   |
|-------------------------------|------|--|--|
| Potassium Acetate<br>127-08-2 | -    | 14.36 mg/kg bw/day [4] [6]<br>86.14 mg/kg bw/day [4] [7] | 1265.65 mg/m <sup>3</sup> [4] [6]<br>1265.65 mg/m <sup>3</sup> [4] [7] |

**Notes**

- [4] Systemic health effects.
- [6] Long term.
- [7] Short term.

**Derived No Effect Level (DNEL) - General Public**

| Chemical name                   | Oral   | Dermal   | Inhalation   |
|---------------------------------|--|--|--|
| Potassium Acetate<br>127-08-2   | 6 mg/kg bw/day [4] [6]<br>43.07 mg/kg bw/day [4] [7] | 43.07 mg/kg bw/day [4] [6]<br>43.07 mg/kg bw/day [4] [7] | 624.2 mg/m <sup>3</sup> [4] [6]<br>624.2 mg/m <sup>3</sup> [4] [7] |
| Magnesium Chloride<br>7786-30-3 | 7 mg/kg bw/day [4] [6]                               | -  | -  |

**Notes**

- [4] Systemic health effects.
- [6] Long term.
- [7] Short term.

**Predicted No Effect Concentration (PNEC)**

| Chemical name | Freshwater | Freshwater<br>(intermittent release) | Marine water | Marine water<br>(intermittent release) | Air |
|---------------|------------|--------------------------------------|--------------|--|-----|
|               |            |                                      |              |  |     |

| Chemical name                   | Freshwater | Freshwater (intermittent release) | Marine water | Marine water (intermittent release) | Air |
|---------------------------------|------------|-----------------------------------|--------------|-------------------------------------|-----|
| Potassium Acetate<br>127-08-2   | 0.46 mg/L  | -                                 | 0.046 mg/L   | -                                   | -   |
| Magnesium Chloride<br>7786-30-3 | 3.21 mg/L  | 5.48 mg/L                         | 0.32 mg/L    | -                                   | -   |

| Chemical name                   | Freshwater sediment       | Marine sediment            | Sewage treatment | Soil                  | Food chain |
|---------------------------------|---------------------------|----------------------------|------------------|-----------------------|------------|
| Potassium Acetate<br>127-08-2   | 0.00185 mg/kg sediment dw | 0.000185 mg/kg sediment dw | 0.862 g/L        | 0.00185 mg/kg soil dw | -          |
| Magnesium Chloride<br>7786-30-3 | 288.9 mg/kg sediment dw   | 28.89 mg/kg sediment dw    | 90 mg/L          | 662.77 mg/kg soil dw  | -          |

**8.2. Exposure controls**

**Engineering controls** No information available.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** No special protective equipment required.

**Skin and body protection** No special protective equipment required.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

**SECTION 9: Physical and chemical properties**

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

**Physical state** Liquid  
**Appearance** Colorless  
**Color** No information available  
**Odor** Mild.  
**Odor threshold** No information available

| Property                                       | Values            | Remarks • Method |
|--|-------------------|------------------|
| <b>Melting point / freezing point</b>          | No data available | None known       |
| <b>Initial boiling point and boiling range</b> | No data available | None known       |
| <b>Flammability (solid, gas)</b>               | No data available | None known       |
| <b>Flammability Limit in Air</b>               |                   | None known       |
| <b>Upper flammability or explosive limits</b>  | No data available |                  |
| <b>Lower flammability or explosive limits</b>  | No data available |                  |

|                            |                          |            |
|----------------------------|--------------------------|------------|
| Flash point                | No data available        | None known |
| Autoignition temperature   | No data available        | None known |
| Decomposition temperature  |                          | None known |
| pH                         | No data available        | None known |
| pH (as aqueous solution)   | No data available        | None known |
| Kinematic viscosity        | No data available        | None known |
| Dynamic viscosity          | No data available        | None known |
| Water solubility           | No data available        | None known |
| Solubility(ies)            | No data available        | None known |
| Partition coefficient      | No data available        | None known |
| Vapor pressure             | No data available        | None known |
| Relative density           | No data available        | None known |
| Bulk density               | No data available        |            |
| Liquid Density             | No data available        |            |
| Vapor density              | No data available        | None known |
| Particle characteristics   |                          |            |
| Particle Size              | No information available |            |
| Particle Size Distribution | No information available |            |

**9.2. Other information**

9.2.1. Information with regard to physical hazard classes  
Not applicable

9.2.2. Other safety characteristics  
No information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

Reactivity No information available.

**10.2. Chemical stability**

Stability Stable under normal conditions.

**Explosion data**

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

**10.3. Possibility of hazardous reactions**

Possibility of hazardous reactions None under normal processing.

**10.4. Conditions to avoid**

Conditions to avoid None known based on information supplied.

**10.5. Incompatible materials**

Incompatible materials None known based on information supplied.

**10.6. Hazardous decomposition products**

Hazardous decomposition products None known based on information supplied.

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Information on likely routes of exposure**

**Product Information**

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | Specific test data for the substance or mixture is not available. |
| <b>Eye contact</b>  | Specific test data for the substance or mixture is not available. |
| <b>Skin contact</b> | Specific test data for the substance or mixture is not available. |
| <b>Ingestion</b>    | Specific test data for the substance or mixture is not available. |

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** No information available.

