



MATERIAL SAFETY DATA SHEET

INFORMATION CALLS 1-866-800-5458
FAX 1-978-927-3382
E-MAIL information@biohelix.com
DATE November 2010

Kit
#H0110

SECTION 1 - PRODUCT INFORMATION

Product Name: IsoAmp® II Enzyme Mix

SECTION 2 - COMPOSITION/ INFORMATION ON INGREDIENT

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. Triton X-100	<1%	Cas.	#9002-93-1

CHEMICAL NAME: GLYCEROL

CAS No.: 56-81-5

MF: C3H8O3

EC No.: 200-289-5

SYNONYMS: CITIFLOUR AF 2* GLYCERIN* GLYCERIN, ANHYDROUS* GLYCERINE* GLYCERINE 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 3 - HADARDOUS IDENTIFICATION

LABEL PRECAUTIONARY STATEMENTS:

CAUTION

Avoid contact by inhalation, skin and ingestion.

Target Organ (s):

Kidney, Hygroscopic.

SECTION 4 - FIRST AID MEASURES:

EMERGENCY OVERVIEW: OCCUPATOINAL EXPOSURE PRESENTS LITTLE OR NO HEALTH HAZARD.

POTENTIAL HEALTH EFFECTS:

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.

DERMAL EXPOSURE: In case of contact, immediately wash skin with soap and copious amounts of water. Remove clothing and call a physician.

ORAL EXPOSURE: If swallowed, wash out mouth with water provided person is conscious. 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.

Prevent contact with skin and eyes.

Unusual Fire and Explosions Hazard (s):

Emits toxic fumes under fire conditions.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PROCEDURE(S) OF PERSONAL PRECAUTION(S):

Wear self-contained breathing apparatus, chemical safety goggles, rubber boots, and chemically resistant gloves.

METHODS FOR CLEANING UP:

Absorb on sand or vermiculite and place in a closed container for disposal.

SECTION 7 - HANDLING AND STORAGE

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

STORAGE: Suitable: Keep tightly closed. Store at -20°C

SECTION 8 - 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 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical Properties:

Melting Point: 20°C

Boling Point: 182°C

Flash Point: >392°F, >200°C

Explosion Limits in Air:

Lower: 0.9%

Vapor Density: 3.1 G/L

Specific Gravity: 1.262

pH: 5.5-8.0

Solubility: Water -Z26130

Vapor Pressure: < 1 MMHG @ 20°C

SECTION 10 - STABILITY AND REACTIVITY

Stability:

Stable

Hazardous Decomposition Products:

Carbon Monoxide, Carbon Dioxide.

Materials to Avoid:

Strong oxidizing agents, strong bases.

Hazardous Decomposition Products:

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.

RTECS #: MA8050000
GYLCEROL**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	85JCAE -, 207, 1986
EYE-RBT 126 MG MLD	BIOFX* 9-4/970
EYE-RBT 500 MG/24H MLD	85JCAE -, 207, 1986

TOXICITY DATA:

ORL-RAT	LD50: 12600 MG/KG	FEPRA7 4, 142, 1945
IHL-RAT	LC50: <570 MG/M3/1H	BIOFX* 9-4/970
IPR-RAT	LD50: 4420 MG/KG	RCOCB8 56, 125, 1987
SCU-RAT	LD50: 100 MG/KG	NIIRDN 6, 215, 1982
IVN-RAT	LD50: 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	LD50: 91 MG/KG	NIIRDN 6, 215, 1982
IVN-MUS	LD50: 4250 MG/KG	JAPMA8 39, 583, 1950
ORL-RBT	LD50: 27 MG/KG	DMDJAP 31, 276, 1959
SKN-RBT	LD50: >10 MG/KG	BIOFX* 9-4/970
IVN-RBT	LD50: 53 MG/KG	NIIRDN 6, 215, 1982
ORL-GPG	LD50: 7750 MG/KG	JHTAB 23, 259, 1941

TARGET ORGAN DATA:

Behavioral (headache)	Paternal effects (testes, epididymis, sperm duct)
Gastrointestinal (nausea or vomiting)	Effects on fertility (male fertility index)
Kidney, ureter, bladder (changes in tubules)	Effects on fertility (post-implantation mortality)
Kidney, ureter, bladder (changes in urine composition)	
Paternal effects (spermatogenesis)	

Only selected registry of toxic effects of chemical substance (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

Contact BioHelix Corporation for transport information.

SECTION 15 - 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 FERAC 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 15MG/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 KINGDOM: TWA 10 MG/M3, MIST SEPT 2000
OEL -ARGENTINA, BULGARIA, COLUMBIA, JAPAN, 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 16 - 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.

BioHelix Corporation shall not be held liable for any damage resulting from handling or from contact with the above product.



