

## BIO BASIC INC.

160 TORBAY ROAD MARKHAM ONTARIO L3R 1G6 CANADA

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### MATERIAL SAFETY DATA SHEET

REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

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#### SECTION 1 –CHEMICAL INFORMATION

**Product Name:** T4 DNA Ligase

CATALOGUE NUMBER: B1125

#### SECTION 2 –CHEMICAL INFORMATION

Chemical Name Percent CAS# EINECS/ELINCS

1. Glycerol 50% Cas. #56-81-5
2. Potassium Chloride < 1% Cas. #7447-40-7
3. Tris-HCl < 1% Cas. #77-86-1
4. EDTA < 1% Cas. #60-00-4
5. Dithiothreitol < 1% Cas. #3483-12-3
6. BSA < 1% Cas. #None

#### 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.

**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.

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

#### SECTION 6–FIRE FIGHTING MEASURES

**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.

#### 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 9

## **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 STORE AT –20°C

## **SECTION 10– PHYSICAL AND CHEMICAL PROPERTIES**

**Melting Point:** 20° C

**Flash Point:** > 392 F, > 200° C

**Boiling Point:** 182° C

**Physical Properties: Explosion Limits in Air:**

**Specific Gravity:** 1.262

**Solubility:** Water -Z26130

**PH:** 5.5–8.0

**Vapor Density:** 3.1 G/L

**Vapor Pressure:** < 1 MMHG @ 20°C

**Lower:** 0.9%

## **SECTION 11 – STABILITY AND REACTIVITY**

**Stability:** Stable

**Materials to Avoid:**

Strong oxidizing agents, strong bases. **Hazardous Decomposition Products:** Will not occur.

**PROTECT FROM HEAT**

**Hazardous Decomposition Products:**

Carbon Monoxide, Carbon Dioxide

## **SECTION 12–TOXICOLOGICAL INFORMATION**

**Route of Exposure:**

**Eye Contact:**

May cause eye irritation May cause skin irritation

**Skin Contact Multiple Routes**

May be harmful by inhalation, ingestion, or skin absorption

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

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

**RTECS #:MA8050000 GLYCEROL**

**Chronic Effects:** Target Organs, Kidney

Page 2 (Glycerol)

(RTECS) data is presented here. See actual entry in RTECS

**TARGET ORGAN DATA:**

Gastrointestinal (nausea or vomiting)

Behavioral (headache)

Kidney, ureter, bladder (changes in tubules)

Kidney, ureter, bladder (changes in urine composition)

Paternal effects (spermatogenesis)

Paternal effects (testes, epididymis, sperm duct)

Effects on fertility (post-implantation mortality)

Effects on fertility (male fertility index)

Only selected registry of toxic effects of chemical substance

## **SECTION 13–ECOLOGICAL INFORMATION**

Data not yet available

## **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 combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

## **SECTION 15– TRANSPORT INFORMATION**

**NOT REGULATED**

## **SECTION 16– REGULATORY INFORMATION**

OSHA PEL (GEN INDU): 8H TWA 15 MG/M3, TOTAL DUST

OSHA PEL (GEN INDU): 8H TWA 5 MG/M3, RESPIRABLE FRACTION

**Reviews, standards and Regulations:**

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  
CFRGBR 29, 1910.1000, 1994  
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 1983: HZD 35085; NIS 310; TNF 67054; NOS 215;  
TNE 2135546; TFE 1346631  
OEL -Australia: TWA 10 MG/M3, JAN 1993  
OEL -Belgium: TWA 10 MG/M3, JAN 1993  
OEL -Finland: TWA 20 MG/M3, JAN 1999  
OEL -France: VME 10 MG/M3, JAN 1999  
OEL -The Netherlands: MAC-TGG 10 MG/M3, Jan 1999  
OEL -United Kindgom: TWA 10 MG/M3, MIST Sept 2000  
OEL in Argentina, Bulgaria, Colombia, Jordan, Korea Check ACC  
NOHS 1974: HZD 35085; NIS 358; TNF 86657; NOS 198;  
TNE 1085329  
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  
OEL=MAK

#### **SECTION 17- OTHER 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. BIO BASIC INC. SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.