**Acute toxicity**

**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

|                                      |                  |
|--------------------------------------|------------------|
| <b>ATEmix (oral)</b>                 | 87,837.80 mg/kg  |
| <b>ATEmix (dermal)</b>               | 540,540.50 mg/kg |
| <b>ATEmix (inhalation-gas)</b>       | 99,999.00 ppm    |
| <b>ATEmix (inhalation-vapor)</b>     | 99,999.00 mg/l   |
| <b>ATEmix (inhalation-dust/mist)</b> | 99,999.00 mg/l   |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

Aspiration hazard No information available.

#### 11.2. Information on other hazards

##### 11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

##### 11.2.2. Other information

Other adverse effects No information available.

### **SECTION 12: Ecological information**

#### 12.1. Toxicity

##### Ecotoxicity

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment.

#### 12.2. Persistence and degradability

Persistence and degradability No information available.

#### 12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

#### 12.4. Mobility in soil

Mobility in soil No information available.

#### 12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

#### 12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

#### 12.7. Other adverse effects

No information available.

### **SECTION 13: Disposal considerations**

#### 13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.



## SECTION 14: Transport information

### IATA

|                                    |                |
|------------------------------------|----------------|
| 14.1 UN number or ID number        | Not regulated  |
| 14.2 Extended Proper Shipping Name | Not regulated  |
| 14.3 Transport hazard class(es)    | Not regulated  |
| 14.4 Packing group                 | Not regulated  |
| 14.5 Environmental hazard          | Not applicable |
| 14.6 Special precautions for user  |                |
| Special Provisions                 | None           |

### IMDG

|  |                          |
|--|--------------------------|
| 14.1 UN number or ID number                                  | Not regulated            |
| 14.2 Extended Proper Shipping Name                           | Not regulated            |
| 14.3 Transport hazard class(es)                              | Not regulated            |
| 14.4 Packing group   | Not regulated            |
| 14.5 Environmental hazard                                    | Not applicable           |
| 14.6 Special precautions for user                            |                          |
| Special Provisions   | None                     |
| 14.7 Maritime transport in bulk according to IMO instruments | No information available |

### RID

|                                    |                |
|------------------------------------|----------------|
| 14.1 UN number or ID number        | Not regulated  |
| 14.2 Extended Proper Shipping Name | Not regulated  |
| 14.3 Transport hazard class(es)    | Not regulated  |
| 14.4 Packing group                 | Not regulated  |
| 14.5 Environmental hazard          | Not applicable |
| 14.6 Special precautions for user  |                |
| Special Provisions                 | None           |

### ADR

|                                   |                |
|-----------------------------------|----------------|
| 14.1 UN number or ID number       | Not regulated  |
| 14.2 UN proper shipping name      | Not regulated  |
| 14.3 Transport hazard class(es)   | Not regulated  |
| 14.4 Packing group                | Not regulated  |
| 14.5 Environmental hazard         | Not applicable |
| 14.6 Special precautions for user |                |
| Special Provisions                | None           |

## SECTION 15: Regulatory information

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

#### European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

#### **Authorizations and/or restrictions on use:**

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This

product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**Persistent Organic Pollutants**

Not applicable

**Ozone-depleting substances (ODS) Regulation (EU) 2024/590**

Not applicable

**International Inventories**

|                      |  |
|----------------------|--|
| <b>TSCA</b>          | Contact supplier for inventory compliance status |
| <b>DSL/NDL</b>       | Contact supplier for inventory compliance status |
| <b>EINECS/ELINCS</b> | Contact supplier for inventory compliance status |
| <b>ENCS</b>          | Contact supplier for inventory compliance status |
| <b>IECSC</b>         | Contact supplier for inventory compliance status |
| <b>KECL</b>          | Contact supplier for inventory compliance status |
| <b>PICCS</b>         | Contact supplier for inventory compliance status |
| <b>AIIC</b>          | Contact supplier for inventory compliance status |
| <b>NZIoC</b>         | Contact supplier for inventory compliance status |

**Legend:**

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing Chemicals Inventory
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- AICS** - Australian Inventory of Chemical Substances
- NZIoC** - New Zealand Inventory of Chemicals

**15.2. Chemical safety assessment**

**Chemical Safety Report** No information available

**SECTION 16: Other information**

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend**

SVHC: Substances of Very High Concern for Authorization:

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

|         |                             |      |                                  |
|---------|-----------------------------|------|----------------------------------|
| TWA     | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value         | Sk*  | Skin designation                 |
| +       | Sensitizers                 |      |                                  |

**Key literature references and sources for data used to compile the SDS**

- Agency for Toxic Substances and Disease Registry (ATSDR)
- U.S. Environmental Protection Agency ChemView Database
- European Food Safety Authority (EFSA)
- European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA\_RAC)
- European Chemicals Agency (ECHA) (ECHA\_API)
- Environmental Protection Agency
- Acute Exposure Guideline Level(s) (AEGl(s))
- U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
- U.S. Environmental Protection Agency High Production Volume Chemicals
- Food Research Journal
- Hazardous Substance Database
- International Uniform Chemical Information Database (IUCLID)

National Institute of Technology and Evaluation (NITE)  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
U.S. National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

**Revision date** 02-Dec-2024

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**

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**End of Safety Data Sheet**