MATERIAL SAFETY DATA SHEET

New England BioLabs
240 County Road
Ipswich, MA 01938

Telephone: (978)927-5054
Toll free: (800)632-5227
Fax: (978)921-1350
e-mail: info@neb.com

REVISION DATE: 6/07

Ligase
#M0242

SECTION 1 –CHEMICAL INFORMATION

Product Name: T4 RNA Ligase 2, truncated

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.	Dithiothreitol	< 1%	Cas.	#3483-12-3

SECTION 2–COMPOSITION/ INFORMATION ON INGREDIENT

CHEMICAL NAME: GLYCEROL

CAS No.: 56-81-5 Formula: C3H803 SARA 313: No

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-PROPANE-TRIOL * STAR * SYNTHETIC GLYCERIN * TECHNICAL GLYCERINE * TRIHYDROXYPROPANE * 1,2,3-TRIHYDROXYPROPANE.

RTECS Number: MA8050000

SECTION 3–HAZARDOUS IDENTIFICATION

Emergency Overview:

CAUTION

Avoid contact by inhalation, skin and ingestion.

Target Organ (S)
Kidney
Hygroscopic

HMIS Rating
Health: 1*
Flammability: 0
Reactivity: 1

NFPA Rating
Health: 1
Flammability: 0
Reactivity: 1

* additional chronic hazards present

SECTION 4 –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 5–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.

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

Flammability: N/A

Prevent contact with skin and eyes.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

PROCEDURE(S) OF PERSONAL PRECAUTION(S):

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of vapors

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 7 – HANDLING AND STORAGE

Handling

User Exposure: Avoid inhalation.
Avoid contact with eyes, skin and clothing.
Avoid prolonged or repeated exposure.

Storage

Suitable: Keep tightly closed.

Special Requirements

Hygroscopic

SECTION 8–EXPOSURE CONTROLS /PPE

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

Personal Protective Equipment:

Respiratory
NIOSH/MSHA-approved respirator.

Eye:
Compatible safety goggles.

Hand:
Compatible chemical-resistant gloves.

General Hygiene Measures:
Wash thoroughly after handling.
Wash contaminated clothing before use.

AVOID INHALATION

Keep Tightly Closed
Store in a cool dry place.

Exposure Limits, RTECS

Country	Source	Type	Value
USA USA	ACGIH ACGIH	TWA TWA	10 MG/M3 10 MG/M3
Remarks: inhalable particulate			
USA USA	MSHA Standard MSHA		
Remarks:	Nuisance Particulates	(mist.)	Nuisance
USA USA	OSHA OSHA.	PEL PEL	8H TWA 15 MG/M3, Total Dust 8H
New Zealand	OEL OEL		
Remarks: check ACGIH TLV check ACGIH TLV			

Exposure Limits

Country	Source	Type	Value
Poland		NDS	10 mg/m3
Poland		NDSCh	–
Poland		NDSP	
Remarks: (OELS are valid for aerosols) aerozole			

SECTION 9– PHYSICAL AND CHEMICAL PROPERTIES

Physical Properties:

Melting Point: 20° C
Boiling Point: 182° C
Flash Point: 320 F, 160° C Method: closed up
Autoignition Temp: 370° 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 10 – STABILITY AND REACTIVITY

Stability: Stable

Materials to Avoid:
Strong oxidizing agents, strong bases.

PROTECT FROM HEAT AND MOISTURE

Hazardous Decomposition Products:
Carbon Monoxide, Carbon Dioxide

Hazardous Polymerization:
Hazardous Polymerization: Will not occur.

SECTION 11–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.

Chronic Effects: Target Organs, Kidney

Signs and Symptoms of Exposure: Prolonged exposure can cause: Nausea, headache and vomiting

RTECS #:MA8050000

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

IRRITATION DATA:

SKN-RBT	**5OO** MG/24H MLD	85JCAE -, 207, 1986
EYE-RBT	**126** MG MLD	BIOFX* 9-4/970
EYE-RBT	**5OO** MG/24H MLD	85JCAE -, 207, 1986

TOXICITY DATA:

ORL-RAT	**LD5O:**	12600	MG/KG	FEPRA7 4, 142, 1945
IHL-RAT	**LC5O:**	> 570	MG/M3/1H	BIOFX* 9-4/970
IPR-RAT	**LD5O:**	4420	MG/KG	RCOCB8 56, 125,1987
SCU-RAT	**LD5O:**	100	MG/KG	NIIRDN 6, 215, 1982
IVN-RAT	**LD5O:**	5566	MG/KG	ARZNAD 26,1581,1976
ORL-MUS	**LD50:**	4090	MG/KG	FRZKAP (6), 56, 1977
IPR-MUS	**LD50:**	8700	MG/KG	ARZNAD 28,1579,1978
SCU-MUS	**LD5O:**	91	MG/KG	NIIRDN 6, 215, 1982
IVN-MUS	**LD5O:**	4250	MG/KG	JAPMA8 39, 583, 1950
ORL-RBT	**LD5O:**	27	GM/KG	DMDJAP 31, 276,1959
SKN-RBT	**LD5O:**	>10	GM/KG	BIOFX* 9-4/970
IVN-RBT	**LD5O:**	53	GM/KG	NIIRDN 6, 215, 1982
ORL-GPG	**LD5O:**	7750	MG/KG	JIHTAB 23, 259, 1941

TARGET ORGAN DATA:

Behavioral (headache)	Paternal effects (testes, epididymis, sperm duct)
Gastrointestinal (nausea or vomiting)	Effects on fertility (male ferility 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
Paternal effects (spermatogenesis)	(RTECS) data is presented here. See actual entry in RTECS

SECTION 12–ECOLOGICAL INFORMATION

Data not yet available

SECTION 13–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 14– TRANSPORT INFORMATION

DOT

Proper Shipping Name: None

Non-hazardous for transport

This substance is considered to be non-hazardous for transport

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

SECTION 15– REGULATORY INFORMATION

EU Additional Classification

S: 23 24/25

Safety Statements: Do not breathe vapor.
Avoid contact with skin and eyes.:

Canada Regulatory Information

WHMIS Classification: This product has been classification in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR

DSL: Yes

NDSL: No

US Classification and Label Text:

US Statements: **Caution:** Avoid contact and inhalation.
Target Organ(s): Kidneys

United States Regulatory Information:

Sara Listed: No
TSCA Inventory Item: Yes Yes

SECTION 16– OTHER INFORMATION

DISCLAMER

For R&D use only. Not for drug, household or other uses.

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.