

## MATERIAL SAFETY DATA SHEET (MSDS)

Telephone: (978) 927-5054  
Toll free: (800) 632-5227  
Fax: (978) 921-1350  
E-mail: info@neb.com  
Release Date: 01/2011

**NEB #E6114**

### **PRODUCT NAME:** NEBNext<sup>®</sup> mRNA Sample Prep Master Mix Set 3

The following NEB products are included:

- NEBNext<sup>®</sup> RNA Fragmentation Buffer, NEB #E6101
- NEBNext<sup>®</sup> RNA Fragmentation Stop Solution, NEB #E6102
- Linear Acrylamide, NEB #E6103
- Random Primers, NEB #E6104
- Murine RNase Inhibitor, NEB #E6105
- NEBNext<sup>®</sup> First Strand Synthesis Reaction Buffer, NEB #E6106
- NEBNext<sup>®</sup> Second Strand Synthesis Enzyme Mix, NEB #E6107
- NEBNext<sup>®</sup> Second Strand Synthesis Reaction Buffer, NEB #E6108
- NEBNext<sup>®</sup> End Repair Enzyme Mix, NEB #E6061
- NEBNext<sup>®</sup> End Repair Reaction Buffer, NEB #E6062
- T4 DNA Ligase, NEB #E6063
- NEBNext<sup>®</sup> Quick Ligation Reaction Buffer, NEB# E6064
- LongAMP<sup>®</sup> Taq 2X Master Mix, NEB #E6065
- Nuclease-free Water, NEB #6109

### **DISCLAIMER:**

Information presented herein is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or any product in violation of any patent or in violation of any law or regulation. It is the user's responsibility to determine for himself or herself the suitability of any material and/or procedure for a specific purpose and to adopt such safety precautions as may be necessary. To determine the safety impact of this product refer to the attached MSDS's for the products listed above.



CLONING & MAPPING  
DNA AMPLIFICATION & PCR

RNA ANALYSIS

PROTEIN EXPRESSION & ANALYSIS

GENE EXPRESSION & CELLULAR ANALYSIS



New England Biolabs  
240 County Road  
Ipswich, MA 01938

## MATERIAL SAFETY DATA SHEET

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Release Date: 10/2010

**NEB# E6101**

### SECTION 1—CHEMICAL INFORMATION

Product Name: NEBNext<sup>®</sup> RNA Fragmentation Buffer

Cas.# None

### SECTION 2—COMPOSITION/INFORMATION ON INGREDIENT

1. potassium acetate	9.8%	Cas.#	127-08-2
2. Tris-acetate	7.2%	Cas.#	6850-28-8
3. magnesium acetate	6.4%	Cas.#	142-72-3

The ingredients listed in this section include only those items that have more than 1% of a component classified as hazardous and 0.1% of a component classified as carcinogenic. If you have any questions, please contact info@neb.com.

### SECTION 3—HAZARDOUS IDENTIFICATION

**Emergency Overview:** May cause irritation to eyes.

**HMIS and NFPA Ratings:** 0 – Minimal or None, 1 – Slight, 2 – Moderate, 3 – Serious, and 4 – Severe

Health: 1  
Flammability: 0  
Reactivity: 0

### SECTION 4—FIRST AID MEASURES

**Eyes:** Flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids. Call a physician.

**Skin:** Wash skin with soap and copious amount of water.

**Ingestion:** If the person is conscious, wash out mouth with water. Call a physician.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### SECTION 5—FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

**Special Fire Fighting Procedures:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Fire and Explosion Hazards:** Emits toxic fumes under fire conditions.

### SECTION 6—ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid breathing or contact with vapors, mist of gas.

**Environmental Precautions:** Do not let product enter drains.

**Methods For Cleaning Up:** Cover with dry lime, sand, or soda ash. Sweep up and shovel. Place in covered container for disposal.

## SECTION 7—HANDLING AND STORAGE

**Handling:** Provide appropriate exhaust ventilation.

**Storage:** Keep tightly closed in a dry and well ventilated place. Store at -20°C .

## SECTION 8—EXPOSURE CONTROLS/PPE

**Engineering Controls:** Safety shower and eye wash. Mechanical exhaust.

**Personal Protective Equipment:**

**Eye Protection:** Safety goggles.

**Hand Protection:** Compatible resistant gloves.

**Respiratory Protection:** None required.

**Hygiene Measure:** General practice, wash (hands and skin) thoroughly after handling. Remove and wash contaminated clothing.

## SECTION 9—PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Form: Liquid                      Color: Clear or colorless                      Odor: None

**Property Value      Temperature or Pressure**

Boiling Point Range:      No data available

Melting Point Range:      No data available

Flash Point:                      No data available

Auto Ignition Temp:      No data available

Vapor Pressure:                      No data available

Vapor Density:                      No data available

Specific Gravity:                      No data available

Solubility in Water:                      Soluble

## SECTION 10—STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.

**Materials and Conditions to Avoid:** Strong oxidizing agents, acids and heat.

**Hazardous Decomposition Products:** Carbon and Nitrogen oxides, potassium and magnesium oxides.

**Hazardous Polymerization:** Will not occur.

## SECTION 11—TOXICOLOGICAL INFORMATION

**Acute and Chronic Affects Based On Routes Of Exposure**

No data available.

To the best of our knowlege, the physical chemical and toxicological properties have not been throughly investigated.

**Target Organ(s):** Central nervous system, gastrointestinal system.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorder or eye problems may be more susceptible to the effects of the material.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.

**IARC:** No component of this product present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1 % is identified as a known or suspected human carcinogen or confirmed animal with unknown relevance humans.

## SECTION 12—ECOLOGICAL INFORMATION

No data available.

## SECTION 13—DISPOSAL CONSIDERATIONS

Dispose of container, unused contents and contaminated packaging in accordance with federal, state and local requirement. Contract with a licensed Chemical Waste Disposal Service.

## **SECTION 14—TRANSPORT INFORMATION**

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

## **SECTION 15—REGULATORY INFORMATION**

**OSHA Hazards:** None known.

**US Classification and Label Test**

**US Statements:** Caution. Avoid contact and inhalation.

**United States Regulatory Information:**

Sara Listed: No

TSCA Inventory Item: Yes

**Canada Regulatory Information**

**WHMIS Classification:** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

**EU Additional Classification**

S: 23/24/25

Safety Statements: Do not breath vapor. Avoid contact with skin and eyes.

## **SECTION 16—OTHER INFORMATION**

### **DISCLAIMER**

The information provided on the MSDS is furnished in good faith and based on our present knowledge. However, this MSDS shall not constitute a guarantee of any kind. Personnel handling this material must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of this material and the safety and health of employees and customers. NEB assumes no additional liability or responsibility resulting from the use of, or reliance on this information. This product is for R&D use only. Not for drug, household or other uses.

Questions about the information found on this MSDS should be directed to [info@neb.com](mailto:info@neb.com).



