



## MATERIAL SAFETY DATA SHEET

INFORMATION CALLS 1-866-800-5458  
FAX 1-978-927-3382  
E-MAIL information@biohelix.com  
DATE April 2007

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\* CLYZERIN, 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.

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**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

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**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.

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**SECTION 7 - HANDLING AND STORAGE**

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**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

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**SECTION 8 - EXPOSURE CONTROLS/PPE**

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**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.

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**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

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**Physical Properties:**

**Melting Point:** 20°C

**Boiling 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

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**SECTION 10 - STABILITY AND REACTIVITY**

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**Stability:**

Stable

**Hazardous Decomposition Products:**

Carbon Monoxide, Carbon Dioxide.

**Materials to Avoid:**

Strong oxidizing agents, strong bases.

**Hazardous Decomposition Products:**

Will not occur.

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**SECTION 11 - TOXICOLOGICAL INFORMATION**

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**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 #:** MA805000  
GYLCEROL**Chronic Effects:** Target organs, Kidney

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

**IRRITATION DATA:**

<b>SKN-RBT</b> 500 MG/24H MLD	85JCAE -, 207, 1986
<b>EYE-RBT</b> 126 MG MLD	BIOFX* 9-4/970
<b>EYE-RBT</b> 500 MG/24H MLD	85JCAE -, 207, 1986

**TOXICITY DATA:**

<b>ORL-RAT</b>	<b>LD50:</b> 12600 MG/KG	FEPRA7 4, 142, 1945
<b>IHL-RAT</b>	<b>LC50:</b> <570 MG/M3/1H	BIOFX* 9-4/970
<b>IPR-RAT</b>	<b>LD50:</b> 4420 MG/KG	RCOCB8 56, 125, 1987
<b>SCU-RAT</b>	<b>LD50:</b> 100 MG/KG	NIIRDN 6, 215, 1982
<b>IVN-RAT</b>	<b>LD50:</b> 5566 MG/KG	ARZNAD 26, 1581, 1976
<b>ORL-MUS</b>	<b>LD50:</b> 4090 MG/KG	FRZKAP (6), 56, 1977
<b>IPR-MUS</b>	<b>LD50:</b> 8700 MG/KG	ARZNAD 28, 1579, 1978
<b>SCU-MUS</b>	<b>LD50:</b> 91 MG/KG	NIIRDN 6, 215, 1982
<b>IVN-MUS</b>	<b>LD50:</b> 4250 MG/KG	JAPMA8 39, 583, 1950
<b>ORL-RBT</b>	<b>LD50:</b> 27 MG/KG	DMDJAP 31, 276, 1959
<b>SKN-RBT</b>	<b>LD50:</b> >10 MG/KG	BIOFX* 9-4/970
<b>IVN-RBT</b>	<b>LD50:</b> 53 MG/KG	NIIRDN 6, 215, 1982
<b>ORL-GPG</b>	<b>LD50:</b> 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.

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**SECTION 12 - ECOLOGICAL INFORMATION**

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Data not yet available.

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**SECTION 13 - DISPOSAL CONSIDERATIONS**

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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.

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**SECTION 14 - TRANSPORT INFORMATION**

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Contact BioHelix Corporation for transport information.

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## SECTION 15 - REGULATORY INFORMATION

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### 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  
CFR GBR 29, 1910.1000, 1994  
OSHA PEL (GEN INDU): 8H TWA 5 MG/M3, RESPIRABLE FRACTION  
CFR GBR 29, 1910.1000, 1994  
OSHA PEL (CONSTRUC): 8H TWA 15 MG/M3, TOTAL DUST  
CFR GBR 29, 1926.55, 1994  
OSHA PEL (CONSTRUC): 8H TWA 5 MG/M3, RESPIRABLE FRACTION  
CFR GBR 29, 1926.55, 1994  
OSHA PEL (SHIPYARD): 8H TWA 15MG/M3, TOTAL DUST  
CFR GBR 29, 1915.1000, 1993  
OSHA PEL (SHIPYARD): 8H TWA 5 MG/M3, RESPIRABLE FRACTION  
CFR GBR 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

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## SECTION 16 - OTHER INFORMATION

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**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® II dNTP Mix

### 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.

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## 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

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## SECTION 8 - EXPOSURE CONTROLS/PPE

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**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.

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## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

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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

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## SECTION 10 - STABILITY AND REACTIVITY

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**Stability:** Stable

**Hazardous Polymerization:** Will not occur

**Materials to avoid:** Strong oxidizing agents

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

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## SECTION 11 - TOXICOLOGICAL INFORMATION

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### 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

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## SECTION 12 - ECOLOGICAL INFORMATION

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Data not yet available

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## SECTION 13 - DISPOSAL CONSIDERATION

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### 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.

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## SECTION 14 - TRANSPORT INFORMATION

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### DOT

Proper Shipping Name: None

Non-hazardous for Transport: This substance is considered to be non-hazardous for transport

### IATA

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

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## SECTION 15 - REGULATORY INFORMATION

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### 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

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## 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

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**Product Name:** 10X Annealing Buffer II

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### SECTION 2 - CHEMICAL INFORMATION

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

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### SECTION 3 - HAZARDOUS IDENTIFICATION

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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.

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### 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

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### SECTION 16 - OTHER INFORMATION

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### SECTION 1 - PRODUCT

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**Product Name:** Control Template/Control Primers

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### SECTION 2 - CHEMICAL INFORMATION

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DNA

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### SECTION 3 - HAZARDOUS IDENTIFICATION

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Biohelix is not aware of any hazards for this product.

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### 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

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### SECTION 16 - OTHER INFORMATION

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