

Safety Data Sheet

LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Name: LifeFactors® BronchiaLife™ B/T

Product Number: LS-1047

Company Address: Lifeline Cell Technology
8415 Progress Drive, Suite T
Frederick, MD 21701

Technical Phone: (877) 845-7787

Fax: (443) 393-0393

Emergency Phone: (877) 845-7787

Product use: Cell/Tissue culture

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Principal Components:

LifeFactors® BronchiaLife™ B/T Kit, LS-1047:

HLL, 1.25 mL, LS-1001

L-Glutamine (200 mM), 15 mL, LS-1031

Extract P, 2 mL, LS-1037

TM1, 5 mL, LS-1055

Please refer to Safety Data Sheets (SDS) for the above listed components on the following pages.

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LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Name: HLL Supplement

Product Number: LS-1001

Company Address: Lifeline Cell Technology
8415 Progress Drive, Suite T
Frederick, MD 21701

Technical Phone: (877) 845-7787
Fax: (443) 393-0393
Emergency Phone: (877) 845-7787

Product use: Cell/Tissue culture

SECTION 2 – HAZARDS IDENTIFICATION

Hazardous Components: Not a hazardous substance or mixture.

Hazards not covered by GHS: This product contains raw material of human source. Each batch of Human Serum used in this medium was tested and found to be negative for Hepatitis B, Hepatitis C, HIV-1 and HIV-2 by FDA approved methods. These tests cannot offer complete assurance of the absence of these or other infectious agents.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Principal Components:	Human Serum Albumin	CAS number:	125-04-2
	Lecithin	CAS number:	8002-43-5
	Linoleic Acid	CAS number:	60-33-3
	Ethanol	CAS number:	64-17-5
	Water	CAS number:	7732-18-5

Composition: The item formulation is a mixture composed primarily of Human Serum Albumin, water and Ethanol (~ 1%). All other components are less than 1% concentration.

Synonym: N/A

Hazardous Components:	Classification	Concentration
Ethanol CAS number 64-17-5 EC number 200-578-6 Index number 603-002-00-5	Flamable liquid 2; H255	~ 1%

SECTION 4 – FIRST AID MEASURES

Potential Health Effects:

Eye: May cause irritation of the eye.

Skin: May cause skin irritation.

Ingestion: May be harmful if swallowed.

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Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

First aid measures:

Oral Exposure: If swallowed, rinse out mouth with water provided person is conscious. Call a physician.

Dermal Exposure: In case of contact with skin, flush with copious amounts of water for at least 15 minutes. Should irritation occur, call a physician.

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.

SECTION 5 – FIRE FIGHTING MEASURES

General Fire hazard: Product does not present any special fire hazard. Carbon oxides may be released in a fire.

Flash point: N/A

Extinguishing media: Use media appropriate for the material that is burning.

Advice for Firefighters: Wear self-contained breathing apparatus if necessary.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment: Refer to section 8 for appropriate personal protection.

Environmental Precautions: No special environmental precautions are required.

Methods for Clean Up: Absorb liquid with disposable laboratory towel or other absorbent material and then place in a closed container for disposal. Wash spill site after liquid cleanup is complete with cleansers appropriate for the spill site surface material.

SECTION 7 – HANDLING AND STORAGE

Precautions for Handling: Refer to section 8 for appropriate personal protection. Avoid contact with eyes, skin or clothing. Product may cause allergic reaction in sensitized individuals. Do not pipet by mouth.

Storage: Keep container tightly closed. Store at -20°C or below. Protect from light.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits:

	CAS number	Value	Control Parameters	Basis
Ethanol	64-17-5	TWA	1,000 ppm	USA. ACGIH (TLV)
		Upper respiratory tract irritation		
		Confirmed animal carcinogen with unknown relevance to humans		
TWA		1,000 ppm	USA, Occupational Exposure Limits	
		1,900 mg/m ³	OSHA – Table Z-1 Limits for Air Contaminants	
		(value in mg/m ³ is approximate)		
TWA		1,000 ppm	USA, NIOSH Recommended Exposure Limits	
		1,900 mg/m ³		

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Engineering Controls: Eye wash stations are required.

Ventilation: Area ventilation is generally adequate.

Personal Protective Equipment:

Respiratory: Respirator is not required.
Hand: Chemical resistant gloves required.
Eye: Safety glasses or goggles required.
Clothing: Laboratory coat recommended.

General Hygiene Measures: Wash hands thoroughly after handling.