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SECTION 1 - PRODUCT INFORMATION

Product Name: IsoAmp® dNTP Solution

SECTION 2 - CHEMICAL INFORMATION

1. 2'-deoxycytidine-5' Triphosphate	Cas.	None	SARA 313: NO
2. 2'-deoxythymidine-5' Triphosphate	Cas.	None	SARA 313: NO
3. 2'-deoxyadenosine-5' Triphosphate	Cas.	None	SARA 313: NO
4. 2'-deoxyguanosine-5' Triphosphate	Cas.	None	SARA 313: NO

SECTION 3 - HAZARDOUS IDENTIFICATION

HMIS Rating
Health: 0
Flammability: 0
Reactivity: 1

NFPA Rating
Health: 0
Flammability: 0
Reactivity: 1

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 not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE: In case of contact, immediately wash skin with soap and copious amounts of water.

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 fumes under fire conditions.

Flash point: N/A

Autoignition Temp: N/A

Flammability: N/A

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PROCEDURE(S) OF PERSONAL PRECAUTION(S): Wear self-contained breathing apparatus, chemical safety goggles, rubber boots, and chemically resistant gloves.

METHODS FOR CLEANING UP:
Absorb on sand or vermiculite and place in a closed container for disposal.

SECTION 7 - HANDLING AND STORAGE

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

STORAGE: Suitable: Keep tightly closed. Store at -20°C

SECTION 8 - EXPOSURE CONTROLS/PPE

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

Personal Protective Equipment:

Respiratory

Hand: Compatible chemical-resistant gloves.

Eye: Compatible safety goggles.

General Hygiene Measures:

Wash thoroughly after handling.

Wash contaminated clothing before use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Physical State: Liquid

NA= not available

Property Value

Value

Molecular Weight:

NA

pH:

NA

BP/BP Range:

NA

MP/MP Range:

NA

Freezing Point:

NA

Vapor Pressure:

NA

Vapor Density:

NA

Saturated Vapor:

NA

SG/Density:

NA

Bulk Density:

NA

Odor Threshold:

NA

Volatile %:

NA

Voc Content:

NA

Water Content:

NA

Solvent Content:

NA

Evaporation Rate:

NA

Viscosity:

NA

Surface Tension:

NA

Partition Coefficient:

NA

Decomposition Temp:

NA

Flash Point:

NA

Explosion Limits:

NA

Flammability:

NA

Autoignition Temp:

NA

Refraction Index:

NA

Optical Rotation:

NA

Miscellaneous Data:

NA

Solubility in Water:

NA

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable

Hazardous Polymerization: Will not occur

Materials to avoid: Strong oxidizing agents

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides

SECTION 11 - TOXICOLOGICAL INFORMATION

Route of Exposure:

Skin Absorption: May be harmful if absorbed through the skin.

Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation.

Inhalation: May be harmful if inhaled.

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

Ingestion: May be harmful if swallowed.

Sign and Symptoms of Exposure:

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

SECTION 12 - ECOLOGICAL INFORMATION

Data not yet available

SECTION 13 - DISPOSAL CONSIDERATION

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state and local environmental regulations.

SECTION 14 - TRANSPORT INFORMATION

DOT

Proper Shipping Name: None

Nor-hazardous for Transport: This substance is considered to be non-hazardous for transport

IATA

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

SECTION 15 - REGULATORY INFORMATION

United States Regulatory Information:

Sara Listed: No

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: No

NDSL: No

SECTION 16 - 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.

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SECTION 1 - PRODUCT

Product Name: 10X Annealing Buffer II

SECTION 2 - CHEMICAL INFORMATION

1. Tris-HCl	<1%	Cas.	#77-86-1
2. Ammonium sulfate	<1%	Cas.	#7783-20-2

SECTION 3 - HAZARDOUS IDENTIFICATION

Many Biohelix products are classified as mixtures which contain hazardous ingredients in concentrations (less than 1%). The quantity of hazardous chemical component does not exceed the permissible exposure limit or "Threshold Limit Value".

MSDS' are offered by Biohelix since The Hazards Communication Standard set by OSHA does not exempt these mixtures from disclosure.

SECTION 15 - REGULATORY INFORMATION

United States Regulatory Information:

Sara Listed: No

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: No

NDSL: No

SECTION 16 - OTHER INFORMATION

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SECTION 1 - PRODUCT

Product Name: Control Template/Control Primers

SECTION 2 - CHEMICAL INFORMATION

DNA

SECTION 3 - HAZARDOUS IDENTIFICATION

Biohelix is not aware of any hazards for this product.

SECTION 15 - REGULATORY INFORMATION

United States Regulatory Information:

Sara Listed: No

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: No

NDSL: No

SECTION 16 - OTHER INFORMATION

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