

## LIFELINE CELL TECHNOLOGY MATERIAL SAFETY DATA SHEET

### SECTION 1 – PRODUCT AND COMPANY INFORMATION

**Product Name:** 4% Glutaraldehyde Fixative Solution

**Product Number:** CM-0050

**Company Address:** Lifeline Cell Technology  
32 East Frederick Street  
Walkersville, MD 21793

**Technical Phone:** (877) 845-7787

**Fax:** (301) 845-0885

**Emergency Phone:** (877) 845-7787

### SECTION 2 – COMPOSITION / INFORMATION ON COMPONENTS

**Liquid:** The subject formulation is 4% glutaraldehyde in a borate buffer solution. With the exception of glutaraldehyde, boric acid and water, all ingredients are in concentrations of less than 1%.

<b>Boric acid</b>	<b>CAS# 10043-35-3</b>	<b>EC# 233-139-2</b>	<b>Concentration: 2-3%</b>
<b>Glutaral</b>	<b>CAS# 111-30-8</b>	<b>EC# 200-659-6</b>	<b>Concentration: 4%</b>

**Synonyms:** NA

### SECTION 3 – HAZARDS IDENTIFICATION

**Danger! Corrosive. Causes eye burns. Harmful if swallowed, inhaled or absorbed through the skin. Causes severe skin irritation. May cause allergic skin reaction. May cause irritation to the respiratory tract.**

#### Emergency Overview

##### OSHA Hazards

Teratogen, Reproductive hazard, Respiratory sensitiser, Skin sensitiser, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Corrosive

**Target Organs:** Central nervous system, Heart, Testes

#### GHS Label elements, including precautionary statements

Pictogram



Signal word: Danger

ISSUE DATE: Jan. 15, 2008

**Hazard statement(s)**

H316 Causes mild skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H360 May damage fertility or the unborn child.  
H401 Toxic to aquatic life.

**Precautionary statement(s)**

P201 Obtain special instructions before use.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313: IF exposed or concerned: Get medical advice/ attention

**HMIS Classification**

**Health Hazard:** 3  
**Chronic Health Hazard:** \*  
**Flammability:** 0  
**Physical hazards:** 1

**NFPA Rating**

**Health hazard:** 4  
**Fire:** 0  
**Reactivity Hazard:** 0

**Potential Health Effects**

**Inhalation** Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
**Skin** May be harmful if absorbed through skin. Causes skin burns.  
**Eyes** Causes eye burns.  
**Ingestion** Toxic if swallowed. Causes burns.

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**SECTION 4 – FIRST AID MEASURES**

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**Inhalation:** Remove to fresh air. If subject is not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Oral Exposure:** If swallowed, immediately call a poison control center or a doctor. Do not induce vomiting unless directed by a poison control center or doctor. Seek medical attention immediately.

**Dermal Exposure:** In case of contact with skin, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. If exposed, wash clothing and thoroughly clean shoes before reuse.

**Eye Exposure:** In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician immediately.

ISSUE DATE: Jan. 15, 2008

**Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage. Chemical eye burns may require extended irrigation. Obtain prompt consultation with an ophthalmologist. Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like symptoms. Bronchodilators, expectorants and antitussives may help. Glutaraldehyde may transiently worsen reversible airway obstruction including asthma and reactive airway disease. Treat bronchospasm with inhaled beta-2 agonists and oral or parenteral corticosteroids. Inhalation of vapors may result in skin sensitization. Sensitized individuals reexposed to small amounts of vapor, mist or liquid glutaraldehyde may cause severe allergic skin reaction. If a burn is present, treat as a thermal burn after decontamination.

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## SECTION 5 – FIRE FIGHTING MEASURES

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**Fire:** This material will not burn until water has evaporated. Residue may burn

**Explosion:** Not considered to be an explosion hazard.

**Extinguishing Media:** Use extinguishing media appropriate to surrounding fire conditions.

**Protective Equipment:** Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Hazardous combustion products:** Hazardous decomposition products formed under fire conditions:  
Carbon oxides, Borane/boron oxides

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## SECTION 6 – ACCIDENTAL RELEASE MEASURES

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**Methods for Clean Up:** Ventilate area of spill. Wear appropriate personal protective equipment as specified in section 8. Isolate hazard area and prevent unprotected personnel from entering the hazard area. Collect liquid in an appropriate container or absorb with inert material such as vermiculite, dry sand or soil. Place in a chemical waste container. Do not use combustible materials such as sawdust. Do not flush to a sewer. Very low concentrations of glutaraldehyde (less than 5 ppm) can be degraded in a biological waste treatment system. Small spills may be flushed with copious amounts of water. Large spills should be collected for disposal.

