LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Product Name:	LifeFactors [®] VascuLife [®] EnGS-Mv
Product Number:	LS-1035
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[®] VascuLife[®] EnGS-Mv Kit, LS-1035:

rh EGF, 0.5 mL, LS-1015 EnGS, 1.0 mL, LS-1018 Heparin, 0.5 mL, LS-1017 FBS, 25 mL, LS-1028 L-Glutamine (200 mM), 25 mL, LS-1013 Hydrocortisone hemisuccinate, 0.5 mL, LS-1007 Ascorbic Acid, 0.5 mL, LS-1005

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

LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Product Name:	rh EGF
Product Number:	LS-1015
Company Address:	Lifeline Cell Technology 8415 Progress Drive, Suite T Frederick, MD 21701
Technical Phone: Fax: Emergency Phone:	(877) 845-7787 (443) 393-0393 (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:	recombinant human EGF	CAS number:	N/A
	Water	CAS number:	7732-18-5

Composition: The item formulation is a mixture of recombinant human EGF (rh EGF), water and stabilizing agents. With the exception of purified water, all ingredients are in concentrations of less than 1%.

Synonym: Epidermal Growth Factor, Urogastrone, URG

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.

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 $\sim 0^{\circ}$ C.

Upper/lower flammability or Explosive limits:No data availableOdor:OdorlessVapor pressure:No data availableOdor threshold:No data available

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 da		No data available
Relative density:	~1 at 20° C	
Partition coefficient	nt: n-octanol/water:	No data available
Auto-ignition temperature: No data available		
Viscosity:	No data available	

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:No data availableChemical stability:Stable under recommended storage and usage conditions.Possible hazardous reactions:No data availableConditions to be avoided:No data availableIncompatible materials:Strong oxidizing agentsHazardous decompositionproducts:Carbon oxides may be released in a fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

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

Acute toxicity

Oral LD50: Inhalation LC50: Dermal LD50: Other:	No data available No data available No data available No data available
Chronic toxicity:	No data available
Germ cell mutager Carcinogenicity: Reproductive toxic	No data available piration or Skin): No data available nicity: No data available No data available city: No data available
Teratogeniticity:	No data available

Carcinogenicity

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

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:No data availablePersistence/Degradability:No data availableBioaccumulation Potential:No data availableMobility in Soil:No data available.Expected to be mobile because it is an aqueous solution.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA hazardous waste code:1Appropriate disposal containers:1Appropriate Method of Disposal:1local environmental regulations.1

Not listed as a hazardous waste. No specific restrictions on waste container type. Clean up and dispose of waste in accordance with all federal, state and

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 numbersthat 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 10, 2015
Replaced Version date:	July 30, 2012

LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Product Name:	EnGS
Product Number:	LS-1018
Company Address:	Lifeline Cell Technology 8415 Progress Drive, Suite T Frederick, MD 21701
Technical Phone: Fax: Emergency Phone:	(877) 845-7787 (443) 393-0393 (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 with salts and water. With the exception of purified water, all ingredients are in concentrations of less than 1%.

Synonym: Bovine Brain Extract, BBE

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.

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 $\sim 0^{\circ}$ C.

Upper/lower flammability or Explosive limits:No data availableOdor:OdorlessVapor pressure:No data availableOdor threshold:No data available

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		No data available
Relative density:	~1 at 20° C	
Partition coefficient	nt: n-octanol/water:	No data available
Auto-ignition temperature: No data available		
Viscosity:	No data available	

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:No data availableChemical stability:Stable under recommended storage and usage conditions.Possible hazardous reactions:No data availableConditions to be avoided:No data availableIncompatible materials:Strong oxidizing agentsHazardous decompositionproducts:Carbon oxides may be released in a fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

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

Acute toxicity

Oral LD50: Inhalation LC50: Dermal LD50: Other:	No data available No data available No data available No data available
Chronic toxicity:	No data available
Germ cell mutager Carcinogenicity:	No data available piration or Skin): No data available nicity: No data available
Teratogeniticity:	