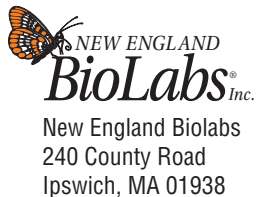
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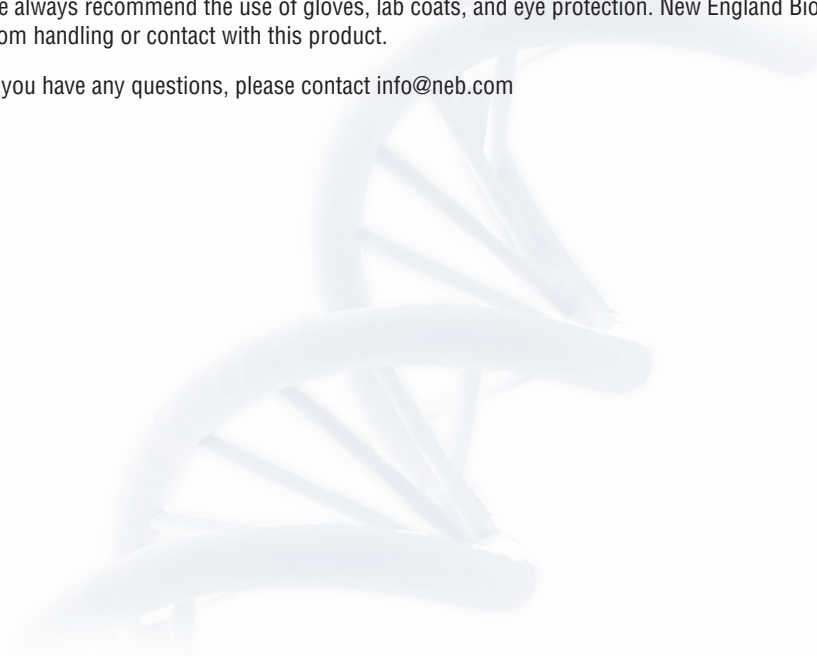
**NEB #E6102**

**PRODUCT NAME:** NEBNext<sup>®</sup> RNA Fragmentation Stop Solution

### IMPORTANT NOTE:

Per OSHA 29CFR1910.1200, Commonwealth of Australia [NOHSC:1005,1008(1999)] and the latest amendments to the European Union Directives 67/548/EC and 1999/45/EC, this product does not require a Material Safety Data Sheet (MSDS). This product does not contain more than 1% of a component classified as hazardous and does not contain more than 0.1% of a component classified as carcinogenic. Therefore New England Biolabs, Inc. does not provide this information on a MSDS. However, when working with this or any chemical reagent, we always recommend the use of gloves, lab coats, and eye protection. New England Biolabs, Inc. assumes no liability for damage resulting from handling or contact with this product.

If you have any questions, please contact [info@neb.com](mailto:info@neb.com)





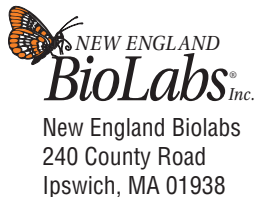
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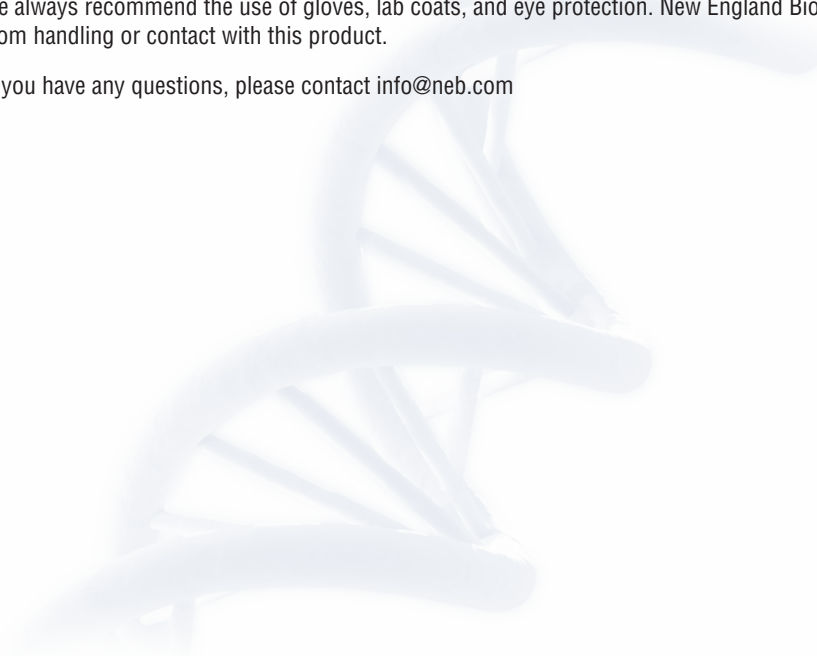
**NEB #E6103**

**PRODUCT NAME:** Linear Acrylamide

### IMPORTANT NOTE:

Per OSHA 29CFR1910.1200, Commonwealth of Australia [NOHSC:1005,1008(1999)] and the latest amendments to the European Union Directives 67/548/EC and 1999/45/EC, this product does not require a Material Safety Data Sheet (MSDS). This product does not contain more than 1% of a component classified as hazardous and does not contain more than 0.1% of a component classified as carcinogenic. Therefore New England Biolabs, Inc. does not provide this information on a MSDS. However, when working with this or any chemical reagent, we always recommend the use of gloves, lab coats, and eye protection. New England Biolabs, Inc. assumes no liability for damage resulting from handling or contact with this product.

If you have any questions, please contact [info@neb.com](mailto:info@neb.com)





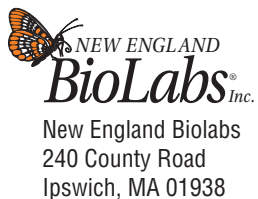
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**NEB # E6104**

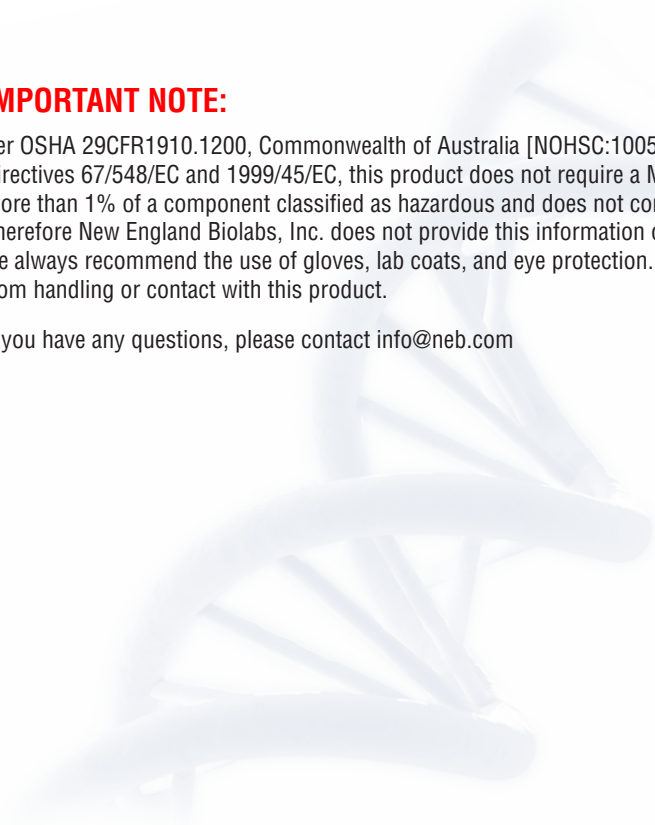
### PRODUCT NAME:

Random Primers

### IMPORTANT NOTE:

Per OSHA 29CFR1910.1200, Commonwealth of Australia [NOHSC:1005,1008(1999)] and the latest amendments to the European Union Directives 67/548/EC and 1999/45/EC, this product does not require a Material Safety Data Sheet (MSDS). This product does not contain more than 1% of a component classified as hazardous and does not contain more than 0.1% of a component classified as carcinogenic. Therefore New England Biolabs, Inc. does not provide this information on a MSDS. However, when working with this or any chemical reagent, we always recommend the use of gloves, lab coats, and eye protection. New England Biolabs, Inc. assumes no liability for damage resulting from handling or contact with this product.