SECTION 9 – PHYSICAL / CHEMICAL PROPERTIES

Appearance: Frozen, hazy, yellow liquid above ~0° C.

Upper/lower flammability or Explosive limits: No data available
Odor: No data available
Vapor pressure: No data available
Odor threshold: No data available
Vapor density: No data available
pH: No data available
Relative density: No data available
Freezing point: No data available
Solubility: Completely soluble in water
Boiling point: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability: Not flammable
Upper/lower flammability or explosive limits: No data available
Relative density: No data available
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Viscosity: No data available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: No data available
Chemical stability: Stable under recommended storage and usage conditions.
Possible hazardous reactions: No data available
Conditions to be avoided: No data available
Incompatible materials: Strong oxidizing agents
Hazardous decomposition products: Carbon oxides may be released in a fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

Likely routes of exposure: Ingestion, skin, eye contact.

Acute toxicity

Oral LD50: Component: Ethanol LD50 (Rat) Dose: 5,000 mg/kg
Inhalation LC50: Component: Ethanol LC50 (Mouse) Dose: 39 g/m³ Exposure time: 4 hrs
Dermal Irritant: Component: Ethanol Rabbit Mild irritant
Eye Irritant: Component: Ethanol Rabbit Moderate irritant
(Refer to Ethanol, CAS number 64-17-5, for above toxicological data)

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Chronic toxicity: No data available

Skin corrosion: No data available

Eye damage: No data available

Sensitization (Respiration or Skin): No data available

Germ cell mutagenicity: No data available

Carcinogenicity: Some glucocorticoid show carcinogenic or teratogenic activity.

Reproductive toxicity: No data available

Teratogenicity: Some glucocorticoid show carcinogenic or teratogenic activity

Carcinogenicity

NTP: not listed

IARC: not listed

OSHA: not listed

SECTION 12 – ECOLOGICAL INFORMATION

Product Information:

Ecotoxicity: No data available

Persistence/Degradability: No data available

Bioaccumulation Potential: No data available

Mobility in Soil: No data available. Expected to be mobile because it is an aqueous solution.

Component Information:

Ethanol CAS number **64-17-5**

Toxicity to fish: Acute LC50
Species: *Leuciscus idus* (Golden orfe)
Dose: 8,140 mg/L
Exposure time: 48 hrs.

Toxicity to daphnia and other aquatic invertebrates:

Immobilization EC50
Species: *Daphnia magna* (water flea)
Dose: > 10,000 mg/L
Exposure time: 24 hrs.

Toxicity to algae: Cell multiplication inhibition test ErC 10
Species: *Desmodesmus subspicatus* (green algae)
Dose: 5,000 mg/L
Exposure time: 8 days

Toxicity to bacteria:

Cell multiplication inhibition test EC10
Species: *Pseudomonas putida*
Dose: 6,500 mg/L
Exposure time: 16 hrs.

Additional ecological information: No data available

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Component Information:

Ethanol CAS number 64-17-5

Biodegradability: Zahn-Wellens Test
Exposure time: 28 days
Result: Biologically well degradable
>99%
Method: OECD Test Guideline 302 B

Closed Bottle test
Exposure time: 5 days
Result: Readily biodegradable
74%
Method: OECD Test Guideline 301 D

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA hazardous waste code: Not listed as a hazardous waste.
Appropriate disposal containers: No specific restrictions on waste container type.
Appropriate Method of Disposal: Clean up and dispose of waste in accordance with all federal, state and local environmental regulations.

SECTION 14 – TRANSPORT INFORMATION

UN number: N/A
Proper Shipping Name: None.
DOT: Non-hazardous for transport.
IMDG: Non-hazardous for transport.
IATA: Non-hazardous for transport.

SECTION 15 – REGULATORY INFORMATION

SARA 302 Components: No chemicals in this product are subject to SARA Title III, Section 302.
SARA 313 Components: This product does not contain chemical components with known CAS numbers that exceed the threshold (De Minimus) reporting levels established by SARA Title III, Section 313.
SARA 311/312: Chronic health hazard

Massachusetts Right to Know Components: No components are subject to Massachusetts Right to Know Act.

