MATERIAL SAFETY DATA SHEET

INTERNET e-mail: info@neb.com
EMERGENCY TELEPHONE NO. 1-800-632-5227
OTHER INFORMATION CALLS 1-978-927-5054
FAX 1-978-921-1350
INTERNET e-mail: info@neb.com
DATE JUNE, 2003

SECTION 1 –CHEMICAL INFORMATION

Product Name: SP6 RNA Polymerase

SECTION 2 –CHEMICAL INFORMATION

1. Glycerol  50%  Cas. #56-81-5
2. Sodium Chloride  < 1%  Cas. #7647-14-5
3. Tris-HCl  < 1%  Cas. #77-86-1
4. EDTA  < 1%  Cas. #60-00-4
5. BME  < 1%  Cas. #60-24-2
6. Triton X-100  < 1%  Cas. #9002-93-1

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 * GLYZERIN, 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.

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

Prevent contact with skin and eyes.
SECTION 7 – ACCIDENTAL RELEASE MEASURES

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.

SECTION 8 – HANDLING AND STORAGE

Refer to Section 8

SECTION 9–EXPOSURE CONTROLS /PPE

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

SECTION 10– PHYSICAL AND CHEMICAL PROPERTIES

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

SECTION 11 – STABILITY AND REACTIVITY

Stability: Stable

Materials to Avoid:
Strong oxidizing agents, strong bases.

PROTECT FROM HEAT

Hazardous Decomposition Products:
Carbon Monoxide, Carbon Dioxide

Hazardous Decomposition Products: Will not occur.

SECTION 12–TOXICOLOGICAL INFORMATION

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

To the best of our knowledge, the properties have not yet been thoroughly investigated.

IRRITATION DATA:
- SKN-RBT  500  MG/24H MLD  85JCAE -, 207, 1986
- EYE-RBT  126  MG MLD  BIOFX*  9–4/970
- EYE-RBT  500  MG/24H MLD  85JCAE -, 207, 1986

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

85JCAE -, 207, 1986
BIOFX*  9–4/970
85JCAE -, 207, 1986
FEPR7 4, 142, 1945
BIOFX*  9–4/970
RCOCCB 56, 125, 1987
NIIRDN 6, 215, 1982
ARZNAD 26,1581,1976
FRZKAP (6), 56, 1977
ARZNAD 28,1579,1978
### SECTION 13–ECOLOGICAL INFORMATION

The above information is believed to be correct but does not purport to be all-inclusive 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.

<table>
<thead>
<tr>
<th>SCU-MUS</th>
<th>LD50: 91</th>
<th>MG/KG</th>
<th>NIIRDN 6, 215, 1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>IVN-MUS</td>
<td>LD50: 4250</td>
<td>MG/KG</td>
<td>JAPMA8 39, 583, 1950</td>
</tr>
<tr>
<td>ORL-RBT</td>
<td>LD50: 27</td>
<td>GM/KG</td>
<td>DMDJAP 31, 276,1959</td>
</tr>
<tr>
<td>SKN-RBT</td>
<td>LD50: &gt;10</td>
<td>GM/KG</td>
<td>BIOFX* 9-4/970</td>
</tr>
<tr>
<td>IVN-RBT</td>
<td>LD50: 53</td>
<td>GM/KG</td>
<td>NIIRDN 6, 215, 1982</td>
</tr>
<tr>
<td>ORL-GPG</td>
<td>LD50: 7750</td>
<td>MG/KG</td>
<td>JIHTAB 23, 259, 1941</td>
</tr>
</tbody>
</table>

### TARGET ORGAN DATA:

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

### SECTION 14–DISPOSAL CONSIDERATIONS

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.

### SECTION 15– TRANSPORT INFORMATION

This product does not contain hazardous compounds in quantities that require special handling precautions.

### SECTION 16– REGULATORY INFORMATION

Reviews, standards and Regulations:

- OEL=MAK
- ACGIH TLV-TWA 10 MG/M3
- MSHA STANDARD: NUISANCE PARTICULATES (MIST)
- DTLWS* 3, 20, 1973
- OSHA PEL (GEN INDU): 8H TWA 15 MG/M3, TOTAL DUST
- CFRGBR 29, 1910.1000, 1994
- OSHA PEL (GEN INDU): 8H TWA 5 MG/M3, RESPIRABLE FRACTION
- CFRGBR 29, 1910.1000, 1994
- OSHA PEL (CONSTRUC): 8H TWA 15 MG/M3, TOTAL DUST
- CFRGBR 29, 1926.55, 1994
- OSHA PEL (CONSTRUC): 8H TWA 5 MG/M3, RESPIRABLE FRACTION
- CFRGBR 29, 1926.55, 1994
- OSHA PEL (SHIPYARD): 8H TWA 15 MG/M3, TOTAL DUST
- CFRGBR 29, 1915.1000, 1993
- OSHA PEL (SHIPYARD): 8H TWA 5 MG/M3, RESPIRABLE FRACTION
- CFRGBR 29, 1915.1000, 1993
- NOHS 1974: HZD 35085; NIS 358; TNF 86657; NOS 198; TNE 1085329
- NOHS 1983: HZD 35085; NIS 310; TNF 67054; NOS 215; TNE 2135546; TFE 1346631
- EPA TSCA SECTION 8 (B) Chemical Inventory
- EPA TSCA SECTION 8 (D) Unpublished Health/Safety Studies
- EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, Jan. 2001

**Note:** The specific regulatory information provided includes various standards and guidelines from different organizations, such as OSHA, MSHA, and EPA, related to the handling, disposal, transport, and regulatory compliance of Glycerol. The data is presented in a structured format to ensure clarity and adherence to the guidelines. The table and the text describe the product's ecological information, disposal considerations, and regulatory standards, emphasizing the need for careful handling and disposal to minimize environmental impacts and ensure compliance with safety regulations.