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## SECTION 7 – HANDLING AND STORAGE

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**Handling:** Avoid inhalation. Avoid contact with eyes. Avoid prolonged or repeated exposure.

**Storage:** Keep container tightly closed. Store at 2 to 8°C.

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## SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

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Glutaraldehyde CAS# 111-30-8 Ceiling limit: 0.2 ppm, 0.8 mg/m<sup>3</sup> update: 1989-01-19  
(Source: OSHA Table Z-1, Limits for Air Contaminants – 1910.1000)

**Engineering Controls:** Eye wash stations are required.

**Ventilation:** Avoid use in poorly ventilated areas.

**Personal Protective Equipment:**

**Respiratory:** Respirator is generally not required. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand:** Chemical resistant gloves required.

**Eye:** Safety glasses or goggles required.

**General Hygiene Measures:** Wash hands thoroughly after handling.

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## SECTION 9 – PHYSICAL / CHEMICAL PROPERTIES

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**Appearance:** Clear Liquid with sharp odor.

### Safety data

<b>pH:</b>	no data available
<b>Melting/freezing Point:</b>	no data available
<b>Boiling point:</b>	no data available
<b>Flash point:</b>	no data available
<b>Ignition temperature:</b>	no data available
<b>Autoignition temperature:</b>	no data available
<b>Lower explosion limit:</b>	no data available
<b>Upper explosion limit:</b>	no data available
<b>Vapour pressure:</b>	no data available
<b>Density:</b>	no data available
<b>Water solubility:</b>	no data available
<b>Relative vapour density:</b>	no data available
<b>Evaporation rate:</b>	no data available

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## SECTION 10 – STABILITY AND REACTIVITY

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**Storage stability:** Stable under recommended storage conditions.  
**Materials to avoid:** Strong acids, Strong bases, Strong oxidizing agents  
**Hazardous decomposition products:**  
Hazardous decomposition products formed under fire conditions. - Carbon oxides

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## SECTION 11 – TOXICOLOGICAL INFORMATION

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**Acute toxicity:** no data available  
**Irritation and corrosion:** no data available  
**Sensitisation:**

May cause allergic respiratory reaction.  
May cause allergic skin reaction.

**Chronic exposure:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.  
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Potential Health Effects**

**Inhalation:** Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
**Skin:** May be harmful if absorbed through skin. Causes skin burns.  
**Eyes:** Causes eye burns.  
**Ingestion:** Toxic if swallowed. Causes burns.  
**Target Organs:** Central nervous system, Heart  
**Reproductive toxicity:** fetotoxicity, presumed human reproductive toxicant

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## SECTION 12 – ECOLOGICAL INFORMATION

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No data available..

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## SECTION 13 – DISPOSAL CONSIDERATIONS

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**Appropriate Method of Disposal:** Clean up and dispose of waste in accordance with all federal, state and local environmental regulations. 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.

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## SECTION 14 – TRANSPORT INFORMATION

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**DOT:** UN-Number: 3082                      Class: 9                      Packing group: III  
Proper shipping name: Environmentally hazardous substances, liquid, n.o.s. (Glutaral)  
Reportable Quantity (RQ):  
Marine pollutant: No  
Poison Inhalation Hazard: No

**Proper Shipping Name:** None.

**IATA:** This product is considered to be non-hazardous for air transport.

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## SECTION 15 – REGULATORY INFORMATION

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### OSHA Hazards

Respiratory sensitizer, Skin sensitizer, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Corrosive

### DSL Status

All components of this product are on the Canadian DSL list.

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

**Reportable Quantity :** lowest RQ > 999999 lbs

### Massachusetts Right To Know Components

Glutaral                      CAS# 111-30-8                      Revision Date: 2007-03-01

### Pennsylvania Right To Know Components

Glutaral                      CAS# 111-30-8                      Revision Date: 2007-03-01

Boric Acid                      CAS# 10043-35-3

### New Jersey Right To Know Components

Glutaral                      CAS# 111-30-8                      Revision Date: 2007-03-01

Boric Acid                      CAS# 10043-35-3

### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.



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## SECTION 16 – OTHER INFORMATION

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**Disclaimer:** This product is for research and development use only. Not for clinical or household use.

**Warranty:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regards to appropriate safety precautions. Lifeline Cell Technology reserves the right to revise this MSDS periodically as new information becomes available. It does not represent any guarantee of the properties of the product. Lifeline Cell Technology shall not be held liable for any damage resulting from handling or from contact with the above product.

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