



# 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** E7427  
**Product name** NEBNext Second Strand Synthesis Reaction Buffer  
**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>
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**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]

EUH210 - Safety data sheet available on request

**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**

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Ammonium Sulfate 7783-20-2	1 - 5	No data available	231-984-1	No data available	-	-	-

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

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Ammonium Sulfate 7783-20-2	2840	2000	No data available	No data available	No data 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

Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	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.
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### **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.
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#### 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.
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### **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.
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#### 6.3. Methods and material for containment and cleaning up

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Take up mechanically, placing in appropriate containers for disposal.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

<b>Reference to other sections</b>	See section 8 for more information. See section 13 for more information.
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**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

<b>Advice on safe handling</b>	Ensure adequate ventilation.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

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

<b>Storage Conditions</b>	Keep container tightly closed in a dry and well-ventilated place.
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<b>Storage class (TRGS 510)</b>	Storage class 10.
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**7.3. Specific end use(s)**

<b>Risk management methods [RMM]</b>	The information required is contained in this Safety Data Sheet.
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**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure Limits**

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Ammonium Sulfate 7783-20-2	-	-	-	TWA: 10.0 mg/m <sup>3</sup>	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Ammonium Sulfate 7783-20-2	-	-	-	TWA: 0.02 mg/m <sup>3</sup>	-

<b>Biological occupational exposure limits</b>	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.
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**Derived No Effect Level (DNEL) - Workers**

Chemical name	Oral	Dermal	Inhalation
Tris-HCl 1185-53-1	-	216.6 mg/kg bw/day [4] [6]	152.8 mg/m <sup>3</sup> [4] [6]

**Notes**

[4]	Systemic health effects.
[6]	Long term.

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

Chemical name	Oral	Dermal	Inhalation
Tris-HCl 1185-53-1	10.8 mg/kg bw/day [4] [6]	-	37.7 mg/m <sup>3</sup> [4] [6]
Magnesium Chloride 7786-30-3	7 mg/kg bw/day [4] [6]	-	-

**Notes**

[4] Systemic health effects.  
[6] Long term.

**Predicted No Effect Concentration (PNEC)**

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Magnesium Chloride 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
Magnesium Chloride 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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<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	
<b>Flash point</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known
<b>pH</b>	7.4	
<b>pH (as aqueous solution)</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Water solubility</b>	No data available	None known
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Vapor pressure</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Bulk density</b>	No data available	
<b>Liquid Density</b>	No data available	
<b>Vapor density</b>	No data available	None known
<b>Particle characteristics</b>		
<b>Particle Size</b>	No information available	
<b>Particle Size Distribution</b>	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**

**Inhalation** Specific test data for the substance or mixture is not available.  
**Eye contact** Specific test data for the substance or mixture is not available.  
**Skin contact** Specific test data for the substance or mixture is not available.  
**Ingestion** 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

**ATEmix (oral)** 177,500.00 mg/kg  
**ATEmix (dermal)** 125,000.00 mg/kg  
**ATEmix (inhalation-gas)** 99,999.00 ppm  
**ATEmix (inhalation-vapor)** 99,999.00 mg/l  
**ATEmix (inhalation-dust/mist)** 99,999.00 mg/l

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium Sulfate	= 2840 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	-

**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.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ammonium Sulfate	-	LC50: =250mg/L (96h, Brachydanio rerio) LC50: =480mg/L (96h, Brachydanio rerio) LC50: =420mg/L (96h, Brachydanio rerio) LC50: =18mg/L (96h, Cyprinus carpio) LC50: 32.2 - 41.9mg/L (96h, Oncorhynchus mykiss) LC50: 5.2 - 8.2mg/L (96h, Oncorhynchus mykiss) LC50: >100mg/L (96h, Pimephales promelas) LC50: 123 - 128mg/L (96h, Poecilia reticulata) LC50: =126mg/L (96h, Poecilia reticulata)	-	LC50: =14mg/L (48h, Daphnia magna)



**12.2. Persistence and degradability**

Persistence and degradability No information available.

**12.3. Bioaccumulative potential**

**Bioaccumulation**

**Component Information**

Chemical name	Partition coefficient
Ammonium Sulfate	-5.1

**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.

Chemical name	PBT and vPvB assessment
Ammonium Sulfate	The substance is not PBT / vPvB

**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 contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Ammonium Sulfate - 7783-20-2	65	-

**Persistent Organic Pollutants**

Not applicable

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

Not applicable

**Biocidal Products Regulation (EU) No 528/2012 (BPR)**

Chemical name	Biocidal Products Regulation (EU) No 528/2012 (BPR)
Ammonium Sulfate - 7783-20-2	Product-type 11: Preservatives for liquid-cooling and processing systems Product-type 12: Slimecidic

**International Inventories**

<b>TSCA</b>	Contact supplier for inventory compliance status
<b>DSL/NDSL</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>AIIIC</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/NDSL** - 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**