



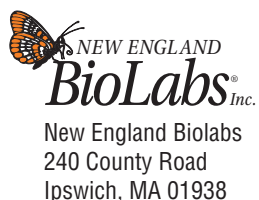
CLONING & MAPPING

DNA AMPLIFICATION & PCR

RNA ANALYSIS

PROTEIN EXPRESSION & ANALYSIS

GENE EXPRESSION & CELLULAR ANALYSIS



MATERIAL SAFETY DATA SHEET (MSDS)

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Revision Date: 2/2010

NEB #M0202

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

Property	Value	Temperature or Pressure
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.