



New England Biolabs  
32 Tozer Road  
Beverly MA 01915

## MATERIAL SAFETY DATA SHEET

EMERGENCY TELEPHONE NO. 1-800-632-5227  
OTHER INFORMATION CALLS 1-978-927-5054  
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**KIT**  
**#M2200S**

### SECTION 1 –PRODUCT

**Product Name:** Quick Ligation Kit

### SECTION 2 –CHEMICAL INFORMATION

1. Glycerol	50%	Cas.	#56-81-5
2. PEG	15%	Cas.	#None
3. Tris-HCl	< 1%	Cas.	#77-86-1
4. Potassium Chloride	< 1%	Cas.	#7447-40-7
5. EDTA	< 1%	Cas.	#60-00-4
6. Dithiothreitol	< 1%	Cas.	#3483-12-3
7. BSA	< 1%	Cas.	#None
8. Magnesium Chloride	< 1%	Cas.	#7786-30-3
9. ATP	< 1%	Cas.	#42170-89-4

### SECTION 3–COMPOSITION/ INFORMATION ON INGREDIENT

**CHEMICAL NAME:** GLYCEROL

CAS No.: 56-81-5

MF: C3H8O3

EC No.: 200-289-5

**SYNONYMS:** CITIFLOUR AF 2 \* GLYCERIN \* GLYCERIN, ANHYDROUS \* GLYCERINE \* GLYCERIN MIST (ACGIH, OSHA) \* GLYCERIN, SYNTHETIC \* GLYCERITOL GLYCYL ALCOHOL \* CLYZERIN, WASSERFREI (GERMAN) \* GROCOLENE \* OSMOGLYN \* 1,2,3-PROPANETRIOL \* STAR \* SYNTHETIC GLYCERIN \* TECHNICAL GLYCERINE \* TRIHYDROXYPROPANE \* 1,2,3-TRIHYDROXYPROPANE.

### SECTION 4–HAZARDOUS IDENTIFICATION

#### LABEL PRECAUTIONARY STATEMENTS:

#### CAUTION

Avoid contact by inhalation, skin and ingestion.

#### Target Organ (S)

Kidney  
Hygroscopic

### SECTION 5 –FIRST AID MEASURES

**ORAL EXPOSURE:** If swallowed, wash out mouth with water provided person is conscious. Call a physician.

**INHALATION EXPOSURE:** If inhaled, remove to fresh air. If breathing is difficult, call a physician.

**DERMAL EXPOSURE:** In case of contact, immediately wash skin with soap and copious amounts of water. Remove clothing and call a physician.

**EYE EXPOSURE:** In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

### SECTION 6–FIRE FIGHTING MEASURES

#### **Extinguishing Media:**

Water Spray  
Carbon Dioxide, Dry Chemical powder or appropriate foam

**Unusual Fire and Explosions Hazard (s):**  
Emits toxic toxic fumes under fire conditions.

**Prevent contact with skin and eyes.**

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

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## SECTION 7 – ACCIDENTAL RELEASE MEASURES

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### PROCEDURE(S) OF PERSONAL PRECAUTION(S):

Wear self-contained breathing apparatus, chemical safety goggles, rubber boots, and chemical resistant gloves.

Wear disposable coveralls and discard them after use.

### METHODS FOR CLEANING UP:

Absorb on sand or vermiculite and place in a closed container for disposal.

Ventilate area and wash spill site after material pickup is complete.

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## SECTION 8 – HANDLING AND STORAGE

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Refer to Section 8

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## SECTION 9–EXPOSURE CONTROLS /PPE

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**Engineering Controls:** Safety shower and eye bath. Mechanical exhaust required.

### Personal Protective Equipment:

#### Respiratory

NIOSH/MSHA-approved respirator.

#### Hand:

Compatible chemical-resistant gloves.

#### Eye:

Compatible safety goggles.

### General Hygiene Measures:

Wash thoroughly after handling.

Wash contaminated clothing before use.

### AVOID INHALATION

KEEP TIGHTLY CLOSED

STORE IN A COOL DRY PLACE

FREEZE.

STORE AT -20°C

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## SECTION 10– PHYSICAL AND CHEMICAL PROPERTIES

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### Physical Properties:

**Melting Point:** 20° C

**Boiling Point:** 182° C

**Flash Point:** > 392 F, > 200° C

### Explosion Limits in Air:

**Lower:** 0.9%

**Specific Gravity:** 1.262

**Solubility:** Water -Z26130

**Vapor Pressure:** < 1 MMHG @ 20°C

**Vapor Density:** 3.1 G/L

**PH:** 5.5–8.0

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## SECTION 11 – STABILITY AND REACTIVITY

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**Stability:** Stable

### Materials to Avoid:

Strong oxidizing agents, strong bases.