If you have any questions, please contact [info@neb.com](mailto:info@neb.com)





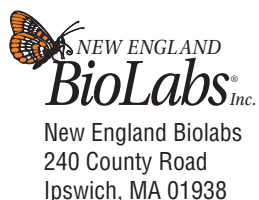
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**NEB #E6105**

### SECTION 1—CHEMICAL INFORMATION

Product Name: Murine RNase Inhibitor

Cas.# None

### SECTION 2—COMPOSITION/INFORMATION ON INGREDIENT

1. Glycerol 50% Cas.# 56-81-5

The ingredients listed in this section include only those items that have more than 1% of a component classified as hazardous and 0.1% of a component classified as carcinogenic. If you have any questions, please contact info@neb.com.

### SECTION 3—HAZARDOUS IDENTIFICATION

**Emergency Overview:** May cause irritation to skin, eyes, and respiratory tract, may affect kidneys.

**HMIS and NFPA Ratings:** 0 – Minimal or None, 1 – Slight, 2 – Moderate, 3 – Serious, and 4 – Severe

Health: 2  
Flammability: 0  
Reactivity: 1

### SECTION 4—FIRST AID MEASURES

**Eyes:** Flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids. Call a physician.

**Skin:** Wash skin with soap and copious amount of water.

**Ingestion:** If the person is conscious, wash out mouth with water. Call a physician.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### SECTION 5—FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

**Special Fire Fighting Procedures:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Fire and Explosion Hazards:** Combustible liquid. Emits toxic fumes under fire conditions.



## SECTION 6--ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid breathing or contact with vapors, mist of gas.

**Environmental Precautions:** Do not let product enter drains.

**Methods For Cleaning Up:** Cover with dry lime, sand, or soda ash. Sweep up and shovel. Place in covered container for disposal.

## SECTION 7--HANDLING AND STORAGE

**Handling:** Provide appropriate exhaust ventilation.

**Storage:** Keep tightly closed in a dry and well ventilated place. Store at -20°C .

## SECTION 8--EXPOSURE CONTROLS/PPE

**Engineering Controls:** Safety shower and eye wash. Mechanical exhaust.

**Personal Protective Equipment:**

**Eye Protection:** Safety goggles.

**Hand Protection:** Compatible resistant gloves.

**Respiratory Protection:** None required.

**Hygiene Measure:** General practice, wash (hands and skin) thoroughly after handling. Remove and wash contaminated clothing.

## SECTION 9--PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Form: Liquid                      Color: Clear or colorless                      Odor: None or odorless

<b>Property</b>	<b>Value</b>	<b>Temperature or Pressure</b>
Boiling Point Range:		182°C
Melting Point Range:		20°C
Flash Point:		160°C Method: Closed cup
Auto Ignition Temp:		370°C
Vapor Pressure:	< 1 mmHg	20°C
Vapor Density:	3.1 g/l	
Specific Gravity:	1.262	
Solubility in Water:	Soluble	

## SECTION 10--STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.

**Materials to Avoid:** Acid chlorides, Phosphorus halides, strong oxidizing agents, strong acids, strong reducing agents.

**Hazardous Decomposition Products:** Carbon monoxide, Carbon dioxide, Sulfur dioxides.

**Hazardous Polymerization:** Will not occur.

## SECTION 11--TOXICOLOGICAL INFORMATION

**Acute and Chronic Affects Based On Routes Of Exposure**

**Eye Contact:** May cause irritation.

**Skin Contact:** May cause irritation.

**Ingestion:** Low toxicity. May cause nausea, headache or diarrhea.

**Inhalation:** Unlikely at room temperature, inhalation of mist may cause irritation of respiratory tract.

**Chronic Exposure**

**Target Organ(s):** May cause kidney damage.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorder or eye problems or impaired liver or kidneys may be more susceptible to the effects of the material.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.

**IARC:** No component of this product present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1 % is identified as a known or suspected human carcinogen or confirmed animal with unknown relevance humans.

## SECTION 12—ECOLOGICAL INFORMATION

No data available.

## SECTION 13—DISPOSAL CONSIDERATIONS

Dispose of container, unused contents and contaminated packaging in accordance with federal, state and local requirement. Contract with a licensed Chemical Waste Disposal Service. Dissolve or mix with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

## SECTION 14—TRANSPORT INFORMATION

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

## SECTION 15—REGULATORY INFORMATION

**OSHA Hazards:** None known.

### **US Classification and Label Test**

**US Statements:** Caution. Avoid contact and inhalation. Target Organ (s): Kidneys.

### **United States Regulatory Information:**

Sara Listed: No

TSCA Inventory Item: Yes

### **Canada Regulatory Information**

**WHMIS Classification:** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

### **EU Additional Classification**

S: 23 24/25

Safety Statements: Do not breath vapor. Avoid contact with skin and eyes.

## SECTION 16—OTHER INFORMATION

### **DISCLAIMER**

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Release: 10/2010

**NEB# E6106**

### SECTION 1—CHEMICAL INFORMATION

Product Name: NEBNext<sup>®</sup> First Strand Synthesis Reaction Buffer

Cas.# None

### SECTION 2—COMPOSITION/INFORMATION ON INGREDIENT

- |                           |      |                |
|---------------------------|------|----------------|
| 1. potassium acetate      | 3.7% | Cas.# 127-08-2 |
| 2. Tris buffered with HCl | 1.2% | Cas.# 77-86-1  |

*Note: The CAS number listed above is for Tris. HCl (< 1%) was added to the Tris to alter the pH level.*

The ingredients listed in this section include only those items that have more than 1% of a component classified as hazardous and 0.1% of a component classified as carcinogenic. If you have any questions, please contact info@neb.com.

### SECTION 3—HAZARDOUS IDENTIFICATION

**Emergency Overview:** May cause irritation to eyes.

**HMIS and NFPA Ratings:** 0 – Minimal or None, 1 – Slight, 2 – Moderate, 3 – Serious, and 4 – Severe

Health: 1  
Flammability: 0  
Reactivity: 0

### SECTION 4—FIRST AID MEASURES

**Eyes:** Flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids. Call a physician.

**Skin:** Wash skin with soap and copious amount of water.

**Ingestion:** If the person is conscious, wash out mouth with water. Call a physician.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### SECTION 5—FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

**Special Fire Fighting Procedures:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Fire and Explosion Hazards:** Combustible liquid. Emits toxic fumes under fire conditions.

## SECTION 6--ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid breathing or contact with vapors, mist of gas.

**Environmental Precautions:** Do not let product enter drains.

**Methods For Cleaning Up:** Cover with dry lime, sand, or soda ash. Sweep up and shovel. Place in covered container for disposal.