Pennsylvania Right to Know Components:
Ethanol CAS number: 64-17-5
Human Serum Albumin CAS number: 125-04-2
Water CAS number: 7732-18-5

New Jersey Right to Know Components:
Ethanol CAS number: 64-17-5

California Prop. 65 Components: This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

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SECTION 16 – OTHER INFORMATION

Preparation information:

Prepared by: Quality Department
Date Prepared: January 20, 2015
Replaced Version date: July 30, 2012

Disclaimer: This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Lifeline Cell Technology. The data on this sheet relate only to the specific materials designated herein and shall only be used as a guide. Lifeline Cell Technology assumes no legal responsibility for the use or reliance upon these data.

Safety Data Sheet

LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Name: L-Glutamine [200 mM]
Product Number: LS-1031
Company Address: Lifeline Cell Technology
8415 Progress Drive, Suite T
Frederick, MD 21701
Technical Phone: (877) 845-7787
Fax: (443) 393-0393
Emergency Phone: (877) 845-7787
Product use: Cell/Tissue culture

SECTION 2 – HAZARDS IDENTIFICATION

Hazardous Components: Not a hazardous substance or mixture

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Principal Components:	L-Glutamine	CAS number:	58-85-9
	Water	CAS number:	7732-18-5

Composition: The item formulation is a solution of L-Glutamine and water. The solution contains 1-5% L-Glutamine in water.

Synonym: Glutamine, Levoglutamine, L-(+) Glutamine, Cebrogen, Glavamin, Stimulina

SECTION 4 – FIRST AID MEASURES

Potential Health Effects:

Eye: May cause irritation of the eye.

Skin: May cause skin irritation.

Ingestion: May be harmful if swallowed.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

First aid measures:

Oral Exposure: If swallowed, rinse out mouth with water provided person is conscious. Call a physician.

Dermal Exposure: In case of contact with skin, flush with copious amounts of water for at least 15 minutes. Should irritation occur, call a physician.

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.

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SECTION 5 – FIRE FIGHTING MEASURES

- General Fire hazard:** Product does not present any special fire hazard. Carbon oxides may be released in a fire.
- Flash point:** N/A
- Extinguishing media:** Use media appropriate for the material that is burning.
- Advice for Firefighters:** Wear self-contained breathing apparatus if necessary.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- Personal Precautions and Protective Equipment:** Refer to section 8 for appropriate personal protection.
- Environmental Precautions:** No special environmental precautions are required.
- Methods for Clean Up:** Absorb liquid with disposable laboratory towel or other absorbent material and then place in a closed container for disposal. Wash spill site after liquid cleanup is complete with cleansers appropriate for the spill site surface material.

SECTION 7 – HANDLING AND STORAGE

- Precautions for Handling:** Refer to section 8 for appropriate personal protection. Avoid contact with eyes, skin or clothing. Product may cause allergic reaction in sensitized individuals. Do not pipet by mouth.
- Storage:** Keep container tightly closed. Store at -20°C or below. Protect from light.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

- Exposure limits:** Not listed on the OSHA Occupational Chemical database.
- Engineering Controls:** Eye wash stations are required.
- Ventilation:** Area ventilation is generally adequate.
- Personal Protective Equipment:**
- Respiratory:** Respirator is not required.
- Hand:** Chemical resistant gloves required.
- Eye:** Safety glasses or goggles required.
- Clothing:** Laboratory coat recommended.
- General Hygiene Measures:** Wash hands thoroughly after handling.

SECTION 9 – PHYSICAL / CHEMICAL PROPERTIES

- Appearance:** Frozen, liquid with white precipitate above ~0° C, clear liquid above ~20° C.
- Upper/lower flammability or Explosive limits:** No data available
- Odor:** Odorless
- Vapor pressure:** No data available
- Odor threshold:** No data available

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Vapor density: No data available
pH: No data available
Relative density: No data available
Freezing point: ~0° C
Solubility: Completely soluble in water
Boiling point: ~100° C
Flash point: No data available
Evaporation rate: No data available
Flammability: Not flammable
Upper/lower flammability or explosive limits: No data available
Relative density: No data available
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Viscosity: No data available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: No data available
Chemical stability: Stable under recommended storage and usage conditions.
Possible hazardous reactions: No data available
Conditions to be avoided: No data available
Incompatible materials: Strong oxidizing agents
Hazardous decomposition products: Carbon oxides may be released in a fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

Likely routes of exposure: Ingestion, skin, eye contact.