Carcinogenicity

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

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:No data availablePersistence/Degradability:No data availableBioaccumulation Potential:No data availableMobility in Soil:No data available.Expected to be mobile because it is an aqueous solution.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA hazardous waste code:1Appropriate disposal containers:1Appropriate Method of Disposal:1local environmental regulations.1

Not listed as a hazardous waste. No specific restrictions on waste container type. Clean up and dispose of waste in accordance with all federal, state and

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 numbersthat 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

LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Product Name:	Heparin Sulfate
Product Number:	LS-1017
Company Address:	Lifeline Cell Technology 8415 Progress Drive, Suite T Frederick, MD 21701
Technical Phone: Fax: Emergency Phone:	(877) 845-7787 (443) 393-0393 (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:	Heparin Sulfate sodium salt	CAS number:	9041-08-1
	Water	CAS number:	7732-18-5

Composition: The item formulation is a mixture of Heparin Sulfate sodium salt and water. With the exception of purified water, all ingredients are in concentrations of less than 1%.

Synonym: Heparin sodium, Hepsal, Lipo-Hepin, Liquemin, Longheparin, Monoparin, Panheparin, Pularin, Liquaemin Sodium, Minihep, Thromboliquine, Thrombophob, Unihep

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.

LifeFactors[®] VascuLife[®] EnGS-Mv, LS-1035

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 $\sim 0^{\circ}$ C.

Upper/lower flammability or Explosive limits:No data availableOdor:OdorlessVapor pressure:No data availableOdor threshold:No data available

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		No data available
Relative density:	~1 at 20° C	
Partition coefficient	nt: n-octanol/water:	No data available
Auto-ignition temperature: No data available		
Viscosity:	No data available	
-		

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:No data availableChemical stability:Stable under recommended storage and usage conditions.Possible hazardous reactions:No data availableConditions to be avoided:No data availableIncompatible materials:Strong oxidizing agentsHazardous decompositionproducts:Carbon oxides may be released in a fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

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

Acute toxicity

Oral LD50: Inhalation LC50: Dermal LD50: Other:	No data available No data available No data available No data available
Chronic toxicity:	No data available
Germ cell mutager Carcinogenicity:	No data available piration or Skin): No data available nicity: No data available
Teratogeniticity:	No data available

Carcinogenicity

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

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:No data availablePersistence/Degradability:No data availableBioaccumulation Potential:No data availableMobility in Soil:No data available.Expected to be mobile because it is an aqueous solution.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA hazardous waste code:NAppropriate disposal containers:NAppropriate Method of Disposal:Olocal environmental regulations.O

Not listed as a hazardous waste. No specific restrictions on waste container type. Clean up and dispose of waste in accordance with all federal, state and

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 numbersthat 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 11, 2015
Replaced Version date:	July 30, 2012

LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Product Name:	FBS
Product Number:	LS-1028
Company Address:	Lifeline Cell Technology 8415 Progress Drive, Suite T Frederick, MD 21701
Technical Phone: Fax: Emergency Phone:	(877) 845-7787 (443) 393-0393 (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: Fetal Bovine Serum CAS number:

Composition: The item formulation is 100% fetal bovine serum.

Synonym: Fetal Bovine Serum, Fetal Calf Serum, FCS

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.

N/A

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: 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: Tan or straw colored, frozen liquid.

Upper/lower flammability or Explosive limits:No data availableOdor:Faint earthy or musky odorNo data availableVapor pressure:No data availableNo data availableOdor threshold:No data availableNo data available

Vapor density:	No data available	
pH:	No data available	
Relative density:	No data available	
Freezing point:	No data available	
Solubility:	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		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 availableChemical stability:Stable under recommended storage and usage conditions.Possible hazardous reactions:No data availableConditions to be avoided:No data availableIncompatible materials:Strong oxidizing agentsHazardous decompositionproducts:Carbon oxides may be released in a fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

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

Acute toxicity

Oral LD50: Inhalation LC50: Dermal LD50: Other:	No data available No data available No data available No data available	
Chronic toxicity:	No data available	
Skin corrosion: Eye damage:	No data available	
Sensitization (Respiration or Skin): No data available Germ cell mutagenicity: No data available		
Carcinogenicity:	No data available city: No data available	

Carcinogenicity

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

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:No data availablePersistence/Degradability:No data availableBioaccumulation Potential:No data availableMobility in Soil:No data available.Expected to be mobile in soil due to high solubility in water.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA hazardous waste code: Appropriate disposal containers: Appropriate Method of Disposal: local environmental regulations.