## SECTION 7--HANDLING AND STORAGE

**Handling:** Provide appropriate exhaust ventilation.

**Storage:** Keep tightly closed in a dry and well ventilated place. Store at -20°C .

## SECTION 8--EXPOSURE CONTROLS/PPE

**Engineering Controls:** Safety shower and eye wash. Mechanical exhaust.

**Personal Protective Equipment:**

**Eye Protection:** Safety goggles.

**Hand Protection:** Compatible resistant gloves.

**Respiratory Protection:** None required.

**Hygiene Measure:** General practice, wash (hands and skin) thoroughly after handling. Remove and wash contaminated clothing.

## SECTION 9--PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Form: Liquid                      Color: Clear or colorless                      Odor: None

<b>Property</b>	<b>Value</b>	<b>Temperature or Pressure</b>
Boiling Point Range:	No data available	
Melting Point Range:	No data available	
Flash Point:	No data available	
Auto Ignition Temp:	No data available	
Vapor Pressure:	No data available	
Vapor Density:	No data available	
Specific Gravity:	No data available	
Solubility in Water:	Soluble	

## SECTION 10--STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.

**Materials to Avoid:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas, carbon oxides and sodium oxides.

**Hazardous Polymerization:** Will not occur.

## SECTION 11--TOXICOLOGICAL INFORMATION

**Acute and Chronic Affects Based On Routes Of Exposure**

**Eye Contact:** May cause irritation.

**Skin Contact:** May cause irritation.

**Ingestion:** May cause vomiting, diarrhea, dehydration and congestion in the internal organs.

**Inhalation:** Mist may cause irritation of respiratory tract and gastrointestinal tract.

**Chronic Exposure**

**Target Organ(s):** No data available.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorder or eye problems may be more susceptible to the effects of the material.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.

**IARC:** No component of this product present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1 % is identified as a known or suspected human carcinogen or confirmed animal with unknown relevance humans.

## SECTION 12—ECOLOGICAL INFORMATION

No data available.

## SECTION 13—DISPOSAL CONSIDERATIONS

Dispose of container, unused contents and contaminated packaging in accordance with federal, state and local requirement. Contract with a licensed Chemical Waste Disposal Service.

## SECTION 14—TRANSPORT INFORMATION

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

## SECTION 15—REGULATORY INFORMATION

**OSHA Hazards:** None known.

**US Classification and Label Test**

**US Statements:** Caution. Avoid contact and inhalation.

**United States Regulatory Information:**

Sara Listed: No

TSCA Inventory Item: Yes

**Canada Regulatory Information**

**WHMIS Classification:** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

**EU Additional Classification**

S: 23 24/25

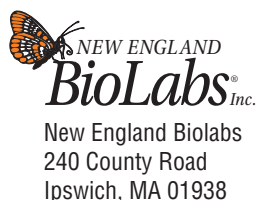
Safety Statements: Do not breath vapor. Avoid contact with skin and eyes.

## SECTION 16—OTHER INFORMATION

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**NEB #E6107**

### SECTION 1—CHEMICAL INFORMATION

Product Name: NEBNext<sup>®</sup> Second Strand Synthesis Enzyme Mix

Cas.# None

### SECTION 2—COMPOSITION/INFORMATION ON INGREDIENT

1. Glycerol 50% Cas.# 56-81-5

The ingredients listed in this section include only those items that have more than 1% of a component classified as hazardous and 0.1% of a component classified as carcinogenic. If you have any questions, please contact info@neb.com.

### SECTION 3—HAZARDOUS IDENTIFICATION

**Emergency Overview:** May cause irritation to skin, eyes, and respiratory tract, may affect kidneys.

**HMIS and NFPA Ratings:** 0 – Minimal or None, 1 – Slight, 2 – Moderate, 3 – Serious, and 4 – Severe

Health: 2  
Flammability: 0  
Reactivity: 1

### SECTION 4—FIRST AID MEASURES

**Eyes:** Flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids. Call a physician.

**Skin:** Wash skin with soap and copious amount of water.

**Ingestion:** If the person is conscious, wash out mouth with water. Call a physician.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### SECTION 5—FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

**Special Fire Fighting Procedures:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Fire and Explosion Hazards:** Combustible liquid. Emits toxic fumes under fire conditions.

## SECTION 6--ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid breathing or contact with vapors, mist of gas.

**Environmental Precautions:** Do not let product enter drains.

**Methods For Cleaning Up:** Cover with dry lime, sand, or soda ash. Sweep up and shovel. Place in covered container for disposal.

## SECTION 7--HANDLING AND STORAGE

**Handling:** Provide appropriate exhaust ventilation.

**Storage:** Keep tightly closed in a dry and well ventilated place. Store at -20°C .

## SECTION 8--EXPOSURE CONTROLS/PPE

**Engineering Controls:** Safety shower and eye wash. Mechanical exhaust.

**Personal Protective Equipment:**

**Eye Protection:** Safety goggles.

**Hand Protection:** Compatible resistant gloves.

**Respiratory Protection:** None required.

**Hygiene Measure:** General practice, wash (hands and skin) thoroughly after handling. Remove and wash contaminated clothing.

## SECTION 9--PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Form: Liquid                      Color: Clear or colorless                      Odor: None or odorless

<b>Property</b>	<b>Value</b>	<b>Temperature or Pressure</b>
Boiling Point Range:		182°C
Melting Point Range:		20°C
Flash Point:		160°C Method: Closed cup
Auto Ignition Temp:		370°C
Vapor Pressure:	< 1 mmHg	20°C
Vapor Density:	3.1 g/l	
Specific Gravity:	1.262	
Solubility in Water:	Soluble	

## SECTION 10--STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.

**Materials to Avoid:** Acid chlorides, Phosphorus halides, strong oxidizing agents, strong acids, strong reducing agents.

**Hazardous Decomposition Products:** Carbon monoxide, Carbon dioxide, Sulfur dioxides.

**Hazardous Polymerization:** Will not occur.

## SECTION 11--TOXICOLOGICAL INFORMATION

**Acute and Chronic Affects Based On Routes Of Exposure**

**Eye Contact:** May cause irritation.

**Skin Contact:** May cause irritation.

**Ingestion:** Low toxicity. May cause nausea, headache or diarrhea.

**Inhalation:** Unlikely at room temperature, inhalation of mist may cause irritation of respiratory tract.

**Chronic Exposure**

**Target Organ(s):** May cause kidney damage.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorder or eye problems or impaired liver or kidneys may be more susceptible to the effects of the material.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.

**IARC:** No component of this product present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1 % is identified as a known or suspected human carcinogen or confirmed animal with unknown relevance humans.

## SECTION 12—ECOLOGICAL INFORMATION

No data available.

## SECTION 13—DISPOSAL CONSIDERATIONS

Dispose of container, unused contents and contaminated packaging in accordance with federal, state and local requirement. Contract with a licensed Chemical Waste Disposal Service. Dissolve or mix with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

## SECTION 14—TRANSPORT INFORMATION

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

## SECTION 15—REGULATORY INFORMATION

**OSHA Hazards:** None known.

### **US Classification and Label Test**

**US Statements:** Caution. Avoid contact and inhalation. Target Organ (s): Kidneys.

### **United States Regulatory Information:**

Sara Listed: No

TSCA Inventory Item: Yes

### **Canada Regulatory Information**

**WHMIS Classification:** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

### **EU Additional Classification**

S: 23 24/25

Safety Statements: Do not breath vapor. Avoid contact with skin and eyes.