Acute toxicity

Oral LD50: No data available
Inhalation LC50: No data available
Dermal LD50: No data available
Other: No data available

Chronic toxicity: No data available

Skin corrosion: No data available
Eye damage: No data available
Sensitization (Respiration or Skin): No data available
Germ cell mutagenicity: No data available
Carcinogenicity: No data available
Reproductive toxicity: No data available
Teratogenicity: No data available

Carcinogenicity

NTP: not listed
IARC: not listed
OSHA: not listed

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SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: No data available
Persistence/Degradability: No data available
Bioaccumulation Potential: No data available
Mobility in Soil: No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA hazardous waste code: Not listed as a hazardous waste.
Appropriate disposal containers: No specific restrictions on waste container type.
Appropriate Method of Disposal: Clean up and dispose of waste in accordance with all federal, state and local environmental regulations.

SECTION 14 – TRANSPORT INFORMATION

UN number: N/A
Proper Shipping Name: None.
DOT: Non-hazardous for transport.
IMDG: Non-hazardous for transport.
IATA: Non-hazardous for transport.

SECTION 15 – REGULATORY INFORMATION

SARA 302 Components: No chemicals in this product are subject to SARA Title III, Section 302.
SARA 313 Components: This product does not contain chemical components with known CAS numbers that exceed the threshold (De Minimus) reporting levels established by SARA Title III, Section 313.
SARA 311/312: Not a hazardous substance or mixture

Massachusetts Right to Know Components: No components are subject to Massachusetts Right to Know Act.

Pennsylvania Right to Know Components:

L-Glutamine	CAS number:	58-85-9
Water	CAS number:	7732-18-5

New Jersey Right to Know Components: No components are subject to New Jersey Right to Know Act.

California Prop. 65 Components: This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

SECTION 16 – OTHER INFORMATION

Preparation information:

Prepared by: Quality Department
Date Prepared: January 23, 2015
Replaced Version date: July 30, 2012

Disclaimer: This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Lifeline Cell Technology. The data on this sheet relate only to the specific materials designated herein and shall only be used as a guide. Lifeline Cell Technology assumes no legal responsibility for the use or reliance upon these data.

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LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Name: Extract-P
Product Number: LS-1037
Company Address: Lifeline Cell Technology
8415 Progress Drive, Suite T
Frederick, MD 21701
Technical Phone: (877) 845-7787
Fax: (443) 393-0393
Emergency Phone: (877) 845-7787
Product use: Cell/Tissue culture

SECTION 2 – HAZARDS IDENTIFICATION

Hazardous Components: Not a hazardous substance or mixture

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Principal Components:
Water CAS number: 7732-18-5

Composition: The item formulation is an extraction of bovine brain tissue (pituitary glands) with salts and water. With the exception of purified water, all ingredients are in concentrations of less than 1%.

Synonym: Bovine Pituitary Extract, BPE

SECTION 4 – FIRST AID MEASURES

Potential Health Effects:

Eye: May cause irritation of the eye.

Skin: May cause skin irritation.

Ingestion: May be harmful if swallowed.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

First aid measures:

Oral Exposure: If swallowed, rinse out mouth with water provided person is conscious. Call a physician.

Dermal Exposure: In case of contact with skin, flush with copious amounts of water for at least 15 minutes. Should irritation occur, call a physician.

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.

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SECTION 5 – FIRE FIGHTING MEASURES

- General Fire hazard:** Product does not present any special fire hazard. Carbon oxides may be released in a fire.
- Flash point:** N/A
- Extinguishing media:** Use media appropriate for the material that is burning.
- Advice for Firefighters:** Wear self-contained breathing apparatus if necessary.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- Personal Precautions and Protective Equipment:** Refer to section 8 for appropriate personal protection.
- Environmental Precautions:** No special environmental precautions are required.
- Methods for Clean Up:** Absorb liquid with disposable laboratory towel or other absorbent material and then place in a closed container for disposal. Wash spill site after liquid cleanup is complete with cleansers appropriate for the spill site surface material.

SECTION 7 – HANDLING AND STORAGE

- Precautions for Handling:** Refer to section 8 for appropriate personal protection. Avoid contact with eyes, skin or clothing. Product may cause allergic reaction in sensitized individuals. Do not pipet by mouth.
- Storage:** Keep container tightly closed. Store at -20°C or below. Protect from light.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

- Exposure limits:** Not listed on the OSHA Occupational Chemical database.
- Engineering Controls:** Eye wash stations are required.
- Ventilation:** Area ventilation is generally adequate.
- Personal Protective Equipment:**
- Respiratory:** Respirator is not required.
- Hand:** Chemical resistant gloves required.
- Eye:** Safety glasses or goggles required.
- Clothing:** Laboratory coat recommended.
- General Hygiene Measures:** Wash hands thoroughly after handling.