Not listed as a hazardous waste. No specific restrictions on waste container type. Clean up and dispose of waste in accordance with all federal, state and

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 numbersthat 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:		
Fetal Bovine Serum	CAS number:	N/A
New Jersev Right to Know Components:		

Fetal Bovine Serum CAS number: N/A

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 10, 2015
Replaced Version date:	July 30, 2012

LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Product Name:	L-Glutamine [200 mM]
Product Number:	LS-1013
Company Address:	Lifeline Cell Technology 8415 Progress Drive, Suite T Frederick, MD 21701
Technical Phone: Fax: Emergency Phone:	(877) 845-7787 (443) 393-0393 (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.

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 flam	mability or Explosive limits:	No data available
Odor:	Odorless	
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:	~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 flam	mability or explosive limits:	No data available
Relative density:	No data available	
Partition coefficient	nt: n-octanol/water:	No data available
Auto-ignition temp	perature: No data available	
Viscosity:	No data available	

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:No data availableChemical stability:Stable under recommended storage and usage conditions.Possible hazardous reactions:No data availableConditions to be avoided:No data availableIncompatible materials:Strong oxidizing agentsHazardous decompositionproducts:Carbon oxides may be released in a fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

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

Acute toxicity

No data available No data available No data available No data available
No data available
No data available No data available piration or Skin): No data available nicity: No data available No data available city: No data available No data available

Carcinogenicity

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

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:No data availablePersistence/Degradability:No data availableBioaccumulation Potential:No data availableMobility in Soil:No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA hazardous waste code: Appropriate disposal containers: Appropriate Method of Disposal: local environmental regulations.

Not listed as a hazardous waste.No specific restrictions on waste container type.Clean up and dispose of waste in accordance with all federal, state and

SECTION 14 – TRANSPORT INFORMATION

UN number: Proper Shipping Name:	N/A 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 numbersthat 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

LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Product Name:	Hydrocortisone Hemisuccinate
Product Number:	LS-1007
Company Address:	Lifeline Cell Technology 8415 Progress Drive, Suite T Frederick, MD 21701
Technical Phone: Fax: Emergency Phone:	(877) 845-7787 (443) 393-0393 (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:	Hydrocortisone hemisuccinate	CAS number:	125-04-2
	Water	CAS number:	7732-18-5

Composition: The item formulation is a vital corticosteroid hormone. With the exception of purified water, all ingredients are in concentrations of less than 1%.

Synonym: Hydrocortisone 21-Hemisuccinate Sodium, A-Hydrocort, Buccalsone, Corlan, Cortisol Hemisuccinate Sodium Salt, Cortisol 21-(Hydrogen Succinate), Cortisol Sodium Hemisuccinate, Cortisol Sodium Succinate, Cortisol 21-Sodium Succinate, EF-Cortelan Soluble, EMI-Corlan, Flebocortid, Hycorace, Hydrocortisone Sodium Succinate, Hydrocortisone 21-Sodium Succinate, Intracort, Nordicort, Oralsone, Sodium Hydrocortisone Succinate, Sodium Hydrocortisone 21-Succinate, Solucortef

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.