## SECTION 16—OTHER INFORMATION

### **DISCLAIMER**

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Questions about the information found on this MSDS should be directed to [info@neb.com](mailto:info@neb.com).





New England Biolabs  
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Ipswich, MA 01938

## MATERIAL SAFETY DATA SHEET

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Fax: (978)921-1350  
Email: info@neb.com  
Release Date: 10/2010

**NEB# E6108**

### SECTION 1—CHEMICAL INFORMATION

Product Name: NEBNext<sup>®</sup> Second Strand Synthesis Reaction Buffer

Cas.# None

### SECTION 2—COMPOSITION/INFORMATION ON INGREDIENT

- |                           |      |                 |
|---------------------------|------|-----------------|
| 1. Amonium Sulfate        | 1.6% | Cas.# 7647-14-5 |
| 2. Tris buffered with HCl | 2.4% | Cas.# 77-86-1   |

*Note: The CAS number listed above is for Tris. HCl (< 1%) was added to the Tris to alter the pH level.*

The ingredients listed in this section include only those items that have more than 1% of a component classified as hazardous and 0.1% of a component classified as carcinogenic. If you have any questions, please contact info@neb.com.

### SECTION 3—HAZARDOUS IDENTIFICATION

**Emergency Overview:** May cause irritation to eyes.

**HMIS and NFPA Ratings:** 0 – Minimal or None, 1 – Slight, 2 – Moderate, 3 – Serious, and 4 – Severe

Health: 1  
Flammability: 0  
Reactivity: 0

### SECTION 4—FIRST AID MEASURES

**Eyes:** Flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids. Call a physician.

**Skin:** Wash skin with soap and copious amount of water.

**Ingestion:** If the person is conscious, wash out mouth with water. Call a physician.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### SECTION 5—FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

**Special Fire Fighting Procedures:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Fire and Explosion Hazards:** Combustible liquid. Emits toxic fumes under fire conditions.

## SECTION 6--ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid breathing or contact with vapors, mist of gas.

**Environmental Precautions:** Do not let product enter drains.

**Methods For Cleaning Up:** Cover with dry lime, sand, or soda ash. Sweep up and shovel. Place in covered container for disposal.

## SECTION 7--HANDLING AND STORAGE

**Handling:** Provide appropriate exhaust ventilation.

**Storage:** Keep tightly closed in a dry and well ventilated place. Store at -20°C .

## SECTION 8--EXPOSURE CONTROLS/PPE

**Engineering Controls:** Safety shower and eye wash. Mechanical exhaust.

**Personal Protective Equipment:**

**Eye Protection:** Safety goggles.

**Hand Protection:** Compatible resistant gloves.

**Respiratory Protection:** None required.

**Hygiene Measure:** General practice, wash (hands and skin) thoroughly after handling. Remove and wash contaminated clothing.

## SECTION 9--PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Form: Liquid                      Color: Clear or colorless                      Odor: None

<b>Property</b>	<b>Value</b>	<b>Temperature or Pressure</b>
Boiling Point Range:	No data available	
Melting Point Range:	No data available	
Flash Point:	No data available	
Auto Ignition Temp:	No data available	
Vapor Pressure:	No data available	
Vapor Density:	No data available	
Specific Gravity:	No data available	
Solubility in Water:	Soluble	

## SECTION 10--STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.

**Materials to Avoid:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas, carbon oxides and sodium oxides.

**Hazardous Polymerization:** Will not occur.

## SECTION 11--TOXICOLOGICAL INFORMATION

**Acute and Chronic Affects Based On Routes Of Exposure**

**Eye Contact:** May cause irritation.

**Skin Contact:** May cause irritation.

**Ingestion:** May cause vomiting, diarrhea, dehydration and congestion in the internal organs.

**Inhalation:** Mist may cause irritation of respiratory tract and gastrointestinal tract.

**Chronic Exposure**

**Target Organ(s):** No data available.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorder or eye problems may be more susceptible to the effects of the material.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.

**IARC:** No component of this product present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1 % is identified as a known or suspected human carcinogen or confirmed animal with unknown relevance humans.

## SECTION 12—ECOLOGICAL INFORMATION

No data available.

## SECTION 13—DISPOSAL CONSIDERATIONS

Dispose of container, unused contents and contaminated packaging in accordance with federal, state and local requirement. Contract with a licensed Chemical Waste Disposal Service.

## SECTION 14—TRANSPORT INFORMATION

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

## SECTION 15—REGULATORY INFORMATION

**OSHA Hazards:** None known.

**US Classification and Label Test**

**US Statements:** Caution. Avoid contact and inhalation.

**United States Regulatory Information:**

Sara Listed: No

TSCA Inventory Item: Yes

**Canada Regulatory Information**

**WHMIS Classification:** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

**EU Additional Classification**

S: 23 24/25

Safety Statements: Do not breath vapor. Avoid contact with skin and eyes.

## SECTION 16—OTHER INFORMATION

### DISCLAIMER

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Questions about the information found on this MSDS should be directed to [info@neb.com](mailto:info@neb.com).

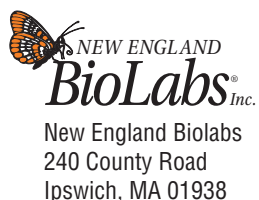


CLONING & MAPPING  
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## MATERIAL SAFETY DATA SHEET (MSDS)

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Revision Date: 04/2010

**NEB #E6061**

### SECTION 1—CHEMICAL INFORMATION

Product Name: NEBNext<sup>®</sup> End Repair Enzyme Mix

Cas.# None

### SECTION 2—COMPOSITION/INFORMATION ON INGREDIENT

1. Glycerol 50% Cas.# 56-81-5

The ingredients listed in this section include only those items that have more than 1% of a component classified as hazardous and 0.1% of a component classified as carcinogenic. If you have any questions, please contact info@neb.com.

### SECTION 3—HAZARDOUS IDENTIFICATION

**Emergency Overview:** May cause irritation to skin, eyes, and respiratory tract, may affect kidneys.

**HMIS and NFPA Ratings:** 0 – Minimal or None, 1 – Slight, 2 – Moderate, 3 – Serious, and 4 – Severe

Health: 2  
Flammability: 0  
Reactivity: 1

### SECTION 4—FIRST AID MEASURES

**Eyes:** Flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids. Call a physician.

**Skin:** Wash skin with soap and copious amount of water.

**Ingestion:** If the person is conscious, wash out mouth with water. Call a physician.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### SECTION 5—FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

**Special Fire Fighting Procedures:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Fire and Explosion Hazards:** Combustible liquid. Emits toxic fumes under fire conditions.

## SECTION 6--ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid breathing or contact with vapors, mist of gas.

**Environmental Precautions:** Do not let product enter drains.

**Methods For Cleaning Up:** Cover with dry lime, sand, or soda ash. Sweep up and shovel. Place in covered container for disposal.

