



## MATERIAL SAFETY DATA SHEET (MSDS)

Telephone: (978) 927-5054  
Toll free: (800) 632-5227  
Fax: (978) 921-1350  
Email: info@neb.com  
Revision Date: 8/10

**NEB #M0212**

### SECTION 1—CHEMICAL INFORMATION

Product Name: Klenow Fragment (3' → 5' exo<sup>-</sup>)

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

<u>Property</u>	<u>Value</u>	<u>Temperature or Pressure</u>
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).