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 flam	mability or Explosive limits:	No data available
Odor:	Odorless	
Vapor pressure:	No data available	
Odor threshold:	No data available	
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 flam	mability or explosive limits:	No data available
Relative density:	~1 at 20° C	
Partition coefficient	nt: n-octanol/water:	No data available
Auto-ignition temperature: No data available		
Viscosity:	No data available	

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:No data availableChemical stability:Stable under recommended storage and usage conditions.Possible hazardous reactions:No data availableConditions to be avoided:No data availableIncompatible materials:Strong oxidizing agentsHazardous 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 availableInhalation LC50:No data availableDermal LD50:No data availableOther:LD50 intraperitoneal – rat - 1,320 mg/kg

Chronic toxicity: This product is a glucocorticoid. Repeated exposure can cause: damage to eyes, disturbances of electrolyte balance, osteoporosis and spontaneous fractures, hyperglycemia, delayed wound healing, increased liability to infection, acne, weight gain, emotional instability and neurological disturbances.

Skin corrosion:No data availableEye damage:No data availableSensitization (Respiration or Skin): No data availableGerm cell mutagenicity:No data availableCarcinogenicity:Some glucocorticoid show carcinogenic or teratogenetic activity.

Reproductive toxicity:No data available**Teratogeniticity:**Some glucocorticoid show carcinogenic or teratogenetic activity

Carcinogenicity

NTP:not listedIARC:not listedOSHA:not listed

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:No data availablePersistence/Degradability:No data availableBioaccumulation Potential:No data availableMobility in Soil:No data available.Expected to be mobile because it is an aqueous solution.

SECTION 13 – DISPOSAL CONSIDERATIONS

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

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 numbersthat 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:			
Hydrocortisone hemisuccinate	CAS number:	125-04-2	
Water	CAS number:	7732-18-5	

New Jersey Right to Know Com	ponents:	
Hydrocortisone hemisuccinate	CAS number:	125-04-2

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 19, 2015
Replaced Version date:	July 30, 2012

LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Product Name:	Ascorbic Acid
Product Number:	LS-1005
Company Address:	Lifeline Cell Technology 8415 Progress Drive, Suite T Frederick, MD 21701
Technical Phone: Fax: Emergency Phone:	(877) 845-7787 (443) 393-0393 (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-Ascorbic Acid Phosphate Magnesium Salt Water CAS number: 113170-55-1 CAS number: 7732-18-5

Composition: The item formulation is a solution of the above form of Ascorbic Acid and water. The solution contains approximately 5% L-Ascorbic Acid Phosphate Magnesium Salt in water.

Synonym: Phospitan C, AA2P, Ascorbyl PM, (Vitamin C)

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.

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 availableOdor:OdorlessVapor pressure:No data availableOdor threshold:No data available

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 flam	mability or explosive limits:	No data available
Relative density:	No data available	
Partition coefficient	nt: n-octanol/water:	No data available
Auto-ignition temp	perature: No data available	
Viscosity:	No data available	

SECTION 10 – STABILITY AND REACTIVITY

Reactivity:No data availableChemical stability:Stable under recommended storage and usage conditions.Possible hazardous reactions:No data availableConditions to be avoided:No data availableIncompatible materials:Strong oxidizing agentsHazardous decompositionproducts:Carbon oxides may be released in a fire.

SECTION 11 – TOXICOLOGICAL INFORMATION

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

Acute toxicity

Oral LD50: Inhalation LC50: Dermal LD50: Other:	No data available No data available No data available No data available	
Chronic toxicity:	No data available	
Skin corrosion:No data availableEye damage:No data availableSensitization (Respiration or Skin):No data availableGerm cell mutagenicity:No data availableCarcinogenicity:No data availableReproductive toxicity:No data available		
Teratogeniticity:		

Carcinogenicity

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

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:No data availablePersistence/Degradability:No data availableBioaccumulation Potential:No data availableMobility in Soil:No data available.Expected to be mobile because it is an aqueous solution.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA hazardous waste code: Appropriate disposal containers: Appropriate Method of Disposal: local environmental regulations.

Not listed as a hazardous waste. No specific restrictions on waste container type. Clean up and dispose of waste in accordance with all federal, state and

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 numbersthat 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-Ascorbic Acid Phosphate Magnesium Salt	CAS number:	113170-55-1
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 22, 2015
Replaced Version date:	July 30, 2012