## SECTION 7--HANDLING AND STORAGE

**Handling:** Provide appropriate exhaust ventilation.

**Storage:** Keep tightly closed in a dry and well ventilated place. Store at -20°C .

## SECTION 8--EXPOSURE CONTROLS/PPE

**Engineering Controls:** Safety shower and eye wash. Mechanical exhaust.

**Personal Protective Equipment:**

**Eye Protection:** Safety goggles.

**Hand Protection:** Compatible resistant gloves.

**Respiratory Protection:** None required.

**Hygiene Measure:** General practice, wash (hands and skin) thoroughly after handling. Remove and wash contaminated clothing.

## SECTION 9--PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Form: Liquid                      Color: Clear or colorless                      Odor: None or odorless

<b>Property</b>	<b>Value</b>	<b>Temperature or Pressure</b>
Boiling Point Range:		182°C
Melting Point Range:		20°C
Flash Point:		160°C Method: Closed cup
Auto Ignition Temp:		370°C
Vapor Pressure:	< 1 mmHg	20°C
Vapor Density:	3.1 g/l	
Specific Gravity:	1.262	
Solubility in Water:	Soluble	

## SECTION 10--STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.

**Materials to Avoid:** Acid chlorides, Phosphorus halides, strong oxidizing agents, strong acids, strong reducing agents.

**Hazardous Decomposition Products:** Carbon monoxide, Carbon dioxide, Sulfur dioxides.

**Hazardous Polymerization:** Will not occur.

## SECTION 11--TOXICOLOGICAL INFORMATION

**Acute and Chronic Affects Based On Routes Of Exposure**

**Eye Contact:** May cause irritation.

**Skin Contact:** May cause irritation.

**Ingestion:** Low toxicity. May cause nausea, headache or diarrhea.

**Inhalation:** Unlikely at room temperature, inhalation of mist may cause irritation of respiratory tract.

**Chronic Exposure**

**Target Organ(s):** May cause kidney damage.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorder or eye problems or impaired liver or kidneys may be more susceptible to the effects of the material.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.

**IARC:** No component of this product present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1 % is identified as a known or suspected human carcinogen or confirmed animal with unknown relevance humans.

## SECTION 12—ECOLOGICAL INFORMATION

No data available.

## SECTION 13—DISPOSAL CONSIDERATIONS

Dispose of container, unused contents and contaminated packaging in accordance with federal, state and local requirement. Contract with a licensed Chemical Waste Disposal Service. Dissolve or mix with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

## SECTION 14—TRANSPORT INFORMATION

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

## SECTION 15—REGULATORY INFORMATION

**OSHA Hazards:** None known.

**US Classification and Label Test**

**US Statements:** Caution. Avoid contact and inhalation. Target Organ (s): Kidneys.

**United States Regulatory Information:**

Sara Listed: No

TSCA Inventory Item: Yes

**Canada Regulatory Information**

**WHMIS Classification:** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

**EU Additional Classification**

S: 23 24/25

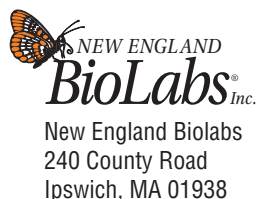
Safety Statements: Do not breath vapor. Avoid contact with skin and eyes.

## SECTION 16—OTHER INFORMATION

### DISCLAIMER

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## MATERIAL SAFETY DATA SHEET (MSDS)

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E-mail: info@neb.com  
Release Date: 10/2010

**NEB #E6062**

### SECTION 1—CHEMICAL INFORMATION

Product Name: NEBNext<sup>®</sup> End Repair Reaction Buffer Cas.# None

### SECTION 2—COMPOSITION/INFORMATION ON INGREDIENT

- |                           |      |                 |
|---------------------------|------|-----------------|
| 1. DTT                    | 1.5% | Cas.# 3483-12-3 |
| 2. Tris buffered with HCl | 6%   | Cas.# 77-86-1   |

*Note: The CAS number listed above is for Tris. HCl (< 1%) was added to the Tris to alter the pH level.*

The ingredients listed in this section include only those items that have more than 1% of a component classified as hazardous and 0.1% of a component classified as carcinogenic. If you have any questions, please contact info@neb.com.

### SECTION 3—HAZARDOUS IDENTIFICATION

**Emergency Overview:** May cause irritation to skin, eyes, and respiratory tract, may affect kidneys.

**HMIS and NFPA Ratings:** 0 – Minimal or None, 1 – Slight, 2 – Moderate, 3 – Serious, and 4 – Severe

Health: 2  
Flammability: 1  
Reactivity: 0

### SECTION 4—FIRST AID MEASURES

**Eyes:** Flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids. Call a physician.

**Skin:** Wash skin with soap and copious amount of water.

**Ingestion:** If the person is conscious, wash out mouth with water. Call a physician.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### SECTION 5—FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

**Special Fire Fighting Procedures:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Fire and Explosion Hazards:** Combustible liquid. Emits toxic fumes (carbon and sulfur oxides and hydrogen sulfide) under fire conditions.

## SECTION 6—ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid breathing or contact with vapors, mist of gas.

**Environmental Precautions:** Do not let product enter drains.

**Methods For Cleaning Up:** Cover with dry lime, sand, or soda ash. Sweep up and shovel. Place in covered container for disposal.

## SECTION 7—HANDLING AND STORAGE

**Handling:** Provide appropriate exhaust ventilation.

**Storage:** Keep tightly closed in a dry and well ventilated place. Store at -20°C .

## SECTION 8—EXPOSURE CONTROLS/PPE

**Engineering Controls:** Safety shower and eye wash. Mechanical exhaust.

**Personal Protective Equipment:**

**Eye Protection:** Safety goggles.

**Hand Protection:** Compatible resistant gloves.

**Respiratory Protection:** None required.

**Hygiene Measure:** General practice, wash (hands and skin) thoroughly after handling. Remove and wash contaminated clothing.

## SECTION 9—PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Form: Liquid                      Color: White                      Odor: Unpleasant

<b>Property</b>	<b>Value</b>	<b>Temperature or Pressure</b>
Boiling Point Range:	125–130°C (257–266°F)	
Melting Point Range:	42–43°C (108–109°F)	
Flash Point:	113°C Method: Closed cup	
Auto Ignition Temp:	no data available	
Vapor Pressure:	no data available	
Vapor Density:	no data available	
Specific Gravity:	1	
Solubility in Water:	Soluble	

## SECTION 10—STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.

**Materials to Avoid:** Strong oxidizing agents, strong reducing agents, alkali metals.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, sulfur dioxides.

**Hazardous Polymerization:** Will not occur.

## SECTION 11—TOXICOLOGICAL INFORMATION

**Acute and Chronic Affects Based On Routes Of Exposure**

**Eye Contact:** May cause irritation.

**Skin Contact:** May cause irritation.

**Ingestion:** Low toxicity. May cause nausea, headache or diarrhea.

**Inhalation:** Unlikely at room temperature, inhalation of mist may cause irritation of respiratory tract.

**Chronic Exposure**

**Target Organ(s):** May cause kidney damage.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorder or eye problems or impaired liver or kidneys may be more susceptible to the effects of the material.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.

**IARC:** No component of this product present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1 % is identified as a known or suspected human carcinogen or confirmed animal with unknown relevance humans.



## SECTION 12—ECOLOGICAL INFORMATION

No data available.