SECTION 9 – PHYSICAL / CHEMICAL PROPERTIES

- Appearance:** Frozen, red to dark brown, liquid above ~0° C.
- Upper/lower flammability or Explosive limits:** No data available
- Odor:** Slight musky or earthy odor
- Vapor pressure:** No data available
- Odor threshold:** No data available

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Vapor density: No data available
pH: Neutral
Relative density: No data available
Freezing point: ~0° C
Solubility: Completely soluble in water
Boiling point: ~100° C
Flash point: No data available
Evaporation rate: No data available
Flammability: Not flammable
Upper/lower flammability or explosive limits: No data available
Relative density: ~1 at 20° C
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Viscosity: No data available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: No data available
Chemical stability: Stable under recommended storage and usage conditions.
Possible hazardous reactions: No data available
Conditions to be avoided: No data available
Incompatible materials: Strong oxidizing agents
Hazardous decomposition products: Carbon oxides may be released in a fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

Likely routes of exposure: Ingestion, skin, eye contact.

Acute toxicity

Oral LD50: No data available
Inhalation LC50: No data available
Dermal LD50: No data available
Other: No data available

Chronic toxicity: No data available

Skin corrosion: No data available
Eye damage: No data available
Sensitization (Respiration or Skin): No data available
Germ cell mutagenicity: No data available
Carcinogenicity: No data available
Reproductive toxicity: No data available
Teratogenicity: No data available

Carcinogenicity

NTP: not listed
IARC: not listed
OSHA: not listed

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SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: No data available
Persistence/Degradability: No data available
Bioaccumulation Potential: No data available
Mobility in Soil: No data available. Expected to be mobile because it is an aqueous solution.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA hazardous waste code: Not listed as a hazardous waste.
Appropriate disposal containers: No specific restrictions on waste container type.
Appropriate Method of Disposal: Clean up and dispose of waste in accordance with all federal, state and local environmental regulations.

SECTION 14 – TRANSPORT INFORMATION

UN number: N/A
Proper Shipping Name: None.
DOT: Non-hazardous for transport.
IMDG: Non-hazardous for transport.
IATA: Non-hazardous for transport.

SECTION 15 – REGULATORY INFORMATION

SARA 302 Components: No chemicals in this product are subject to SARA Title III, Section 302.
SARA 313 Components: This product does not contain chemical components with known CAS numbers that exceed the threshold (De Minimus) reporting levels established by SARA Title III, Section 313.
SARA 311/312: Not a hazardous substance or mixture

Massachusetts Right to Know Components: No components are subject to Massachusetts Right to Know Act.

Pennsylvania Right to Know Components:

Water

CAS number: 7732-18-5

New Jersey Right to Know Components: No components are subject to New Jersey Right to Know Act.

California Prop. 65 Components: This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

SECTION 16 – OTHER INFORMATION

Preparation information:

Prepared by: Quality Department
Date Prepared: February 12, 2015
Replaced Version date: July 30, 2012

Disclaimer: This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Lifeline Cell Technology. The data on this sheet relate only to the specific materials designated herein and shall only be used as a guide. Lifeline Cell Technology assumes no legal responsibility for the use or reliance upon these data.

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LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Name: TM1

Product Number: LS-1055

Company Address: Lifeline Cell Technology
8415 Progress Drive, Suite T
Frederick, MD 21701

Technical Phone: (877) 845-7787
Fax: (443) 393-0393
Emergency Phone: (877) 845-7787

Product use: Cell/Tissue culture

SECTION 2 – HAZARDS IDENTIFICATION

Hazardous Components: Not a hazardous substance or mixture

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Principal Components:

Water	CAS number: 7732-18-5
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Composition: The item formulation is a mixture of biologically active hormones and cytokines, water and stabilizing agents. With the exception of purified water, all ingredients are in concentrations of less than 1%. The concentrations of components of this formulation are considered a trade secret.

Synonym: N/A

SECTION 4 – FIRST AID MEASURES

Potential Health Effects:

Eye: May cause irritation of the eye.

Skin: May cause skin irritation.

Ingestion: May be harmful if swallowed.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

First aid measures:

Oral Exposure: If swallowed, rinse out mouth with water provided person is conscious. Call a physician.

Dermal Exposure: In case of contact with skin, flush with copious amounts of water for at least 15 minutes. Should irritation occur, call a physician.

