LIFELINE CELL TECHNOLOGY SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Name: DifFactor 3

Product Number: LS-1083

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: **Ethanol (1-2%)**

GHS Classification
Flammable liquids (Category 3)

GHS Label elements including precautionary statements:

Pictograms:

Signal word Warning

Hazard statements

H226 Flammable liquid or vapor.

Precautionary statements

P210	Keep away from heat/sparks/open flames/hot surfaces. –No smoking
P233	Keep container tightly closed.
P280	Wear protective gloves/protective clothing/eye protection/face protection
P370+P378	In case of fire use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403+P235	Store in a well ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant

Hazards not covered by GHS: None

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Principal Components:	Water	CAS number:	7732-18-5
	Ethanol	CAS number:	64-17-5

Composition: The subject product is a solution containing Ethanol and biologically active components in purified water. With the exception 1-2% Ethanol and purified water, all other ingredients are in concentrations of less than 1%.

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.

SECTION 5 – FIRE FIGHTING MEASURES

General Fire hazard: For small fires, use media such as "alcohol" foam, dry chemical or carbon dioxide. For large fires, apply water from as far away as possible. Use large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Extinguishing media: Use media appropriate for fire conditions.

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

Hazardous decomposition products from the mixture: Carbon oxides and Sulfur oxides

Further information: Use water spray to cool unopened containers.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment: Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapour can accumulate in low areas. Refer to section 8 for appropriate personal protection.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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 ultralow temperature, -150°C or below. Protect from light.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters:

Component	CAS#	Value	Control Parameters	Basis
Ethanol	64-17-5	TWA	1,000.000 ppm	USA ACGIH Threshold Limit Values (TLV)
	Remarks	Upper Respiratory Tract irritation Confirmed animal carcinogen with unknown relevance to humans.		
		TWA	1,000 ppm 1,900 mg/m^3	USA OSHA – Table Z1 Limits for Air Contaminants – 1910.1000
	Remarks	The value in mg/m^3 is approximate.		
		TWA	1,000.000 ppm 1,900.000 mg/m^3	USA NIOSH Recommended Exposure Limits
		STEL	1,000.000 ppm	USA ACGIH Threshold Limit Values (TLV)
	Remarks	Upper Respiratory Tract irritation Confirmed animal carcinogen with unknown relevance to humans.		

Engineering Controls: Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of the workday.

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

Upper/lower flammability or Explosive limits: No data available
Odor: Faint earthy or musky odor

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: 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
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: Heat, sparks and flames.
Incompatible materials: Oxidizing agents, Alkali metals, Ammonia, Peroxides
Hazardous decomposition products: Carbon oxides and Sulfur 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/m^3	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)

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity to Fish: LC50 Pimephales promelas (fathead minnow) 34,000 mg/L – 96 h (Dimethyl Sulfoxide)
LC50 Oncorhynchus mykiss (rainbow trout) 35,000 mg/L – 96 h (Dimethyl Sulfoxide)
LC50 Leuciscus idus (Golden orfe) 8,140 mg/L – 48 h (Ethanol)

Toxicity to other aquatic Invertebrates: EC50 Daphnia magna (water flea) 24,600 mg/L – 48 h (Dimethyl Sulfoxide), (OECD Guideline 202)
EC50 Daphnia magna (water flea) > 10,000 mg/L – 24 h (Ethanol)

Toxicity to algae: EC50 Pseudokirchneriella subcapitata (green algae) 17,000 mg/L – 72 h (Dimethyl Sulfoxide), (OECD Guideline 201)
Cell multiplication inhibition test EC 10, Desmodesmus subspicatus (green algae) 5,000 mg/L - 8 days (Ethanol)

Toxicity to bacteria: Cell multiplication inhibition test EC 10, Pseudomonas putid 6,500 mg/L - 16 hrs. (Ethanol)

Additional ecological information: No data available

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

Persistence/Degradability: No data available
Bioaccumulation Potential: No data available
Mobility 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: 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: Fire hazard, Chronic health hazard, Acute health hazard

Massachusetts Right to Know Components:

Ethanol	CAS number:	64-17-5

Pennsylvania Right to Know Components:

Water	CAS number:	7732-18-5
Ethanol	CAS number:	64-17-5

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.

SECTION 16 – OTHER INFORMATION

Preparation information:

Prepared by: Quality Department
Date Prepared: August 3, 2015
Replaced Version date: July 30, 2012

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