## SECTION 13—DISPOSAL CONSIDERATIONS

Dispose of container, unused contents and contaminated packaging in accordance with federal, state and local requirement. Contract with a licensed Chemical Waste Disposal Service. Dissolve or mix with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

## SECTION 14—TRANSPORT INFORMATION

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

## SECTION 15—REGULATORY INFORMATION

**OSHA Hazards:** None known.

### **US Classification and Label Test**

**US Statements:** Caution. Avoid contact and inhalation. Target Organ (s): Kidneys.

### **United States Regulatory Information:**

Sara Listed: No

TSCA Inventory Item: Yes

### **Canada Regulatory Information**

**WHMIS Classification:** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

### **EU Additional Classification**

S: 23 24/25

Safety Statements: Do not breath vapor. Avoid contact with skin and eyes.

## SECTION 16—OTHER INFORMATION

### **DISCLAIMER**

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Questions about the information found on this MSDS should be directed to [info@neb.com](mailto:info@neb.com).



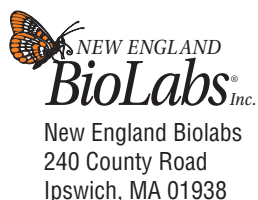
CLONING & MAPPING

DNA AMPLIFICATION & PCR

RNA ANALYSIS

PROTEIN EXPRESSION & ANALYSIS

GENE EXPRESSION & CELLULAR ANALYSIS



## MATERIAL SAFETY DATA SHEET (MSDS)

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Revision Date: 02/2010

**NEB #E6063**

### SECTION 1—CHEMICAL INFORMATION

Product Name: T4 DNA Ligase Cas.# None

### SECTION 2—COMPOSITION/INFORMATION ON INGREDIENT

1. Glycerol 50% Cas.# 56-81-5

The ingredients listed in this section include only those items that have more than 1% of a component classified as hazardous and 0.1% of a component classified as carcinogenic. If you have any questions, please contact info@neb.com.

### SECTION 3—HAZARDOUS IDENTIFICATION

**Emergency Overview:** May cause irritation to skin, eyes, and respiratory tract, may affect kidneys.

**HMIS and NFPA Ratings:** 0 – Minimal or None, 1 – Slight, 2 – Moderate, 3 – Serious, and 4 – Severe

Health: 2  
Flammability: 0  
Reactivity: 1

### SECTION 4—FIRST AID MEASURES

**Eyes:** Flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids. Call a physician.

**Skin:** Wash skin with soap and copious amount of water.

**Ingestion:** If the person is conscious, wash out mouth with water. Call a physician.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### SECTION 5—FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

**Special Fire Fighting Procedures:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Fire and Explosion Hazards:** Combustible liquid. Emits toxic fumes under fire conditions.

## SECTION 6--ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid breathing or contact with vapors, mist of gas.

**Environmental Precautions:** Do not let product enter drains.

**Methods For Cleaning Up:** Cover with dry lime, sand, or soda ash. Sweep up and shovel. Place in covered container for disposal.

## SECTION 7--HANDLING AND STORAGE

**Handling:** Provide appropriate exhaust ventilation.

**Storage:** Keep tightly closed in a dry and well ventilated place. Store at -20°C .

## SECTION 8--EXPOSURE CONTROLS/PPE

**Engineering Controls:** Safety shower and eye wash. Mechanical exhaust.

**Personal Protective Equipment:**

**Eye Protection:** Safety goggles.

**Hand Protection:** Compatible resistant gloves.

**Respiratory Protection:** None required.

**Hygiene Measure:** General practice, wash (hands and skin) thoroughly after handling. Remove and wash contaminated clothing.

## SECTION 9--PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Form: Liquid                      Color: Clear or colorless                      Odor: None or odorless

<b>Property</b>	<b>Value</b>	<b>Temperature or Pressure</b>
Boiling Point Range:		182°C
Melting Point Range:		20°C
Flash Point:		160°C Method: Closed cup
Auto Ignition Temp:		370°C
Vapor Pressure:	< 1 mmHg	20°C
Vapor Density:	3.1 g/l	
Specific Gravity:	1.262	
Solubility in Water:	Soluble	

## SECTION 10--STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.

**Materials to Avoid:** Acid chlorides, Phosphorus halides, strong oxidizing agents, strong acids, strong reducing agents.

**Hazardous Decomposition Products:** Carbon monoxide, Carbon dioxide, Sulfur dioxides.

**Hazardous Polymerization:** Will not occur.

## SECTION 11--TOXICOLOGICAL INFORMATION

**Acute and Chronic Affects Based On Routes Of Exposure**

**Eye Contact:** May cause irritation.

**Skin Contact:** May cause irritation.

**Ingestion:** Low toxicity. May cause nausea, headache or diarrhea.

**Inhalation:** Unlikely at room temperature, inhalation of mist may cause irritation of respiratory tract.

**Chronic Exposure**

**Target Organ(s):** May cause kidney damage.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorder or eye problems or impaired liver or kidneys may be more susceptible to the effects of the material.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.

**IARC:** No component of this product present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1 % is identified as a known or suspected human carcinogen or confirmed animal with unknown relevance humans.

## SECTION 12—ECOLOGICAL INFORMATION

No data available.

## SECTION 13—DISPOSAL CONSIDERATIONS

Dispose of container, unused contents and contaminated packaging in accordance with federal, state and local requirement. Contract with a licensed Chemical Waste Disposal Service. Dissolve or mix with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

## SECTION 14—TRANSPORT INFORMATION

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

## SECTION 15—REGULATORY INFORMATION

**OSHA Hazards:** None known.

**US Classification and Label Test**

**US Statements:** Caution. Avoid contact and inhalation. Target Organ (s): Kidneys.

**United States Regulatory Information:**

Sara Listed: No

TSCA Inventory Item: Yes

**Canada Regulatory Information**

**WHMIS Classification:** This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

**EU Additional Classification**

S: 23 24/25

Safety Statements: Do not breath vapor. Avoid contact with skin and eyes.

## SECTION 16—OTHER INFORMATION

### DISCLAIMER

The information provided on the MSDS is furnished in good faith and based on our present knowledge. However, this MSDS shall not constitute a guarantee of any kind. Personnel handling this material must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of this material and the safety and health of employees and customers. NEB assumes no additional liability or responsibility resulting from the use of, or reliance on this information. This product is for R&D use only. Not for drug, household or other uses.

Questions about the information found on this MSDS should be directed to [info@neb.com](mailto:info@neb.com).



New England Biolabs  
240 County Road  
Ipswich, MA 01938

## MATERIAL SAFETY DATA SHEET

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Email: info@neb.com  
Revision Date: 04/2010

**NEB# E6064**

### SECTION 1—CHEMICAL INFORMATION

Product Name: NEBNext Quick Ligation Reaction Buffer Cas.# None

### SECTION 2—COMPOSITION/INFORMATION ON INGREDIENT

- |                           |     |                  |
|---------------------------|-----|------------------|
| 1. PEG 6000               | 30% | Cas.# 25322-68-3 |
| 2. Tris buffered with HCl | 4%  | Cas.# 77-86-1    |

*Note: The CAS number listed above is for Tris. HCl (< 1%) was added to the the Tris to alter the pH level.*

The ingredients listed in this section include only those items that have more than 1% of a component classified as hazardous and 0.1% of a component classified as carcinogenic. If you have any questions, please contact info@neb.com.