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.

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SECTION 5 – FIRE FIGHTING MEASURES

- General Fire hazard:** Product does not present any special fire hazard. Carbon oxides may be released in a fire.
- Flash point:** N/A
- Extinguishing media:** Use media appropriate for the material that is burning.
- Advice for Firefighters:** Wear self-contained breathing apparatus if necessary.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- Personal Precautions and Protective Equipment:** Refer to section 8 for appropriate personal protection.
- Environmental Precautions:** No special environmental precautions are required.
- Methods for Clean Up:** Absorb liquid with disposable laboratory towel or other absorbent material and then place in a closed container for disposal. Wash spill site after liquid cleanup is complete with cleansers appropriate for the spill site surface material.

SECTION 7 – HANDLING AND STORAGE

- Precautions for Handling:** Refer to section 8 for appropriate personal protection. Avoid contact with eyes, skin or clothing. Product may cause allergic reaction in sensitized individuals. Do not pipet by mouth.
- Storage:** Keep container tightly closed. Store at -20°C or below. Protect from light.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

- Exposure limits:** Not listed on the OSHA Occupational Chemical database.
- Engineering Controls:** Eye wash stations are required.
- Ventilation:** Area ventilation is generally adequate.
- Personal Protective Equipment:**
- Respiratory:** Respirator is not required.
- Hand:** Chemical resistant gloves required.
- Eye:** Safety glasses or goggles required.
- Clothing:** Laboratory coat recommended.
- General Hygiene Measures:** Wash hands thoroughly after handling.

SECTION 9 – PHYSICAL / CHEMICAL PROPERTIES

- Appearance:** Frozen, clear liquid above ~0° C.
- Upper/lower flammability or Explosive limits:** No data available
- Odor:** slight musky or earthy odor
- Vapor pressure:** No data available
- Odor threshold:** No data available

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Vapor density: No data available
pH: Neutral
Relative density: No data available
Freezing point: No data available
Solubility: Completely soluble in water
Boiling point: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability: Not flammable
Upper/lower flammability or explosive limits: No data available
Relative density: No data available
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Viscosity: No data available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: No data available
Chemical stability: Stable under recommended storage and usage conditions.
Possible hazardous reactions: No data available
Conditions to be avoided: No data available
Incompatible materials: Strong oxidizing agents
Hazardous decomposition products: Carbon oxides may be released in a fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

Likely routes of exposure: Ingestion, skin, eye contact.

Acute toxicity

Oral LD50: No data available
Inhalation LC50: No data available
Dermal LD50: No data available
Other: No data available

Chronic toxicity: No data available

Skin corrosion: No data available
Eye damage: No data available
Sensitization (Respiration or Skin): No data available
Germ cell mutagenicity: No data available
Carcinogenicity: No data available
Reproductive toxicity: No data available
Teratogenicity: No data available

Carcinogenicity

NTP: not listed
IARC: not listed
OSHA: not listed

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SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: No data available
Persistence/Degradability: No data available
Bioaccumulation Potential: No data available
Mobility in Soil: No data available. Expected to be mobile because it is an aqueous solution.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA hazardous waste code: Not listed as a hazardous waste.
Appropriate disposal containers: No specific restrictions on waste container type.
Appropriate Method of Disposal: Clean up and dispose of waste in accordance with all federal, state and local environmental regulations.

SECTION 14 – TRANSPORT INFORMATION

UN number: N/A
Proper Shipping Name: None.
DOT: Non-hazardous for transport.
IMDG: Non-hazardous for transport.
IATA: Non-hazardous for transport.

SECTION 15 – REGULATORY INFORMATION

SARA 302 Components: No chemicals in this product are subject to SARA Title III, Section 302.
SARA 313 Components: This product does not contain chemical components with known CAS numbers that exceed the threshold (De Minimus) reporting levels established by SARA Title III, Section 313.
SARA 311/312: Not a hazardous substance or mixture

Massachusetts Right to Know Components: No components are subject to Massachusetts Right to Know Act.

Pennsylvania Right to Know Components:
Water CAS number: 7732-18-5

New Jersey Right to Know Components: No components are subject to New Jersey Right to Know Act.

California Prop. 65 Components: This product does not contain any chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

SECTION 16 – OTHER INFORMATION

Preparation information:

Prepared by: Quality Department
Date Prepared: February 13, 2015
Replaced Version date: July 30, 2012

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