### Hazardous Decomposition Products:

Carbon Monoxide, Carbon Dioxide

**Hazardous Decomposition Products:** Will not occur.

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### PROTECT FROM HEAT

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## SECTION 12–TOXICOLOGICAL INFORMATION

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### Route of Exposure:

#### Skin Contact

May cause skin irritation

#### Eye Contact:

May cause eye irritation

#### Multiple Routes

May be harmful by inhalation, ingestion, or skin absorption

Materials may be irritating to mucous membranes and upper respiratory tract.

**RTECS #:**MA8050000

GLYCEROL

**Chronic Effects:** Target Organs, Kidney

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### IRRITATION DATA:

**SKN-RBT 500** MG/24H MLD

**EYE-RBT 126** MG MLD

**EYE-RBT 500** MG/24H MLD

85JCAE -, 207, 1986

BIOFX\* 9-4/970

85JCAE -, 207, 1986

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### TOXICITY DATA:

**ORL-RAT LD50:** 12600 MG/KG

**IHL-RAT LC50:** > 570 MG/M3/1H

**IPR-RAT LD50:** 4420 MG/KG

**SCU-RAT LD50:** 100 MG/KG

**IVN-RAT LD50:** 5566 MG/KG

**ORL-MUS LD50:** 4090 MG/KG

**IPR-MUS LD50:** 8700 MG/KG

**SCU-MUS LD50:** 91 MG/KG

**IVN-MUS LD50:** 4250 MG/KG

**ORL-RBT LD50:** 27 GM/KG

**SKN-RBT LD50:** >10 GM/KG

**IVN-RBT LD50:** 53 GM/KG

**ORL-GPG LD50:** 7750 MG/KG

FEFRA7 4, 142, 1945

BIOFX\* 9-4/970

RCOCB8 56, 125,1987

NIIRDN 6, 215, 1982

ARZNAD 26,1581,1976

FRZKAP (6), 56, 1977

ARZNAD 28,1579,1978

NIIRDN 6, 215, 1982

JAPMA8 39, 583, 1950

DMDJAP 31, 276,1959

BIOFX\* 9-4/970

NIIRDN 6, 215, 1982

JHHTAB 23, 259, 1941

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**TARGET ORGAN DATA:**

Behavioral (headache)	Paternal effects (testes, epididymis, sperm duct)
Gastrointestinal (nausea or vomiting)	Effects on fertility (male fertility index)
Kidney, ureter, bladder (changes in tubules)	Effects on fertility (post-implantation mortality)
Kidney, ureter, bladder (changes in urine composition)	Only selected registry of toxic effects of chemical substance (RTECS) data is presented here. See actual entry in RTECS
Paternal effects (spermatogenesis)	

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**SECTION 13—ECOLOGICAL INFORMATION**

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Data not yet available

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**SECTION 14—DISPOSAL CONSIDERATIONS**

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Contact a licensed professional waste disposal service to dispose of this material.

Observe all federal state and local environmental regulations.

Dissolve or mix the material with a combustable solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

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**SECTION 15— TRANSPORT INFORMATION**

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Contact New England Biolabs, Inc. Company for Transportation Information.

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**SECTION 16— REGULATORY INFORMATION**

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**Reviews, standards and Regulations:**

