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MATERIAL SAFETY DATA SHEET

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DATE	JUNE, 2003

Exonuclease
#M0262

SECTION 1 –CHEMICAL INFORMATION

Product Name: Lambda Exonuclease

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. 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 * 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.

Prevent contact with skin and eyes.

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 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.

Hazardous Decomposition Products:

Carbon Monoxide, Carbon Dioxide

Hazardous Decomposition Products: Will not occur.

PROTECT FROM HEAT

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

EYE-RBT 126 MG MLD

EYE-RBT 500 MG/24H MLD

85JCAE -, 207, 1986

BIOFX* 9-4/970

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

FEPR7 4, 142, 1945

BIOFX* 9-4/970

RCOCB8 56, 125, 1987

NIIRDN 6, 215, 1982

ARZNAD 26, 1581, 1976

FRZKAP (6), 56, 1977

ARZNAD 28, 1579, 1978

SCU-MUS LD50: 91 MG/KG
IVN-MUS LD50: 4250 MG/KG
ORL-RBT LD50: 27 GM/KG
SKN-RBT LD50: >10 GM/KG
IVN-RBT LD50: 53 GM/KG
ORL-GPG LD50: 7750 MG/KG

NIIRDN 6, 215, 1982
 JAPMA8 39, 583, 1950
 DMDJAP 31, 276, 1959
 BIOFX* 9-4/970
 NIIRDN 6, 215, 1982
 JIHTAB 23, 259, 1941

TARGET ORGAN DATA:

Behavioral (headache)
 Gastrointestinal (nausea or vomiting)
 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 (male fertility index)
 Effects on fertility (post-implantation mortality)
 Only selected registry of toxic effects of chemical substance
 (RTECS) data is presented here. See actual entry in RTECS

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

**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

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

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

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

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

SECTION 17— REGULATORY INFORMATION

**The above information is believed to be correct but
 does not purport to be allinclusive 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.**