### SECTION 3—HAZARDOUS IDENTIFICATION

**Emergency Overview:** May cause irritation to skin, eyes, and respiratory tract.

**HMIS and NFPA Ratings:** 0 – Minimal or None, 1 – Slight, 2 – Moderate, 3 – Serious, and 4 – Severe

Health: 0  
Flammability: 1  
Reactivity: 0

### SECTION 4—FIRST AID MEASURES

**Eyes:** Flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids. Call a physician.

**Skin:** Wash skin with soap and copious amount of water.

**Ingestion:** If the person is conscious, wash out mouth with water. Call a physician.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### SECTION 5—FIRE FIGHTING MEASURES

**Extinguishing Media:** Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

**Special Fire Fighting Procedures:** Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Fire and Explosion Hazards:** Combustible liquid. Emits toxic fumes under fire conditions.

### SECTION 6—ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid breathing or contact with vapors, mist of gas.

**Environmental Precautions:** Do not let product enter drains.

**Methods For Cleaning Up:** Cover with dry lime, sand, or soda ash. Sweep up and shovel. Place in covered container for disposal.

### SECTION 7—HANDLING AND STORAGE

**Handling:** Provide appropriate exhaust ventilation.

**Storage:** Keep tightly closed in a dry and well ventilated place. Store at -20°C .

## SECTION 8—EXPOSURE CONTROLS/PPE

**Engineering Controls:** Safety shower and eye wash. Mechanical exhaust.

**Personal Protective Equipment:**

**Eye Protection:** Safety goggles.

**Hand Protection:** Compatible resistant gloves.

**Respiratory Protection:** None required.

**Hygiene Measure:** General practice, wash (hands and skin) thoroughly after handling. Remove and wash contaminated clothing.

## SECTION 9—PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Form: Liquid                      Color: Clear or colorless                      Odor: Mild

<u>Property</u>	<u>Value</u>	<u>Temperature or Pressure</u>
Boiling Point Range:		219–220°C
Melting Point Range:		167–172°C
Flash Point:		182–287°C
Auto Ignition Temp:		No data available
Vapor Pressure:	< 1 mmHg	20°C
Vapor Density:	3.1 g/l	
Specific Gravity:	1.1–1.2	
Solubility in Water:	Soluble	

## SECTION 10—STABILITY AND REACTIVITY

**Stability:** Stable under recommended storage conditions.

**Materials to Avoid:** Polymerization catalysts. Strong bases, strong acids.

**Hazardous Decomposition Products:** Carbon monoxide, Carbon dioxide, Nitrogen oxide.

**Hazardous Polymerization:** Will not occur.

## SECTION 11—TOXICOLOGICAL INFORMATION

**Acute and Chronic Affects Based On Routes Of Exposure**

**Eye Contact:** May cause irritation.

**Skin Contact:** May cause irritation.

**Ingestion:** May cause gastro intestinal upset.

**Inhalation:** Inhalation of mist may cause irritation of respiratory tract.

**Chronic Exposure**

**Target Organ(s):** No data available.

**Aggravation of Pre-existing Conditions:** Persons with pre-existing skin disorder or eye problems may be more susceptible to the effects of the material.

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## SECTION 12—ECOLOGICAL INFORMATION

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**US Statements:** Caution. Avoid contact and inhalation. Target Organ (s): Kidneys.

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S: 23 24/25

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## SECTION 16—OTHER INFORMATION

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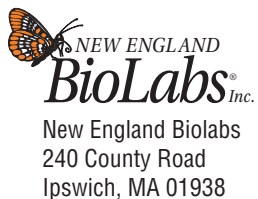
CLONING & MAPPING

DNA AMPLIFICATION & PCR

RNA ANALYSIS

PROTEIN EXPRESSION & ANALYSIS

GENE EXPRESSION & CELLULAR ANALYSIS



## MATERIAL SAFETY DATA SHEET (MSDS)

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Release Date: 12/2010

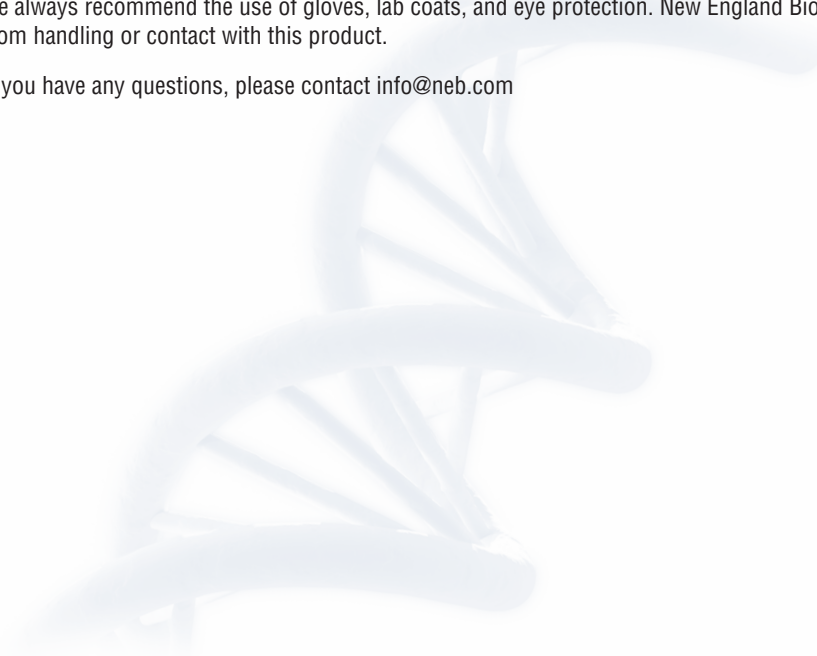
**NEB #E6065**

**PRODUCT NAME:** Long Amp® *Taq* 2X Master Mix

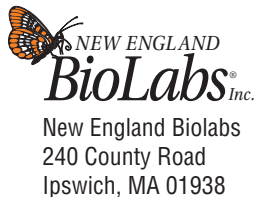
### IMPORTANT NOTE:

Per OSHA 29CFR1910.1200, Commonwealth of Australia [NOHSC:1005,1008(1999)] and the latest amendments to the European Union Directives 67/548/EC and 1999/45/EC, this product does not require a Material Safety Data Sheet (MSDS). This product does not contain more than 1% of a component classified as hazardous and does not contain more than 0.1% of a component classified as carcinogenic. Therefore New England Biolabs, Inc. does not provide this information on a MSDS. However, when working with this or any chemical reagent, we always recommend the use of gloves, lab coats, and eye protection. New England Biolabs, Inc. assumes no liability for damage resulting from handling or contact with this product.

If you have any questions, please contact [info@neb.com](mailto:info@neb.com)







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Release Date: 10/2010

**NEB #E6109**

### PRODUCT NAME:

Nuclease-free Water

### IMPORTANT NOTE:

Per OSHA 29CFR1910.1200, Commonwealth of Australia [NOHSC:1005,1008(1999)] and the latest amendments to the European Union Directives 67/548/EC and 1999/45/EC, this product does not require a Material Safety Data Sheet (MSDS). This product does not contain more than 1% of a component classified as hazardous and does not contain more than 0.1% of a component classified as carcinogenic. Therefore New England Biolabs, Inc. does not provide this information on a MSDS. However, when working with this or any chemical reagent, we always recommend the use of gloves, lab coats, and eye protection. New England Biolabs, Inc. assumes no liability for damage resulting from handling or contact with this product.

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