OEL=MAK	
ACGIH TLV-TWA 10 MG/M3	DTLVS* TLV/BEI, 1999
EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTER FEREAC 54, 7740, 1989.	
MSHA STANDARD: NUISANCE PARTICULATES (MIST)	
DTLWS* 3, 20, 1973	OEL -Australia: TWA 10 MG/M3, JAN 1993
OSHA PEL (GEN INDU): 8H TWA 15 MG/M3, TOTAL DUST	OEL -Belgium: TWA 10 MG/M3, JAN 1993
CFRGBR 29, 1910.1000, 1994	OEL -Finland: TWA 20 MG/M3, JAN 1999
OSHA PEL (GEN INDU): 8H TWA 5 MG/M3, RESPIRABLE FRACTION	OEL -France: VME 10 MG/M3, JAN 1999
CFRGBR 29, 1910.1000, 1994	OEL -The Netherlands: MAC-TGG 10 MG/M3, Jan 1999
OSHA PEL (CONSTRUC): 8H TWA 15 MG/M3, TOTAL DUST	OEL -United Kindgom: TWA 10 MG/M3, MIST Sept 2000
CFRGBR 29, 1926.55, 1994	OEL in Argentina, Bulgaria, Colombia, Jordan, Korea Check ACC
OSHA PEL (CONSTRUC): 8H TWA 5 MG/M3, RESPIRABLE FRACTION	NOHS 1974: HZD 35085; NIS 358; TNF 86657; NOS 198;
CFRGBR 29, 1926.55, 1994	TNE 1085329
OSHA PEL (SHIPYARD): 8H TWA 15 MG/M3, TOTAL DUST	NOHS 1983: HZD 35085; NIS 310; TNF 67054; NOS 215;
CFRGBR 29, 1915.1000, 1993	TNE 2135546; TFE 1346631
OSHA PEL (SHIPYARD): 8H TWA 5 MG/M3, RESPIRABLE FRACTION	EPA TSCA SECTION 8 (B) Chemical Inventory
CFRGBR 29, 1915.1000, 1993	EPA TSCA SECTION 8 (D) Unpublished Health/Safety Studies
	EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE,
	Jan. 2001

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**CHEMICAL: PEG**

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**SECTION 1 - PRODUCT**

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PRODUCT NAME: Polyethylene glycol

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**SECTION 2—COMPOSITION/ INFORMATION ON INGREDIENT**

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CAS No.: NONE

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**SECTION 3—HAZARDOUS IDENTIFICATION**

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DATA NOT AVAILABLE

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## SECTION 4 –FIRST AID MEASURES

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**ORAL EXPOSURE:** If swallowed, wash out mouth with water provided person is conscious. Call a physician.

**INHALATION EXPOSURE:** If inhaled, remove to fresh air. If breathing is difficult, give oxygen and call a physician.

**DERMAL EXPOSURE:** In case of contact, immediately wash skin with soap and copious amounts of water.

**EYE EXPOSURE:** In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

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## SECTION 5–FIRE FIGHTING MEASURES

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

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

**Unusual Fire and Explosions Hazard (s):**  
Emits toxic fumes under fire conditions.

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

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

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### EVACUATE AREA

**PROCEDURE(S) OF PERSONAL PRECAUTION(S):**  
Wear self-contained breathing apparatus, chemical safety goggles, rubber boots, and heavy rubber gloves.

**METHODS FOR CLEANING UP:**  
Absorb on sand or Vermiculite and place in closed containers disposal.  
Ventilate area and wash spill site after material pickup is complete.

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## SECTION 7 - HANDLING AND STORAGE

---

Refer To Section 8

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## SECTION 8- EXPOSURE CONTROLS /PPE

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**Engineering Controls:** Safety shower and eye bath. Mechanical exhaust required.

**Personal Protective Equipment:**

**Respiratory**  
NIOSH/MSHA-approved respirator.

**Hand:**  
Compatible chemical-resistant gloves.

**Eye:**  
Chemical safety goggles.

**AVOID ALL CONTACT WITH EYE, SKIN, CLOTHING.**

**General Hygiene Measures:**  
Wash thoroughly after handling.  
Wash contaminated clothing before use.  
Avoid prolonged or repeated exposure.  
Keep Tightly closed  
Refrigerate

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## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance and Odor:** Liquid

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## SECTION 10 - STABILITY AND REACTIVITY

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**Stability:** Stable

**Materials to Avoid**  
Strong oxidizing agents

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

**Hazardous Polymerization:** Will not occur

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## SECTION 11- TOXICOLOGICAL INFORMATION

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### Route of Exposure:

**Skin Contact**

May cause skin irritation

**Eye Contact:**

May cause eye irritation

**Multiple Routes**

May be harmful by inhalation, ingestion, or skin absorption

May be irritating to mucous membranes and upper respiratory tract.

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

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## SECTION 12- ECOLOGICAL INFORMATION

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Data not yet available

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## SECTION 13- DISPOSAL CONSIDERATIONS

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Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal state and local environmental regulations.

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## SECTION 14- TRANSPORT INFORMATION

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Contact New England Biolab, Inc. Company for Transportation Information.

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## SECTION 15- REGULATORY INFORMATION

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### European Information:

CAUTION: SUBSTANCE NOT YET FULLY TESTED

S 24/25

AVOID ALL CONTACT WITH SKIN AND EYES.

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## SECTION 16- OTHER INFORMATION

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The above information is believed to be correct but does not purport to be allinclusive and shall be used only as a guide.

New England Biolabs shall not be held liable for any damage resulting from handling or from contact with the above product.